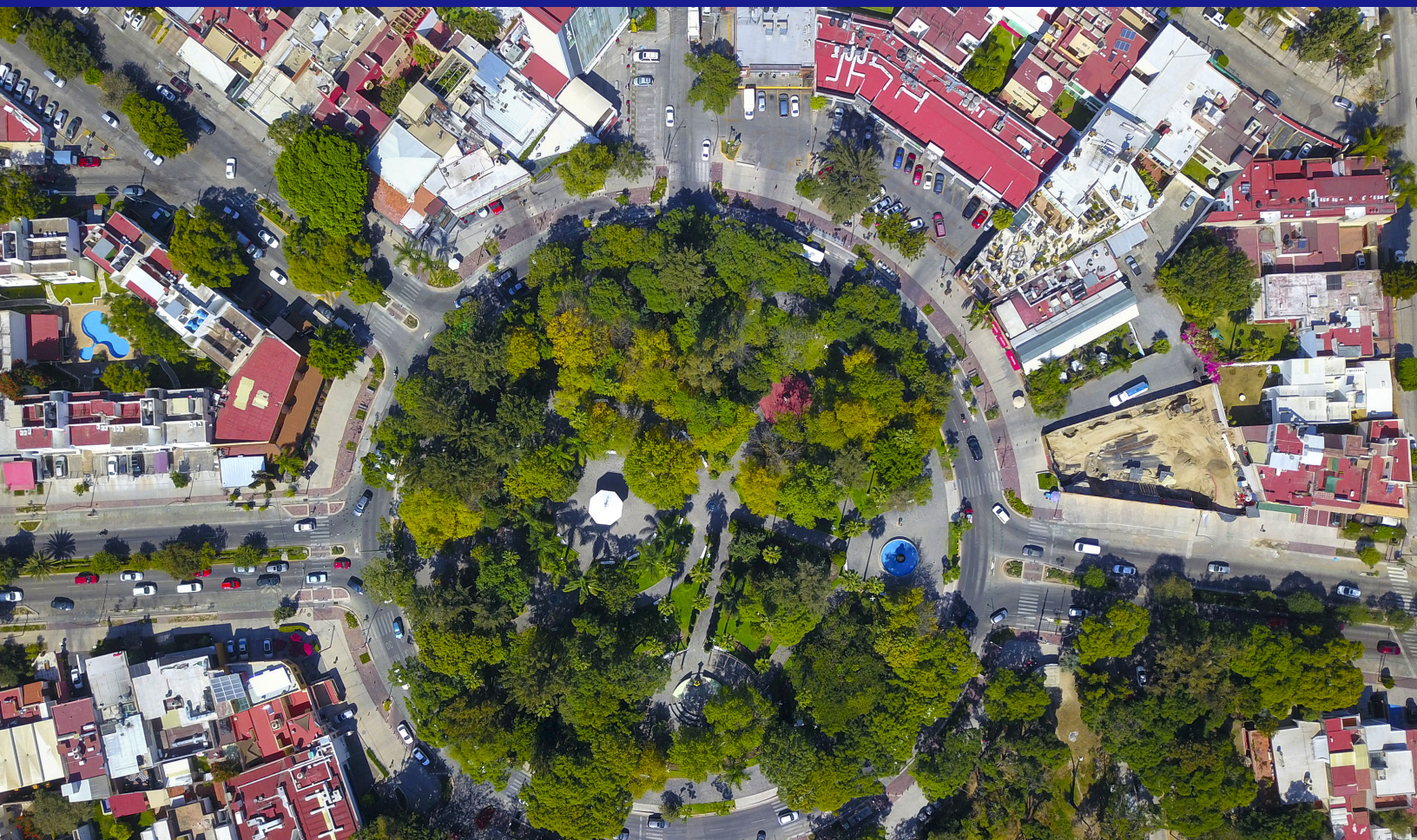


# COMPACT, CONNECTED, CLEAN AND INCLUSIVE CITIES IN MEXICO:

## AN AGENDA FOR NATIONAL HOUSING AND TRANSPORT POLICY REFORM





## Coalition for Urban Transitions

c/o World Resources Institute  
10 G St NE  
Suite 800  
Washington, DC 20002, USA

## C40 Cities Climate Leadership Group

3 Queen Victoria Street  
London EC4N 4TQ  
United Kingdom

## WRI Ross Center for Sustainable Cities

10 G St NE  
Suite 800  
Washington, DC 20002, USA

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## Acronyms

|                                                                                                                                                                      |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Compact, connected, clean and inclusive                                                                                                                              | 3C+I            |
| Metropolitan Area of Guadalajara<br>( <i>Area Metropolitana de Guadalajara</i> )                                                                                     | AMG             |
| National Bank of Public Works and Services<br>( <i>Banco Nacional de Obras Públicas y Servicios</i> )                                                                | BANOBRAS        |
| Bus rapid transit                                                                                                                                                    | BRT             |
| National Chamber of the Industry for the Development and Promotion of Housing<br>( <i>Cámara Nacional de la Industria de Desarrollo y Promoción de la Vivienda</i> ) | CANADEVI        |
| Federal Electricity Commission<br>( <i>Comisión Federal de Electricidad</i> )                                                                                        | CFE             |
| Carbon dioxide                                                                                                                                                       | CO <sub>2</sub> |
| National Water Commission<br>( <i>Comisión Nacional del Agua</i> )                                                                                                   | CONAGUA         |
| National Housing Commission<br>( <i>Comisión Nacional de Vivienda</i> )                                                                                              | CONAVI          |
| National Council of State Housing Organisms<br>( <i>Consejo Nacional de Organismos Estatales de Vivienda</i> )                                                       | CONOREVI        |
| Certified Development<br>( <i>Desarrollo Certificado</i> )                                                                                                           | DC              |
| Contribution Fund for Social Infrastructure<br>( <i>Fondo de Aportaciones para la Infraestructura Social</i> )                                                       | FAIS            |
| Metropolitan Fund<br>( <i>Fondo Metropolitano</i> )                                                                                                                  | FM              |
| National Fund for Tourism Development<br>( <i>Fondo Nacional de Fomento al Turismo</i> )                                                                             | FONATUR         |
| National Infrastructure Fund<br>( <i>Fondo Nacional de Infraestructura</i> )                                                                                         | FONDIN          |
| National Trust Fund for Social Housing<br>( <i>Fideicomiso Fondo Nacional de Habitaciones Populares</i> )                                                            | FONHAPO         |

|                                                                                                                                                                                       |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Regional Fund<br>(Fondo Regional)                                                                                                                                                     | FONREGION |
| Contribution Fund for the Strengthening of Municipalities<br>(Fondo de Aportaciones para el Fortalecimiento de los Municipios)                                                        | FORTAMUN  |
| Housing Fund of the Social Security and Services Institute for State Workers<br>(Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado) | FOVISSSTE |
| Gross domestic product                                                                                                                                                                | GDP       |
| Greenhouse gas                                                                                                                                                                        | GHG       |
| German Development Agency<br>(Deutsche Gesellschaft für Internationale Zusammenarbeit)                                                                                                | GIZ       |
| Information and communication technology                                                                                                                                              | ICT       |
| Inter-American Development Bank                                                                                                                                                       | IDB       |
| Mexican Institute for Competitiveness<br>(Instituto Mexicano para la Competitividad)                                                                                                  | IMCO      |
| Metropolitan Planning Institute<br>(Instituto Metropolitano de Planeación)                                                                                                            | IMEPLAN   |
| National Institute of Statistics and Geography<br>(Instituto Nacional de Estadística y Geografía)                                                                                     | INEGI     |
| National Workers' Housing Fund Institute<br>(Instituto del Fondo Nacional de la Vivienda para los Trabajadores)                                                                       | INFONAVIT |
| National Institute of Sustainable Land<br>(Instituto Nacional del Suelo Sustentable)                                                                                                  | INSUS     |
| Social Security Institute for the Mexican Armed Forces<br>(Instituto de Seguridad Social para las Fuerzas Armadas)                                                                    | ISSFAM    |
| Institute for Transportation and Development Policy                                                                                                                                   | ITDP      |
| London School of Economics                                                                                                                                                            | LSE       |
| Land value capture                                                                                                                                                                    | LVC       |
| Nationally Appropriate Mitigation Action                                                                                                                                              | NAMA      |

|                                                                                                                                    |         |
|------------------------------------------------------------------------------------------------------------------------------------|---------|
| Nationally Determined Contribution                                                                                                 | NDC     |
| Organisation for Economic Co-operation and Development                                                                             | OECD    |
| National Housing Organisations<br>(Organismos Nacionales de Vivienda)                                                              | ONAVIS  |
| State Housing Organisms<br>(Organismos Estatales de Vivienda)                                                                      | OREVIS  |
| Urban Contention Perimeter<br>(Perímetro de Contención Urbana)                                                                     | PCU     |
| Special Programme on Climate Change<br>(Programa Especial de Cambio Climático)                                                     | PECC    |
| Mexican Petroleum<br>(Petróleos Mexicanos)                                                                                         | PEMEX   |
| Urban Improvement Programme<br>(Programa de Mejoramiento Urbano)                                                                   | PMU     |
| National Development Plan<br>(Plan Nacional de Desarrollo)                                                                         | PND     |
| National Reconstruction Programme<br>(Programa Nacional de Reconstrucción)                                                         | PNR     |
| National Land Policy<br>(Política Nacional de Suelo)                                                                               | PNS     |
| National Housing Programme<br>(Programa Nacional de Vivienda)                                                                      | PNV     |
| Public Transport Federal Support Programme<br>(Programa de Apoyo Federal al Transporte Masivo)                                     | PROTRAM |
| Social Housing Programme<br>(Programa de Vivienda Social)                                                                          | PVS     |
| Special Programme for Urban Regeneration and Inclusive Housing<br>(Programa Especial de Regeneración Urbana y Vivienda Incluyente) | RUVI    |
| Secretariat for Welfare<br>(Secretaría del Bienestar)                                                                              | SB      |

|                                                                                                                                  |            |
|----------------------------------------------------------------------------------------------------------------------------------|------------|
| Secretariat for Communications and Transport<br>( <i>Secretaría de Comunicaciones y Transportes</i> )                            | SCT        |
| Sustainable Development Goal                                                                                                     | SDG        |
| Secretariat for Agrarian, Territorial and Urban Development<br>( <i>Secretaría de Desarrollo Agrario, Territorial y Urbano</i> ) | SEDATU     |
| Ministry of the Interior<br>( <i>Secretaría de Gobernación</i> )                                                                 | SEGOB      |
| Secretariat for Environment and Natural Resources<br>( <i>Secretaría del Medio Ambiente y Recursos Naturales</i> )               | SEMARNAT   |
| Secretariat for Public Administration<br>( <i>Secretaría de la Función Pública</i> )                                             | SFP        |
| Secretariat for Finance and Public Credit<br>( <i>Secretaría de Hacienda y Crédito Público</i> )                                 | SHCP       |
| Federal Mortgage Corporation<br>( <i>Sociedad Hipotecaria Federal</i> )                                                          | SHF        |
| Small and medium enterprises                                                                                                     | SMEs       |
| National Housing System<br>( <i>Sistema Nacional de Vivienda</i> )                                                               | SNV        |
| Transport for London                                                                                                             | TfL        |
| United Kingdom                                                                                                                   | UK         |
| Unit of Measurement and Update<br>( <i>Unidad de Medida y Actualización</i> )                                                    | UMA        |
| United Nations Human Settlement Programme                                                                                        | UN-Habitat |
| United States of America                                                                                                         | USA        |
| World Resources Institute                                                                                                        | WRI        |



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## Summary for policy makers

Urban areas are Mexico's economic growth engines, generating 90% of gross domestic product (GDP) and housing four-fifths of the population. In the COVID-19 crisis, they have also been the hardest hit. Crowded low-income neighbourhoods have the highest infection rates, and inadequate access to water and basic sanitation, cramped housing, restricted mobility options, high rates of informal and precarious employment, and limited social safety nets have deepened the suffering.

Yet, as difficult as these times are, they also offer an enormous opportunity. COVID-19 has heightened awareness of the need to make urban areas more equitable, inclusive and sustainable. The policy responses and recovery packages adopted in the coming months could shape Mexican cities' economies, social fabric and environmental impact for decades to come. Budgets may be tight, but there are practical solutions that can be adopted right now to put cities on a path to realise their potential as engines of broad-based prosperity and resilience. A key first step is to embrace an overarching national vision for sustainable cities to realign investments, focus key institutions on a shared agenda and move away from entrenched patterns.

Today, Mexico's cities are sprawling and disconnected. Between 1980 and 2010, as the urban population doubled, the urban footprint increased sevenfold. In 46 of the country's 59 metropolitan zones, more than 70% of homes have been built either in the suburbs or in the exurbs; in 2015, 42% of home-buyers using a government loan were unsatisfied with the location, as it was far away from schools, public transport and commercial areas.

At the same time, Mexico has struggled with a housing shortage. The current supply is more than 6 million units short of estimated need, and a large share of the housing that does exist – 67% of units in 2014 – is informal, often substandard and lacking crucial infrastructure. Many informal settlements are in marginal areas that are highly exposed to floods, landslides and other hazards. Across all Organisation for Economic Co-operation and Development (OECD) countries, Mexico has the biggest share of overburdened, low-income homeowners, with housing costs that make up more than 40% of their disposable income.

Sprawl has also made Mexicans very car-dependent. Between 1990 and 2015, the number of cars grew 3.5 times faster than the population; the motorisation rate has doubled over the past decade. The consequences – air pollution, congestion, traffic injuries, noise and greenhouse gas (GHG) emissions – cost an estimated 3–5% of the country's GDP. The transport sector accounts for 26% of the country's GHG emissions. And, despite recent efforts to invest in more sustainable urban mobility, the private vehicle fleet is expected to increase from 32 million cars in 2018 to as many as 70 million by 2030.

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The costs of sprawling, car-centric urban development are disproportionately borne by the poor. On average, spending on transport accounts for 19.3% of household expenses in Mexico, the highest in the G20. Low densities in Mexico's suburbs make

**The costs of sprawling, car-centric urban development are disproportionately borne by the poor. On average, spending on transport accounts for 19.3% of household expenses in Mexico, the highest in the G20.**

infrastructure such as metro lines or even bus rapid transit (BRT) prohibitively expensive to build and operate. Walking and biking can be outright dangerous in many cities, and are mostly avoided by anyone who has an alternative.

Mexico's urban development model is unsustainable and fails to promote economic growth. COVID-19 recovery efforts may provide a vital opportunity to start correcting those problems. By embracing a vision for compact, connected, clean and inclusive cities, where residents at all income levels can readily access jobs, services, goods and other key resources, Mexico can revitalise urban economies, improve the quality of life and put its urban areas on a path to a more sustainable and inclusive future.

There are countervailing forces. In Mexico and around the world, the COVID-19 pandemic has triggered debates about the merits of urban living – including potential downsides of dense, compact development and of heavy reliance on public transport. Social

distancing is certainly more difficult, and sanitising shared spaces to protect public health has required significant effort. However, the COVID-19 crisis has also highlighted the benefits of accessibility; when people need to get to work, or to obtain food, basic supplies or health care, being within walking or cycling distance, or a quick bus or metro ride away, is a big advantage, especially for those who do not own a car.

In this context, Mexico needs to be proactive in adapting to COVID-19 without ignoring the challenges the country has faced since before the pandemic. National housing and transport policies demand particular attention, as they have an outsize impact on urban accessibility, the quality and cost of living, and economic and environmental outcomes. While many aspects of housing and transport are governed at the local level, national policies and funding play a key role in transport infrastructure and spatial planning, and also often in the density, location and financing of housing. A shared vision for urban development, backed by robust funding and close coordination between agencies in the two sectors, can help Mexico maximise the benefits of more accessible and liveable cities and avoid the pitfalls that have undermined progress for years.

## **HOUSING IN MEXICO: QUANTITY OVER QUALITY – AT A STEEP COST**

Mexico has long seen housing as a key priority for social welfare, and it has invested significant resources in housing development over the decades, but with poor results. Not only is there a large housing deficit, but also much of the housing that is available is in peripheral areas, disconnected from jobs and services. Those who can, drive; the rest have to rely on public transport – often privately run minibuses that are widely perceived as unsafe and expensive for low-income households.

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Much of this housing is also inadequate, poorly built and cramped, and, combined with the poor location and, in some cases, high crime, this has led to a profusion of abandoned houses, an estimated 650,000 nationwide. Mexico has the highest rate of overcrowding in the OECD, particularly among low-income households. And, because much of the land being used is in *ejidos* – communal land reserved for agriculture – sprawl will likely have a negative impact on the environment.

Mexico's housing finance system played a key role in shaping today's housing stock and sprawling cities. For decades, Mexico focused almost entirely on financing single-family detached homes and homeownership, not multi-families or rentals, which reflects but also reinforces cultural preferences. It made payroll-based programmes the core of its housing finance system, which excluded the 56% of Mexican workers who work independently or are in the informal economy. And, for a long time, these programmes financed only new construction, not upgrades and expansions, forcing people to leave houses they could not afford to improve, and instead move to new houses ever farther into the exurbs.

For decades, and across successive administrations, Mexico let finance drive housing policy, instead of setting a clear vision for both housing and land use that could then shape finance. This has started to change in the past decade, most notably through the creation of the Secretariat for Agrarian, Territorial and Urban Development (SEDATU) in 2013. A 2019 amendment to the General Law on Human Settlements, Land Use Management and Urban Development gave SEDATU authority over infrastructure construction and urban services, aiming to provide stronger national leadership in urban development.

SEDATU was also given the leading role in housing policy and the responsibility for drafting and implementing the National Housing Programme (PNV), with the support of subnational governments and the private and social sectors. Several recent policies and changes to housing finance programmes have also begun to favour development in urban cores over the exurbs, and home improvements over new construction, and have recognised rental housing as a viable option, especially for low-income households.

SEDATU has become an essential institutional actor in Mexico's efforts to promote more equitable and sustainable urbanisation and plays a central role in supporting local governments in strengthening their urban planning capacity. Still, SEDATU's effectiveness has been limited by institutional fragmentation, excessive politicisation and lack of a comprehensive vision of urban development that integrates multiple sectors. A top priority is to clarify leadership roles and how other agencies fit in, and to develop a shared vision that all relevant federal agencies will work towards.

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To transform its cities, Mexico needs to put urban accessibility at the centre of its housing and land use policies and realign finance flows and incentives – positive and negative – to foster development, including mixed-income housing and mixed land uses, in cities’ cores, while discouraging development in peripheral areas. Prioritising accessibility is also compatible with efforts to build resilience in the context of COVID-19. This also needs to include explicit promotion of the redevelopment, improvement and densification of urban areas, such as old neighbourhoods and vacant or underused industrial areas, with sufficient funding to compensate for the generally higher cost. Mexico’s challenge is to densify urban areas while considering that many households already live in crowded housing. This would require promoting mixed land uses, access to affordable housing through a diversity of tenancy options (i.e. homeownership and rentals), and reliable and safe public transport.

Another priority that aligns closely with the current administration’s vision for social justice is to significantly step up efforts to improve housing for low-income families. This includes work to improve the cadastre and make it much easier for people to secure title to their land, but also finance reforms that provide robust funding for low-income families to self-build and upgrade their homes and for community groups to shape their own settlements, with technical support from the government. In this context, it is encouraging to see that Mexico has recently embraced the concept of social production of habitat, which recognises that communities know best what they need to live well and should be empowered to pursue it; there is enormous potential in expanding this much further.

## **TRANSPORT: THE CAR IS KING, EVEN IF MOST MEXICANS DON'T OWN ONE**

Mexico’s urban transport infrastructure is not meeting the needs of its people. As noted above, residents of sprawling cities must either drive everywhere – which leads to congestion and some of the world’s most polluted urban air – or use public transport that is costly but also of poor quality. For many people, limited mobility means limited opportunities for employment or education. This hits women particularly hard, as they often need to make long, complex trips to meet their families’ needs.

Mexican cities’ predicament owes to decades of systemic failures and a longstanding bias in favour of cars, reinforced by fossil fuel subsidies. Public investment is skewed sharply in favour of cars and against public transit and non-motorised options, even though only about a quarter of trips are completed by private car; the rest involve collective transport, walking or, to a lesser extent, cycling.

Transforming urban mobility would greatly improve quality of life, reduce pollution and GHG emissions, and disproportionately benefit the poor by connecting them to jobs, education and services that enable them to advance socio-economically. It would directly support the current administration’s commitment to lift up the most marginalised communities and make Mexican cities more equitable and inclusive.

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Some cities – especially major metro areas such as Mexico City and Guadalajara – are already taking steps in the right direction, but a more coordinated effort between national and local governments is needed to achieve the large-scale changes that urban areas of all sizes urgently need. While bigger metro areas are facing many complex challenges and require ongoing support, it is also important to ensure that rapidly growing small and medium-sized cities that often have less capacity are not left behind.

This will require some fundamental changes to how Mexico governs and funds transport. For a long time, transport in Mexico has been doubly decentralised: The regulatory framework is complex and fragmented at the national level, with no one truly ‘owning’ urban transport, and states and cities tend to be responsible for planning and implementation but often lack capacity to do so – a more coordinated effort across all levels of government is needed.

Devolving power to subnational governments is not inherently a problem; indeed, it can be a very successful model. But most Mexican cities lack the technical and financial capacity to plan and execute the kinds of ambitious, multi-year strategies and projects that they need to reshape urban mobility. Cities also need support to establish metropolitan-scale coordination, which is crucial in urban areas that may include dozens of jurisdictions.

A key starting point for Mexico is to adopt a clear vision for sustainable mobility that is integrated with housing and land use and has a clear institutional “owner” – most naturally SEDATU – and clear roles for related agencies. It then has to realign funding with those new priorities, which will almost certainly entail major changes to transport budgets.

Mexico can make its federalist approach to transport more successful by supporting subnational governments to create and implement their own, location-appropriate, strategies while enabling them to increase collection of own-source revenues and reduce their dependence on national transfers. It is important to give local governments more power to shape their own agendas, but also to provide detailed standards and guidance as well as capacity-building, and to explicitly support metropolitan-scale work. Small cities will require more extensive support, as they are unlikely to have the staff, knowledge or resources needed.

Mexico can also draw on successful strategies implemented around the world. To identify important transport policy instruments for the Mexican context, LSE Cities and the OECD hosted a workshop in Mexico City in October 2019 in which experts were invited to assess the potential impact and viability of 21 promising urban transport policy interventions. The top two choices, with overwhelming support, were infrastructure budget reallocation (65%) and integrated national urban and transport plans (61%). The third-ranked option was national awareness campaigns (37%), which Mexican experts said were crucial to building support for sustainable mobility across the country. Land value capture, parking standards reform and metropolitan strategic transport were also highlighted.



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One major challenge for the transport sector is that sustainable mobility is not sufficiently prioritised. While SEDATU's Urban Improvement Programme (PMU) has laid the groundwork for better policy around non-motorised urban mobility, the National Development Plan 2019–2024 (PND) does not mention urban mobility except in the context of personal safety, and it says nothing about integrated urban planning, sustainable land use or investment in public transport. The PND is complemented by the National Infrastructure Plan as well as a set of sectoral programmes developed by the respective ministries, all of which are meant to align with the priorities set out in the PND. However, the broad language and limited details in the PND leave a lot of room for interpretation.

The administration recently unveiled an ambitious Mex\$1 trillion (US\$43 billion) National Infrastructure Programme, designed to provide a major boost to the struggling economy and create new jobs. However, although transport projects make up over a third of the budget, they are mostly high-carbon investments: a new airport for Mexico City; modernisation of freight infrastructure, and significant investment in new roads. The only flagship project involving public transport is the Tren Maya, a 1,500 km railway that would link cities and tourist sites across five southern states and that has faced strong opposition from experts and indigenous communities on environmental grounds and has also been criticised for not meeting actual local transport needs.

## A VISION FOR INTEGRATING MEXICO'S HOUSING, LAND USE AND TRANSPORT POLICIES

It is clear that Mexico would benefit from a more cohesive vision for urban development that integrates housing, land use and transport, to facilitate collaboration and ensure that sectoral policies and investments work together to strengthen cities. Table ES1 summarises the policy recommendations presented at the end of this report for the consideration of the national government. Priorities for an integrated approach include:

- **Operationalise reforms to the General Law on Human Settlements, Land Use and Urban Development.** These provide a foundation for higher densities, establish the need to promote accessibility and empower SEDATU to oversee all aspects of urban development but the corresponding regulatory framework has still not been established.
- **Link urban development policies explicitly to climate and environmental policy.** Even though the pandemic led to a temporary dip in emissions in 2020, Mexico is on track to miss its emission reduction commitments under the Paris Agreement by 2030. Current energy policy seems to have a bias towards carbon-intensive projects. Aligning transport and housing policies with climate goals could save up to 25,000 lives and US\$5 billion in public health costs over the next 12 years. Environmental goals such as cleaner air should be a key part of the appraisal of new housing and transport projects.

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- **Implement the recently published National Land Policy (PNS).** The PNS is a non-binding strategic document designed to guide decisions on land use, zoning, urban development, housing and social protection. Implementing it will require collaboration among national and subnational agencies. A key first step is to create a National Land Programme with a dedicated budget.
  - **Align and integrate sectoral policies to jointly promote compact, connected, clean and inclusive cities, particularly at the metropolitan level.** Building on a shared vision, and brought together under SEDATU's leadership, agencies focused on housing, transport and land use planning could better prioritise their investments. Housing programmes might favour mixed-use and social housing development along major public transport lines, for instance, while public transport budgets might prioritise urban areas that are poorly connected to jobs or that are targeted for revitalisation. SEDATU and other secretariats could promote the creation of metropolitan planning bodies that coordinate infrastructure investments.

Reforms within individual sectors and support to subnational governments are also needed:

- **Support integrated metropolitan planning as an urgent national priority.** Cities have been growing most rapidly in their peri-urban areas, resulting in high levels of administrative fragmentation. Metropolitan governance facilitates a coordinated response to accessibility challenges and fosters economic efficiency, affordability and expanded opportunities for all.
- **Encourage mixed land uses by supporting cities in reforming their zoning policies.** The federal government can support cities in updating their land use regulations so that they require each neighbourhood to include green and open spaces, schools, health care and other services, as well as retail, and encourage mixed-use zoning to ensure a diversity of residential types, small-scale offices, light industrial spaces and community areas.
- **Provide incentives to make social housing attractive to private developers.** Mexico's government needs to find ways to finance further development through further engagement of the private sector. Policy options include tax incentives; tax exemptions for development on certain types of land or in designated areas; and government-guaranteed bonds to provide low-cost finance to community-based organisations to create and manage social housing.
- **Ensure that smaller cities have the tools they need for integrated planning and development.** Smaller municipalities have the fewest resources and are most at risk from land speculation, corruption and uncontrolled sprawl. Developing a toolkit of effective strategies to promote accessibility through integrated housing, land use and transport policies, paired with consistent financial, technical and capacity-building support, will make these cities more productive, improve quality of life and avoid lock-in to high-carbon, inequitable pathways.

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- **Promote minimum density standards for urban land.** Municipal plans should seek to optimise land use to meet housing and other needs, and generally promote densification, while taking into account the relative accessibility of each neighbourhood, the availability of sustainable transport infrastructure and potential for development.
  - **Prioritise urban regeneration over greenfield developments.** SEDATU should ensure that urban regeneration and redevelopment become key elements of national urban and affordable housing policies. Reusing existing urban land can help control urban sprawl, revitalise substandard and abandoned housing, improve the energy efficiency and sustainability of the built-environment, and repurpose abandoned or underutilised industrial land. Upgrading informal settlements should also be a priority.

Finally, Mexico needs to enhance its capacity for policy formulation and implementation:

- **Build capacity in municipalities and states to help improve housing, land use and mobility planning.** Municipalities, supported by state governments, have key roles to play in implementation of the PNV and other national urban development initiatives. SEDATU can support them through workshops, discussion forums, seminars and educational materials.
- **Improve data collection and statistical services to understand transport and housing needs and evaluate the success of new policy interventions.** The National Institute of Statistics and Geography (INEGI) should expand data collection to all major urban areas, and support housing and transport policy by gathering data to shine a light on existing urban accessibility levels, travel patterns, trip lengths and durations, traffic flows, etc. This can also help inform location choices for future development, to ensure quick access to key services.
- **Support the establishment of interdisciplinary urban planning education at public universities and other institutions.** Only a few Mexican institutions, mostly in Mexico City, now offer professional planning degrees. Along with making such programmes more widely available, Mexico could also leverage planning institutes to strengthen capacity for urban planning at municipal and metropolitan level.
- **Professionalise the public workforce at all levels of government to promote better urban policy-making.** Mexico struggles with an inadequate civil service system, plagued by low pay and status, limited opportunities for advancement or advanced training and a lack of job security, especially at the municipal level. Ways to address this problem include strategic workforce planning, a greater focus on merit, certifications of competencies, targeted training, municipal civil service careers and stronger ethics measures.

**Table ES1. Summary of priority reforms for national housing and transport policy**

| <b>PRIORITY POLICY REFORMS FOR NATIONAL GOVERNMENT</b>                                                                                                             | <b>FOCUS: HOUSING, TRANSPORT OR INTEGRATED POLICY</b> | <b>TIMEFRAME</b>     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------|
| <b>Institutional and governance reforms</b>                                                                                                                        |                                                       |                      |
| Operationalise reforms to the General Law on Human Settlements, Land Use and Urban Development                                                                     | Integrated                                            | Short term           |
| Link urban development policies explicitly to federal climate and environmental policy                                                                             | Integrated                                            | Short term           |
| Implement the recently published National Land Policy (PNS)                                                                                                        | Integrated                                            | Short to medium term |
| Adopt a national urban policy with clearly defined roles and a mechanism to coordinate planning and collaboration across sectors and levels of government          | Integrated                                            | Long term            |
| Expand and properly fund the Metropolitan Coordination Directorate within SEDATU so that it explicitly covers metropolitan transport planning                      | Transport                                             | Short term           |
| Clearly assign responsibility for inter- and intra-urban transport at the national level                                                                           | Transport                                             | Short term           |
| Promote renting and multi-family homes as much as single-family homeownership, recognising their respective benefits                                               | Housing                                               | Short to medium term |
| Clarify the division of responsibilities among the different actors in the housing policy field                                                                    | Housing                                               | Short term           |
| <b>Funding and financing reforms</b>                                                                                                                               |                                                       |                      |
| Align federal transport spending with mode share so that the percentage of the budget allocated to walking, cycling and public transport corresponds to actual use | Transport                                             | Medium term          |
| Reform the rules of operation of existing federal funds to prioritise investment in sustainable mobility projects                                                  | Transport                                             | Short term           |
| Ensure that financing programmes make an array of housing tenure options affordable, with a particular focus on low-income households                              | Housing                                               | Medium term          |
| Provide incentives to make social housing attractive to private developers                                                                                         | Housing                                               | Medium term          |
| <b>Reforms that support integrated policy-making across other levels of government</b>                                                                             |                                                       |                      |
| Support integrated metropolitan planning as an urgent national priority                                                                                            | Integrated                                            | Medium term          |
| Encourage mixed land uses by supporting cities in reforming their zoning policies                                                                                  | Integrated                                            | Medium to long term  |
| Conduct capacity-building activities for municipalities and states to help them improve their housing, land use and mobility planning                              | Integrated                                            | Short term           |

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## 1. Introduction

Four in five Mexicans live in a city. Mexico first began to urbanise rapidly in the 1950s, but many of its cities, especially the smaller, more dispersed, urban centres, continue to grow significantly even today. Urban areas are the country's economic growth engines, generating nearly 90% of national gross domestic product (GDP)<sup>1</sup> – but they face profound challenges: crippling road congestion, air pollution, rising income inequality and extensive urban sprawl, driven by both formal and informal development.

Cities are also major sources of greenhouse gas (GHG) emissions – and priorities for climate change adaptation efforts, especially as low-income communities in urban peripheries are increasingly vulnerable to natural disasters. Cities are thus central to an effective climate response in Mexico. The good news is that many proven climate strategies could significantly improve quality of life and revitalise urban economies as well. In particular, revamping land use and housing policies and improving public transport could be transformative for Mexico's cities.

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**The COVID-19 crisis has intensified calls for stronger government action around the world to make cities healthier and more resilient. It has also highlighted the need to focus not just on mobility – how efficiently people can move around a city – but also on accessibility – whether they can readily access jobs, services, goods and other key resources – especially for the poorest.**

Even before the COVID-19 crisis, Mexico was at a crossroads. Without a change of direction, the problems created by these urbanisation patterns will undermine the economic, social and environmental sustainability of the country's cities. Mexico's energy use and GHG emissions also continue to rise. Across all sectors, Mexican policy-makers now recognise that they need a more hands-on approach to achieve more equitable and sustainable cities. The election of a new government in 2018 offered an important opportunity to reassess the federal policies that have led to housing insecurity, sprawl, automobile dependence, inefficient use of public funds, corruption and heightened climate risks.

The COVID-19 crisis has intensified calls for stronger government action around the world to make cities healthier and more resilient. It has also highlighted the need to focus not just on mobility – how efficiently people can move around a city – but also on accessibility – whether they can readily access jobs, services, goods

and other key resources – especially for the poorest. Urban accessibility depends on land use, transport options, the availability of opportunities and people's individual needs and abilities.<sup>2</sup> There are multiple cultural, social, economic and political barriers to improving urban accessibility, but there are successful models around the world showing how it can be done. Mexico now has an opportunity to learn from these successes and put its own cities on a path to a more sustainable and inclusive future, even as it focuses on economic recovery.



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This paper examines how national policy-makers in Mexico can seize this important opportunity. It builds on previous work assessing national transport and housing policies to shape more compact and connected cities, led by the Organisation for Economic Co-operation and Development (OECD) and LSE Cities at the London School of Economics and Political Science for the Coalition for Urban Transitions. Early work within this programme found that aligning national sectoral policies, in particular those of the transport and housing sectors, was crucial to achieving compact and connected urban growth.<sup>3</sup> LSE Cities then produced an analysis of key transport policies to make cities more accessible.<sup>4</sup> The OECD did the same for housing and compact urban development.<sup>5</sup>

This paper applies that rich body of evidence to Mexico, combined with the expertise of local partners and stakeholders, and building on research for the Coalition led by WRI Mexico.<sup>6</sup> The work in this paper was informed for the most part by in-depth interviews with public officials in Mexico, conducted during fieldwork in October 2019.

## **1.1 THE ROLE OF NATIONAL GOVERNMENTS IN SHAPING CITIES**

A growing body of evidence around the world shows that compact, connected, clean and inclusive (3C+I) can boost long-term productivity, environmental sustainability and social equity.<sup>7</sup> Yet urban development today often takes cities in the opposite direction. In many countries, the legacy of policy specialisation makes it difficult to coordinate urban governance and planning, particularly at the national level. Most decisions are made, and resources allocated, according to historical spatial and sectoral divisions.<sup>8</sup> Existing infrastructure also “locks in” certain patterns, such as dependence on major highways around cities. But, with decisive action, national governments can reshape the urban future.

National governments can craft national urban strategies that harness the potential of cities to drive structural economic change, generating wealth that can be shared across the country and providing urban services in a resource-efficient way. They also have primary responsibility for aligning national policies, funding and financing sustainable urban infrastructure, and coordinating and supporting efforts by subnational governments.<sup>9</sup>

Well-designed national urban policy frameworks can help countries and local governments achieve economic growth, environmental sustainability and social inclusion. Such frameworks help countries capitalise on the development opportunities urbanisation presents and meet their globally agreed responsibilities. National urban policies have also been recognised as important tools for governments to implement and monitor the progress of global agendas such as the 2030 Agenda, the Paris Agreement and the New Urban Agenda.<sup>10,11</sup>

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**It is essential that national urban policy complements subnational urban policies to create an overall, cross-cutting vision for cities and their role in the country's development.**

It is essential that national urban policy complements subnational urban policies to create an overall, cross-cutting vision for cities and their role in the country's development. A national urban policy framework can support and guide local authorities, the private sector and other relevant stakeholders, helping ensure that their investment choices and priorities align with national goals. It can fill local capacity gaps, promote development, build human capital and ensure that the needs of vulnerable populations are met. And it can increase local and regional governments' ability to address climate concerns, including disaster risks.

Formulating and implementing a national urban policy is not a top-down process. It requires coordinated and collaborative governance between all levels of government with the active engagement of subnational governments and all relevant stakeholders for effective implementation.

National housing and transport policies demand particular attention, as they have an outsize impact on urban accessibility, the quality and cost of living, economic and environmental outcomes, and climate change impacts. Integrated governance of the two sectors is critical for achieving compact, connected, clean and inclusive.<sup>12</sup> While many aspects of housing and transport are governed at the local level, national policies and funding play a key role in transport infrastructure and spatial planning, and also often in the density, type (i.e. single-family vs. multi-family), location and financing of housing. Coordination across national housing and transport agencies can ensure that policies and investments deliver against multiple objectives while managing potential trade-offs.

This paper aims to support national decision-makers in Mexico by:

- Providing an overview of Mexico's policy and governance arrangements in the housing and transport sectors;
- Identifying the key factors enabling or hindering 3C+I urban development in the country; and
- Offering practical policy recommendations relating to housing and transport in Mexico.

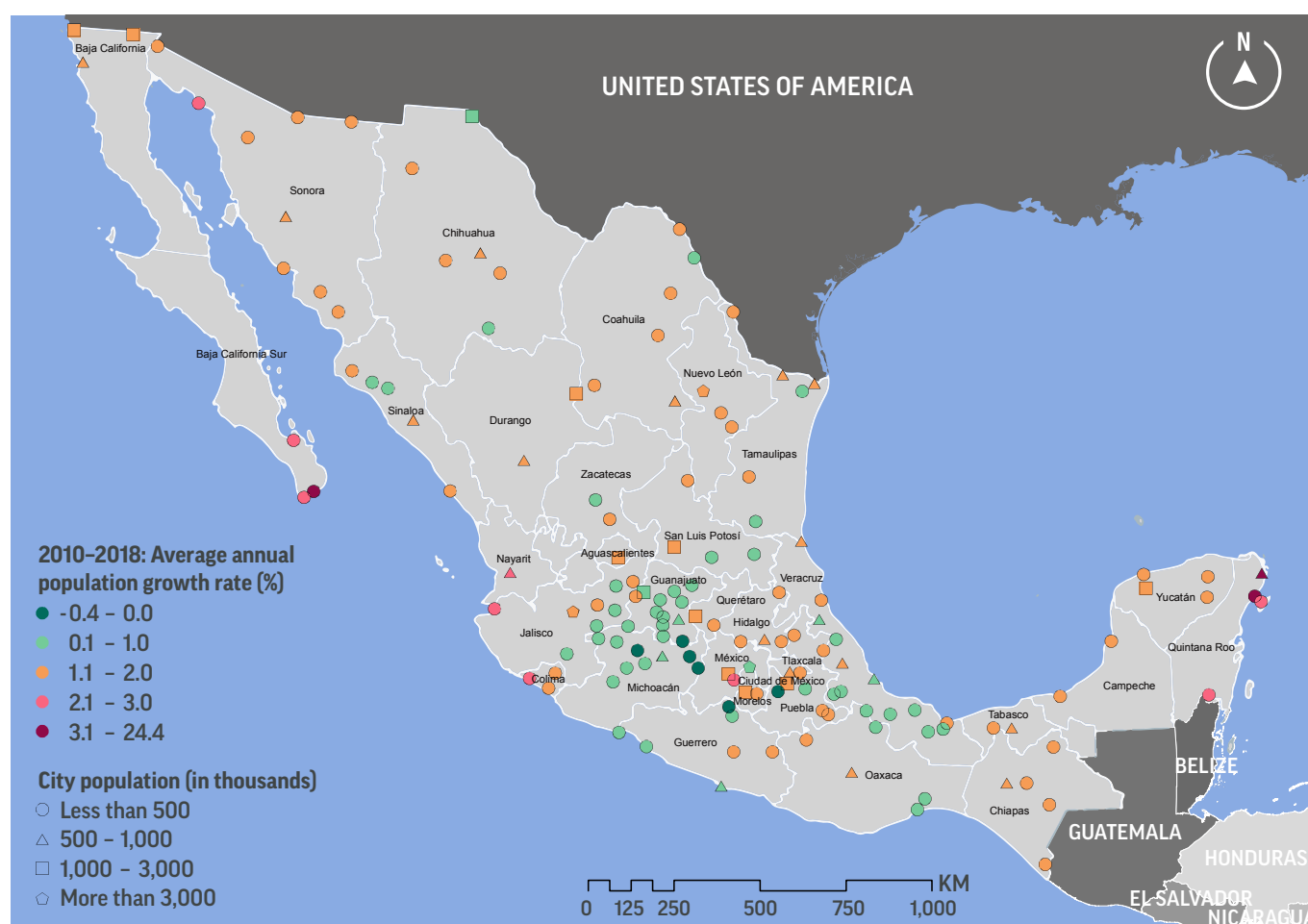
The next sub-section provides a brief summary of urban development patterns and trends in Mexico. Chapter 2 dives into the governance arrangements and key policies shaping housing in Mexico past and present. Chapter 3 considers the governance and policy landscape in the transport sector. The final chapter brings together the insights and lessons from these analyses and offers a list of priority policy and governance reforms for the Government of Mexico to consider.

## 1.2 URBAN DEVELOPMENT IN MEXICO

In 2018, Mexico had 401 cities with 92.7 million residents, 74.2% of the total population, including 147 with more than 50,000 inhabitants (Figure 1). Collectively, they produced 88% of GDP and comprised 83% of the formal work force.<sup>13</sup>

Mexico's urban growth has slowed considerably since 2010 relative to previous decades, and it is unevenly distributed, with the fastest rate of urbanisation occurring outside the major metro areas.<sup>14</sup> Between 2010 and 2018, Mexico gained 36 new cities (settlements that grew above a 15,000 inhabitant threshold).<sup>15</sup> Many small and medium-sized cities are growing rapidly but often without the planning tools needed to ensure improved sustainability and equitable access to opportunities. These cities typically have fewer technical, institutional and financial resources than their larger counterparts. For example, of the nearly 2,500 municipalities in the country, only around 600 have an urban development plan, and most of those plans have not been updated in over a decade.<sup>16</sup> They also have very limited own-source revenues, rely heavily on fiscal transfers (that may barely cover operational costs) and have restricted administrative powers, so they may struggle to design and execute integrated housing, land use and transport plans.

**Figure 1. Location, size and average annual population growth rate of the 147 largest cities in Mexico**



**Source:** Zubicaray, G., Brito, M., Ramírez Reyes, L., García, N., y Macías, J. (2021). Las ciudades mexicanas: tendencias de expansión y sus impactos. Coalition for Urban Transitions: London, UK, and Washington, DC. Available at: <https://urbantransitions.global/publications/>.

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Many low-income households cannot afford land within the cities. Thus, a large share of new urban development occurs in marginal and risk-prone areas, such as steep slopes or flood zones on the outskirts of cities. Lax land use planning and permitting at the municipal level and corruption in the land market have led to a profusion of formal and informal settlements, especially on the communal lands called *ejidos* that surround urban areas. According to the National Institute of Sustainable Land (INSUS), up to a quarter of the national population may now live on land to which they do not hold a title. Previous administrations have tried to formalise property titles but with only limited success. *Ejidors* were originally meant to protect agrarian communities but many were not used as cropland. The Constitutional Reform of 1992 formally authorised non-agricultural uses for *ejido* land, and this gave rise to speculation, with agrarian authorities becoming de facto real estate agents.

Private developers, too, have been drawn to the urban periphery, lured by large tracts of cheap land,<sup>17</sup> lax development rules and weak enforcement of regulations. However, any initial savings on land costs are partly offset by the cost of having to build onsite infrastructure. Moreover, without strong land use planning and management to align housing development with broader urban development

goals, many newly built settlements are disconnected from urban services and jobs. Land is also used inefficiently: 90% of Mexico's housing stock is single-family houses, not denser multi-family buildings.<sup>18</sup>

Although urbanisation has increased opportunities for Mexican residents, including through higher incomes and improved education, it has not generated the benefits that often come with agglomeration, such as increases in labour productivity and innovation and better services. Mexican cities are failing to connect people to economic and social opportunities, or firms to markets.<sup>19</sup> In 46 of Mexico's 59 metropolitan zones, more than 70% of homes have been built either in the suburbs or in the exurbs;<sup>20</sup> in 2015, 42% of home-buyers using a government credit were unsatisfied with the location, as it was far away from schools, public transport and commercial areas.<sup>21</sup>

Not surprisingly, Mexico's urban footprint has grown dramatically. Between 1980 and 2010, as the urban population doubled, the urban footprint increased sevenfold, with small and medium-sized cities sprawling the most. Though sprawl in cities above 50,000 inhabitants slowed in 2000–2018 relative

to previous decades, many cities continued to expand, especially in the north, the industrial corridor in the centre of the country and the touristic coastal zones. Within metropolitan areas, the rate of growth in the rural peripheries is four to seven times higher than in the urban centres.<sup>22</sup>

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**In 46 of Mexico's 59 metropolitan zones, more than 70% of homes have been built either in the suburbs or in the exurbs; in 2015, 42% of home-buyers using a government credit were unsatisfied with the location, as it was far away from schools, public transport and commercial areas.**

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At the same time, Mexico has struggled with a chronic housing shortage. The current supply is more than 6 million units short of estimated need,<sup>23</sup> and a large share of the housing that does exist – 67% of units in 2014 – is informal.<sup>24</sup> Sprawling, inequitable and often informal urban development has also greatly exacerbated disaster risks: earthquakes, floods, landslides, hurricanes and heat waves are frequent threats, especially in informal settlements. Overall, 70% of Mexican residents live in areas with high exposure to disasters and climate change impacts – more than two-thirds of them in urban and peri-urban areas.<sup>25</sup> Between 2000 and 2012, about 1.2 million housing units were affected by disasters, at an estimated cost of Mex\$22.9 billion (US\$920 million<sup>a</sup>).<sup>26</sup> Poor-quality construction, inadequate services and limited mobility leave Mexican residents highly vulnerable to these risks, particularly those on lower incomes, whose housing is typically less sturdy and situated in more hazardous areas.

Sprawl has also made Mexicans very dependent on private vehicles. Between 1990 and 2015, the number of cars grew 3.5 times faster than the population; the motorisation rate has doubled over the past decade.<sup>27</sup> The consequences – air pollution, congestion, traffic injuries, noise and GHG emissions – cost an estimated 3–5% of the country’s GDP.<sup>28</sup> The transport sector accounts for 26% of the country’s GHG emissions. And, despite recent efforts to invest in more sustainable urban mobility and improved fuel efficiency, many of these gains are likely to be cancelled out by an increase in the private vehicle fleet, expected to rise from 32 million cars to as many as 70 million by 2030.<sup>29</sup> Road fatalities increased 13% between 2000 and 2017, driven largely by a huge increase in motorcycle deaths in cities. During that same period, cyclist deaths increased by 54% and it is estimated that nearly half of all road fatalities are pedestrians.<sup>30</sup>

The costs of sprawling, car-centric urban development are disproportionately borne by the poor. On average, spending on transport accounts for 19.3% of household expenses in Mexico, the highest in the G20.<sup>31</sup> Low densities in Mexico’s suburbs make infrastructure such as metro lines or even bus rapid transit (BRT) prohibitively expensive to build and operate. As a result, settlements in the urban periphery tend to depend entirely on private minibuses operating on concession schemes, with little regulation; for example, 74% of public transport trips in the Mexico City metro area are by minibus.<sup>32</sup> This has serious implications for women in particular, who are significantly less likely to have access to a car and therefore rely on public transport and walking for their mobility. In Mexico City, 90% of women have experienced some form of violence on their daily commute.<sup>33</sup>

Successive national governments have supported the expansion of social housing – defined here as housing made affordable to low-income populations through non-market mechanisms, such as below-market rents or targeted allocation procedures,<sup>b</sup> which now constitutes about 82% of the formal housing stock.<sup>34</sup> Sprawling and disconnected urban development undermine those efforts, increasing living costs and limiting economic opportunity.

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<sup>a</sup> The exchange rate for all currencies in this report is based on the conversion rate provided by XE (xe.com) on 27 April 2020.

<sup>b</sup> For further information, see OECD, 2015. *OECD Urban Policy Reviews: Mexico*. The definition of social housing used here is the definition used by the Mexican government and differs from the definition of the OECD Affordable Housing Database, which is “residential rental accommodation provided at sub-market prices and allocated according to specific rules rather than according to market mechanisms”. Under this definition, Mexico would not have any social housing unit. For further information on the OECD Affordable Housing Database, see: <http://www.oecd.org/social/affordable-housing-database/>

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### 1.3 AN URGENT NEED TO CONNECT HOUSING AND TRANSPORT POLICIES

In well-connected cities, housing and transport policies are coordinated to ensure that residents can easily access jobs, services, education and other opportunities. In Mexico, however, the two not only have evolved separately but also are guided by different priorities. Housing is currently seen as part of social policy, while transport is mainly seen as a means of fostering economic development, by facilitating the movement of goods and people. Ironically, that disconnect can reduce economic competitiveness and development, and limit opportunities for low-income people in isolated settlements to rise out of poverty.

An integrated approach to housing and transport requires coordination between departments at the national, state and municipal levels to align policies and investments behind compact, connected, clean and inclusive cities. While this paper focuses on the opportunities to integrate national housing and transport policies, it is important to recognise that local governments also face significant coordination challenges.

In the past decade, Mexico has striven to combine orderly urban development with sustainable, high-quality housing. For that purpose, the National Housing Commission (CONAVI) has adopted three policy instruments to facilitate compact, connected, clean and inclusive urban development. The first, Certified Developments (DCs), were seen as integral areas (new urban development) contributing to the territorial ordering of the municipalities and seek to promote more orderly, fair and sustainable growth. The aim was to build new social housing in mixed-use settlements where residents could both live and work. However, between 2013 and 2017, CONAVI managed to integrate only eight DCs with proper infrastructure and transport.<sup>35</sup> Most DC projects did not pay sufficient attention to urban services and infrastructure, and economic activity never took off in those new cities.<sup>36</sup>

The second instrument, Urban Containment Perimeters (PCUs), aimed to concentrate housing development in areas with good access to jobs, transport, infrastructure and services.<sup>37</sup> Housing developers were to receive subsidies if they built in these areas. According to SEDATU, in 2013, 47.1% of new housing developments were in PCUs, and in 2018 the figure was 87%.<sup>38</sup> However, questions arose about the methodology used to draw the PCUs, which was subject to external influence, and transport connectivity was not actually considered. The methodology is currently being revised.



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The third instrument was the National Strategy for Sustainable Housing, part of Mexico's Special Programme on Climate Change (PECC). The aim was to encourage the construction of low-carbon housing. As part of a Nationally Appropriate

**The climate emergency and the pandemic both require urgent actions by the state that should not be seen as mutually exclusive. There is overwhelming evidence that policies to curb dangerous climate change also have major co-benefits for human health, inclusive urban growth and disaster risk reduction, while generating good jobs and contributing to a more resilient economy.**

Mitigation Action (NAMA),<sup>c</sup> Mexico was to certify housing developments based on their low-carbon credentials, and to provide supplemental finance to improve energy and water efficiency through eco-technologies, design improvements and more efficient building materials.<sup>39</sup> This was the first programme of its kind in the world. Its adoption required the training of housing developers in the use of materials, technologies and systems to build houses based on the new NAMA standards. As of 2018, CONAVI had certified just over 100,000 units, which are expected to contribute to a reduction of 57.2 tonnes of CO<sub>2</sub> emissions.<sup>40</sup>

Mexico's current administration appears to be deprioritising climate efforts, however, which will have knock-on effects on the sustainability of transport and housing. The administration has only just released its third PECC (2020–2024), as required under Mexico's General Law on Climate Change. The National Development Plan 2019–2024 (PND) mentions neither specific climate mitigation goals nor implementation strategies. This lack of institutional leadership is compounded by the decision to favour fossil fuels over renewable energy, and to continue to invest in a model of urban development that is highly damaging to the

environment, especially since the COVID-19 crisis. Based on the administration's current policy priorities, it is unclear how Mexico will be able to meet its commitments under the Paris Agreement without significantly raising the ambition level.<sup>41</sup> The climate emergency and the pandemic both require urgent actions by the state that should not be seen as mutually exclusive. There is overwhelming evidence that policies to curb dangerous climate change also have major co-benefits for human health, inclusive urban growth and disaster risk reduction, while generating good jobs and contributing to a more resilient economy.<sup>42</sup> This paper will explore how housing and transport policy reforms that promote the development of 3C+I cities can support such win-win outcomes.

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<sup>c</sup> The NAMAs are emerging market mechanisms that enable developing economies to align sustainable development with national economic and strategic priorities.

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## 2. Housing dynamics in Mexico

### 2.1 OVERVIEW OF THE MEXICAN HOUSING SECTOR

#### 2.1.1 A supply of adequate housing falls short of Mexico's needs

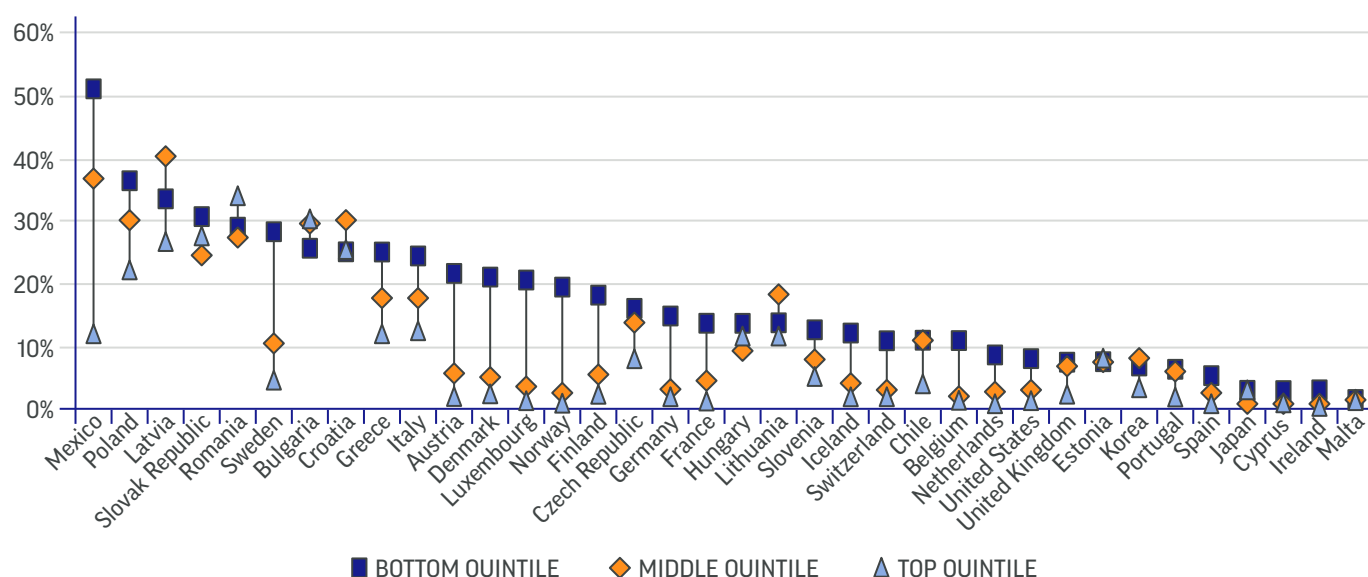
A key measure of poverty in Mexico, per the General Law on Social Development, is housing quality and space.<sup>43</sup> As noted earlier, about 90% of Mexico's housing stock consists of single-family homes, reflecting a strong cultural preference (reinforced by public policies) for detached houses over multi-family residences.<sup>44</sup> From 1995 to 2015, the average number of residents per dwelling decreased from 4.7 to 3.7.<sup>45</sup> However, Mexico still had by far one of the largest shares of overcrowded low-income households in the OECD: over 50% of households in the lowest income quintile in 2018 lived in overcrowded accommodation (Figure 2).<sup>46</sup> The housing supply is also more than 6 million units short of estimated need.<sup>47</sup> Yet, despite the large deficit, as of 2010 14.2% of the total housing stock was either vacant or abandoned<sup>48</sup> – the highest share of any OECD country; in 2019, a federal agency counted 650,000 abandoned houses,<sup>49</sup> mainly in relatively new, low-density developments in the urban periphery.<sup>50</sup>

In Mexico City, a lack of affordable housing is driving low-income residents ever farther from the centre of the city. Mexico City has about 2.6 million households,<sup>51</sup> and, by official estimates, 272,000 new households will be formed there between 2019 and 2024. Already, more than 8,000 households live in inadequate conditions within the city, and 18,000 households have had to move to the periphery to find affordable housing.<sup>52</sup>

Nationwide, the quality of housing has improved markedly in recent decades. Between 1990 and 2010, the share of houses built with durable materials such as brick and cinderblock rose from 78% to 93%. As of 2015, 99% of houses had electricity, 94.5% were connected to the water supply and 91.6% to the sewage system. Overall, the population in poor housing decreased from 17% in 2008 to 12% in 2016, or almost 5 million people. Still, as of 2016, there were an estimated 12.6 million inadequate housing units in Mexico – overcrowded, built with poor materials or lacking access to basic services such as water and electricity.<sup>53</sup>

Many residential areas also lack good public infrastructure – sidewalks, streets, public parks, commercial areas – and their maintenance has not received proper attention. The success of national housing programmes has been measured mainly by the number of units built, and this has led to significant shortcomings in urban development. For example, about half of Mexico's housing has inadequate street lighting (49.1%) and paving (51.1%).<sup>54</sup> High rates of burglary (5.2 cases per 100 inhabitants) and assault on the streets and on public transport (8.4 per 100 inhabitants),<sup>55</sup> meanwhile, create a sense of insecurity. That, in turn, has led to the construction of gated communities and other developments that are walled off and isolated from their surroundings.

**Figure 2. Overcrowding rates in households across the income distribution, 2018**



**Notes:**

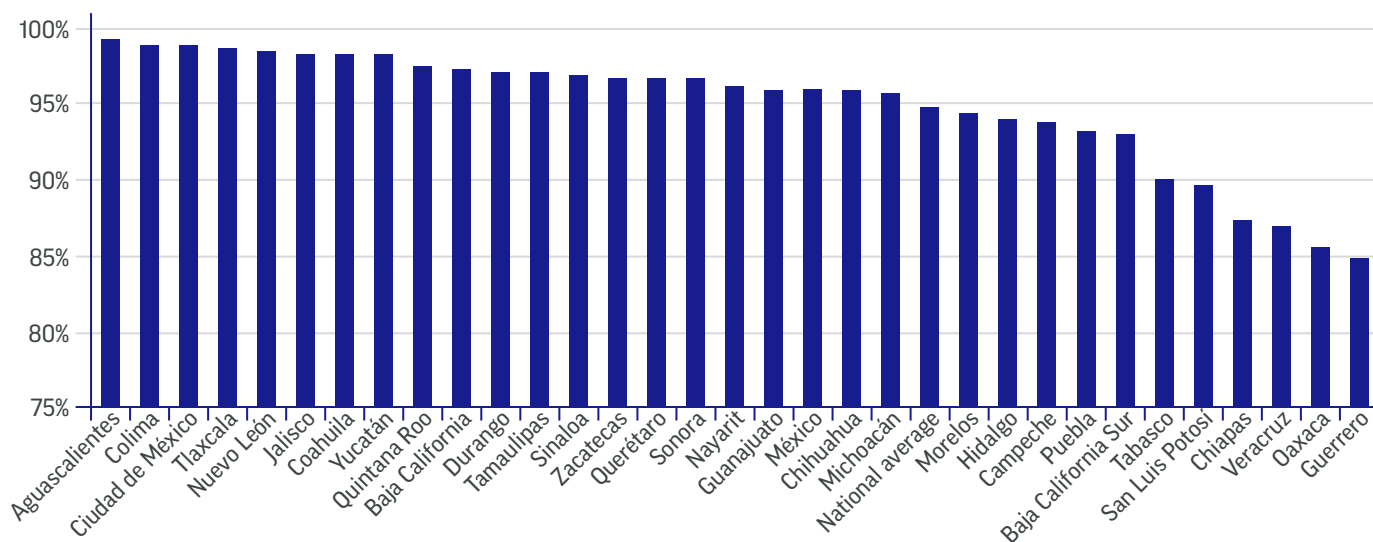
1. For Chile, Mexico, Denmark, the Netherlands and the United States no information on subsidized tenants due to data limitations.
2. Low-income households are households in the bottom quintile of the (net) income distribution. In Chile, Mexico, Korea and the United States gross income is used due to data limitations.
3. Data for Japan only available on the respondent level due to data limitations. Results therefore refer to the population, rather than to households.
4. Data for Canada are adjusted by Statistics Canada based on the assumption of the presence of a kitchen in dwellings where it is expected. Income quintiles for Canada are based on adjusted after-tax household income.
5. *Note by Turkey:* The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
6. *Note by all the European Union Member States of the OECD and the European Union:* The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

**Source:** OECD Affordable Housing Database, [www.oecd.org/social/affordable-housing-database/housing-conditions/](http://www.oecd.org/social/affordable-housing-database/housing-conditions/)

Housing quality and access to services vary substantially across Mexico, according to levels of income and social development. Low-quality housing is a problem all across the country, but particularly in the southern states, which have the highest levels of poverty, the largest indigenous populations and the greatest housing deficits.<sup>56</sup> The people likeliest to live in inadequate units are poor, informal workers, female-headed households, indigenous people, young people and those displaced by violence. Those who cannot afford formal housing may build their own, typically on land to which they do not hold a legal title. Some cooperatives, such as the Cooperativa Palo Alto in Mexico City, have managed to self-build quality housing,<sup>57</sup> but many informally built units are unsafe. Municipalities often do not fully enforce construction standards, and much less in informal settlements. Informal housing often lacks access to water, sewage and electricity, though some households may connect to services illicitly.

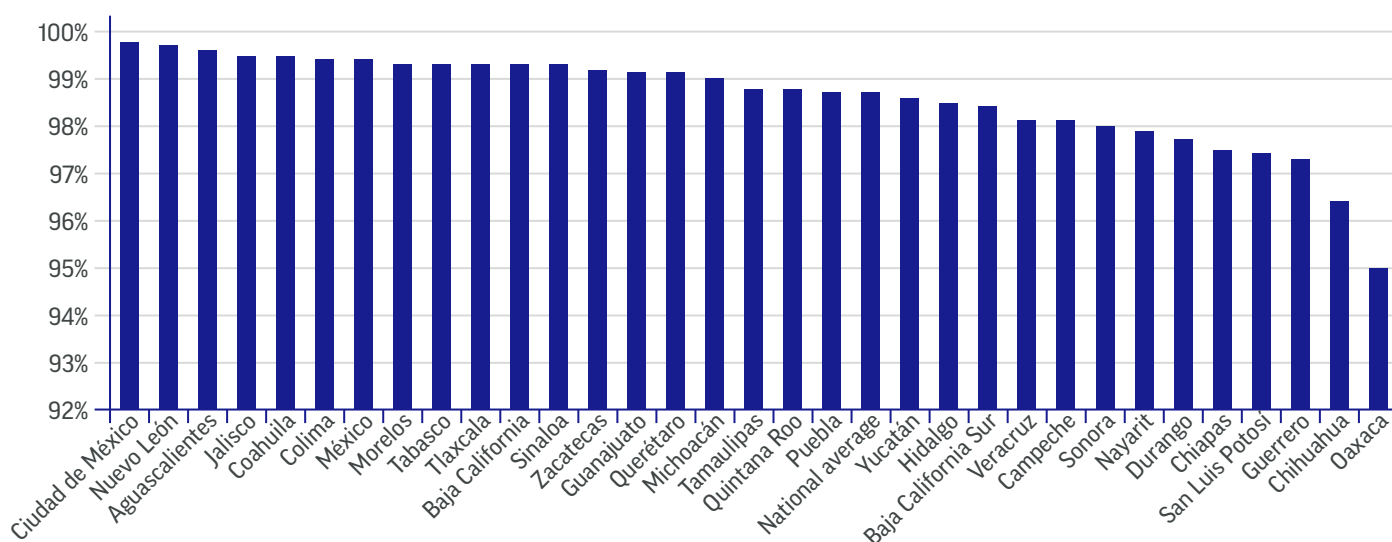
One good measure of housing quality is access to piped water and the electrical grid. As Figures 3 and 4 show, there are major regional differences. Notably, the southern states, which have lower levels of access to these services, are also more prone to earthquakes; poor-quality housing and lack of basic services exacerbate vulnerability. In the past two decades, 50% of new housing units in Mexico were built in only eight of the 32 states: Baja California, Guanajuato, Nuevo León, State of Mexico, Jalisco, Mexico City, Chihuahua and Tamaulipas, which are also the states with the highest levels of social development. It is worth noting that some of those are the most populated states in the country, such as State of Mexico, Mexico City, Jalisco and Guanajuato.<sup>58</sup>

**Figure 3. Homes supplied with piped water by state, 2015**



Source: INEGI, 2015. *Encuesta Intercensal 2015 – Principales resultados*.

**Figure 4. Homes connected to the electricity network by state, 2015**



Source: INEGI, 2015. *Encuesta Intercensal 2015 – Principales resultados*.

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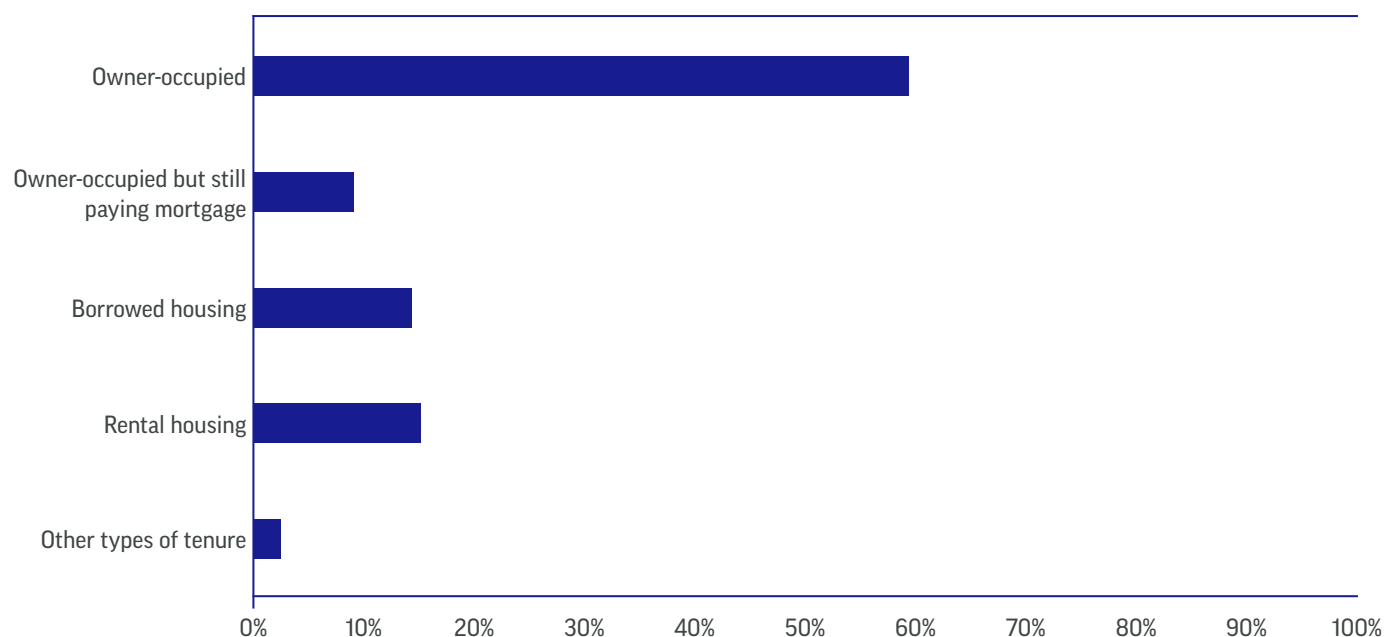
It is important to note that utility bills are a significant expenditure for Mexican households, especially the poor. A typical Mexican household dedicates almost 20% of its income to cover water, electricity, gas and other housing expenses.<sup>59</sup> Mexico has substantial solar energy potential that could help reduce those costs but, as of 2018, only 7.2% of houses had solar water heaters and 0.5% had solar panels.<sup>60</sup> Some municipalities, such as Tarandacuaao, in Guanajuato, provide support for families with energy-saving devices, including solar heating panels, but many low-income people are unaware of these programmes and thus do not benefit from them.

Even as Mexican cities struggle to meet the need for decent housing, large numbers of existing homes have been abandoned. Multiple factors are at play, including job losses, international migration, violence and insecurity (particularly in northern cities), far-flung locations that require long commutes to work and school, poor access to key services such as public transport, low housing quality and units that are too small (the average Mexican household has 3.7 members).<sup>61</sup> In some markets, housing policies have also led to overproduction of homes. Some major homebuilders are now in financial trouble, with increasing debts as a result of low sales, rising construction costs and cessation of mortgage payments.

### 2.1.2 Housing tenure and affordability

Mexicans strongly prefer homeownership over renting, and this is reflected in the housing stock. As shown in Figure 5, 68.3% of the housing stock is owner-occupied. Mexico's share of households that own their own home (either outright or with a mortgage) is among the 10 largest in the OECD, only below former communist countries such as Lithuania (89%), Hungary (85%), Latvia (80%), Poland (80%), Estonia (75%) and Slovenia (74%), where homeownership peaked with the adoption of a market economy.<sup>62</sup> Public policy, too, gives preference to homeownership. Given that detached homes require more land per unit than apartment buildings, developers have favoured peripheral areas, where land is plentiful and less expensive than within cities. The high homeownership rate also limits labour mobility and productivity, as homeowners are typically less mobile than renters. The problem is that Mexico lacks a housing supply that is responsive to changes in demand.<sup>63</sup>

**Figure 5. Type of housing tenure in Mexico, 2018**



**Source:** Encuesta Nacional de Ingresos y Gastos de los Hogares 2018, (ENIGH) Nueva Serie, accessed at: [www.inegi.org.mx/programas/enigh/nc/2018/default.html](http://www.inegi.org.mx/programas/enigh/nc/2018/default.html) #Tabulados

As noted earlier, Mexico has made a concerted effort to improve housing affordability in its cities, and it has expanded social housing, to the point that today it accounts for about 82% of the housing stock, according to the definition stated above.<sup>64</sup> The rental market, meanwhile, is underdeveloped. Like in many other Latin American countries, Mexico has not used rental housing as an affordable housing solution. Formal rental housing makes up just 15.9% of the housing stock,<sup>65</sup> though, when adding informal rentals, the share gets closer to 23%.<sup>66</sup> Only 41% of rented units are formally leased; without a lease, tenants are vulnerable to forced evictions and abuse. Mexico also loses out on federal income tax revenue as a result of unreported rental income.

Housing costs can be a substantial burden for Mexican households, in particular to low-income households. According to OECD data, in 2018 Mexican homeowners with a mortgage paid on average 17% of their income on housing costs, which is a comparable level to countries such as Germany (16%) and Japan (20%).<sup>67</sup> Mexican renters (private or subsidised) paid 19% of their income on housing in average. There are significant differences, however, for those in the poorest income decile. In 2018, Mexican renters (private or subsidised) in the bottom quintile of the income distribution allocated 33.14% of their income to pay the rent whereas those in the third quintile allocated almost 19%.<sup>68</sup> According to the United Nations Human Settlement Programme (UN-Habitat), in Mexico 61.7% of tenant households allocated at least 30% of their monthly income to pay the rent.<sup>69</sup>



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Affordable housing in Mexico is therefore not that affordable – and it is marked by inequality. Not only is the rent high but also, after adding the cost of services such as water, electricity and gas, the lowest-income households spend over 60% of

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**Affordable housing in Mexico is not that affordable – and it is marked by inequality.**

their disposable income on housing, whereas middle- and high-income households spend 34% and 30%, respectively.<sup>70</sup>

The average Mexican household earns Mex\$200,000 (US\$8,400) per annum,<sup>71</sup> and the average price of a new home is Mex\$800,000 (US\$32,068).<sup>72</sup> An average family thus would have to save up four years' income to buy a house in cash, which, from an OECD perspective, is not a bad situation. However, the situation may be worse for women and indigenous people, who tend to be paid less in the labour market. Workers in the informal economy, whose income is not well documented, face additional constraints in obtaining credit to buy a house.

Insufficient access to finance also limits affordability. In 2015, almost 70% of households lacked access to financing to buy or build a house, and had to use their own resources. Only 20.8% of households obtained financing from a public agency (INFONAVIT – the National Workers' Housing Fund Institute; the Housing Fund of the Social Security and Services Institute for State Workers – FOVISSSTE; Mexican Petroleum – PEMEX; or the National Trust Fund for Social Housing

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**Insufficient access to finance also limits affordability. In 2015, almost 70% of households lacked access to financing to buy or build a house, and had to use their own resources. Only 20.8% of households obtained financing from a public agency.**

– FONHAPO).<sup>73</sup> As discussed further in Sub-section 2.1.5, the available financing instruments focus almost exclusively on workers affiliated with public institutions. This covers only 44% of the Mexican labour force and excludes workers in the informal economy, as well as households building houses on lots owned by their family.<sup>74</sup> There are subsidies, but access to them is linked to access to mortgage credit, excluding most poor families, and subsidies are mainly available for new purchases or construction, but support is most needed for housing improvements.

Housing on the outskirts of cities is also unaffordable because of transport costs. For example, in the city of Puebla, households on the periphery spend twice as much cash and three times as much time commuting as those living in the central area.<sup>75</sup> The poorest households spend an average of 11% of their income on public transport, whereas high-income households spend 0.5%. For the large majority of households in urban areas of more than 2,500 inhabitants, transport is the second-largest category of expenditure (19.3%), followed by education (12.4%), housing and its services (9.5%) and health (2.7%).<sup>76</sup> Moreover, 15.7% of the Mexican population spend more than an hour commuting to work, as peri-urban areas are not served by efficient public transport.

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### 2.1.3 Housing governance arrangements

Mexico's housing challenges are the result of multiple factors – from flawed financing and investment choices, to inadequate land use planning, to weak institutions, discussed later in this section. First, it is important to understand the fragmentation of housing governance in Mexico.

**Mexico's housing challenges are the result of multiple factors – from flawed financing and investment choices, to inadequate land use planning, to weak institutions.**

Key players in Mexico's housing sector include public sector financiers, private financial institutions, housing developers and consumers. For a list of the main national institutions that have a direct or indirect impact on housing policy design and implementation, see Annex 3. There is also a large number of state and municipal housing bodies with different responsibilities and target populations. There are two distinct market segments: the mortgage market, which serves individual homeowners; and the developers' market, which finances building developers and construction firms.

The mortgage market is dominated by two large public housing funds, both over 40 years old, which provide long-term savings schemes based on mandatory payroll deductions. They collect 5% of wages and put them in individual savings accounts. INFONAVIT serves employees in the private sector and FOVISSSTE serves public sector employees.

The Federal Mortgage Society (SHF) is a government-owned mortgage bank and acts as a secondary mortgage market facility. National housing institutions also provide public subsidies directly to low-income households to buy a house through CONAVI.<sup>4</sup>

Until 2018, CONAVI coordinated the housing sector. In May 2019, the national government amended the General Law on Human Settlements to give SEDATU, created in 2013, authority over infrastructure construction and urban services, in coordination with state and municipal governments and the private and social sectors. The goal was to provide stronger national leadership in urban development. SEDATU was also given the leading role in housing policy and the responsibility for drafting and implementing the National Housing Programme (PNV) 2019–2024, with the support of subnational governments and the private and social sectors. CONAVI is still responsible for the operation of housing programmes and subsidies.

SEDATU oversees land policy, planning of human settlements and land management – a mandate that should enable it to lead a more effective and coordinated response to Mexico's urban challenges. However, a lack of political support, limited budgets, inadequate staffing and lack of a clear national urban policy framework to guide SEDATU have limited its impact so far.

Even with SEDATU at the helm, Mexico's housing governance landscape remains crowded and fragmented. Each agency has a siloed view of housing challenges, a very particular target population and limited competencies. This makes it difficult to ensure efficient and effective coordination of housing and urban development policies and programmes.<sup>77</sup>

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<sup>4</sup> Until 2018, FONHAPO also provided subsidies but the 2019 reforms to the Housing Law transferred its responsibilities to CONAVI and FONHAPO is in the process of being dismantled.

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The institutional landscape is also unstable, with agencies assuming different roles, sometimes informally, with the arrival of a new administration. Most of these agencies have been involved in housing for at least two decades. The *de facto* leader has traditionally been INFONAVIT, as it is the largest mortgage originator in Mexico,<sup>e</sup> has the most resources and serves the largest number of people, but it lacks a formal policy-making role. For years, INFONAVIT acted as a developer and financial credit body; then its role evolved to focus only on granting credit, but with no urban policy framework to guide it. In the past decade, CONAVI took the lead in housing policy and coordination of the sector, even as SEDATU was nominally the head of the

urban and housing sector. In the current administration, SEDATU defines housing policy and CONAVI implements the housing programmes.

**The institutional landscape is also unstable, with agencies assuming different roles, sometimes informally, with the arrival of a new administration.**

The Housing Law created the National Housing System (SNV) to coordinate between the public, social and private sectors. The SNV is composed of the National Housing Council, the Inter-Secretarial Housing Commission, SEDATU, CONAVI, INFONAVIT, FOVISSSTE, SHF, the National Credit Society, representatives from the state and municipal governments, and members from the private and social sectors. The SNV aims to (i) coordinate and agree on actions to meet the objectives, priorities and strategies of the National Housing Policy; (ii) ensure coherence in the actions, instruments and processes oriented to meeting housing needs, particularly of the poor; (iii) promote and guarantee the participation of all the productive actors whose activities

have an impact on the development of housing; (iv) strengthen coordination between the federal, state and municipal governments as well as with the social and private sectors; and (v) promote inter-institutional coordination among the different related federal instances.

The National Housing Council is the consultative and advisory body of the Federal Executive. Its aim is to propose measures for planning, formulation, implementation, execution and follow-up on the National Housing Policy. It may advise on the budget allocated to each of the dependencies and entities of the federal administration and state and municipal organisms in the area of housing and may propose structural changes in the housing sector. The Housing Law also institutes the Inter-Secretarial Housing Commission, which aims to guarantee the coordinated implementation of the PNV.<sup>78</sup> The Commission has an important role to play in ensuring better links between infrastructure and urban development to tackle the problem of abandoned housing.

Mexico's registry and cadastre institutions, meanwhile, are deeply inadequate, making it difficult to establish legal ownership in many cases and limiting the availability of reliable information on land. It is estimated that 16.3% of homeowners lack legal titles (*escrituras*).<sup>79</sup> This is particularly the case among vulnerable groups of the population such as indigenous communities (23.6%) and rural residents (25.3%). According to SEDATU, there are an estimated 7.5 million irregular (untitled) housing lots in the country, and the process to obtain the legal titles is costly (5–10% of the value of the house) and cumbersome.

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<sup>e</sup>For example, in 2013, 74% of all housing loans in Mexico were granted by INFONAVIT, including loans co-financed with commercial banks. OECD, 2015. *OECD Urban Policy Reviews: Mexico 2015: Transforming Urban Policy and Housing Finance*, OECD Publishing. <http://dx.doi.org/10.1787/9789264227293-en> OECD, Paris.

These problems also hinder municipal governments' revenue collection. According to SEDATU, 82% of municipalities' income comes from property-related taxes (e.g. the *predial*) but, owing to outdated cadastres, tax collection remains low. In recent years, Mexico's national government has worked to modernise the cadastres and public registries, including through a new law that is currently before Congress and is expected to be approved in 2020. Improved revenue collection could support improvements to public services, including transport infrastructure such as roads.

## 2.1.4 The regulatory and planning framework

Mexico's housing regulatory framework is also fragmented (Table 1). The General Law on Human Settlements and the Housing Law have been the main national policies, but every federal state and municipality also enacts its own housing legislation, policies and plans, and they are not always aligned with national guidance and planning frameworks.<sup>80</sup>

**Table 1. Legal framework on housing**

| National-level laws                                                                     | Objective                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Law on Human Settlements, Zoning and Urban Development                          | Sets basic standards and general observance management tools to manage the use of the territory and human settlements in the country, with full respect for human rights                                                                                 |
| General Law on Ecological Balance and Protection of the Environment                     | Sets the standards and criteria to meet the objectives of the environmental, urban development and housing policies                                                                                                                                      |
| General Civil Protection Law                                                            | Establishes the basis for coordination among the different levels of government on civil protection and the conditions for adequate housing                                                                                                              |
| General Victims Law                                                                     | Acknowledges the right to housing as a basic condition for social development                                                                                                                                                                            |
| Law on Housing                                                                          | Establishes and regulates the National Housing Policy, programmes, instruments and actions that ensure that all households have access to adequate housing. Gives SEDATU the responsibility for policy definition and CONAVI the role of policy operator |
| Planning Law                                                                            | Sets the basic norms and principles according to which the federal government will elaborate and implement the PND as the basis for any sectoral planning                                                                                                |
| Law on the National Workers' Housing Fund Institute                                     | Regulates the activities of INFONAVIT as administrator of the resources of the National Housing Fund and grants credits to affiliated workers, giving them access to affordable housing                                                                  |
| Law on the Housing Fund of the Social Security and Services Institute for State Workers | Establishes a financing system for state employees to obtain sufficient credits through home equity loans                                                                                                                                                |
| Expropriation Act                                                                       | Establishes the procedures for the expropriation of goods with public utility as a possible mechanism of access to adequate housing with social purposes                                                                                                 |
| Organic Law of the Federal Mortgage Corporation                                         | Regulates the operation of the Federal Mortgage Corporation                                                                                                                                                                                              |

**Sources:** Congreso de la Unión México, *Ley de Vivienda 2019*; Congreso de la Unión México, *Ley de Planeación 1983*; Congreso de la Unión México, *Ley General de Asentamientos Humanos, Ordenamiento Territorial y Desarrollo Urbano 2019*; Congreso de la Unión México, *Ley General de Equilibrio Ecológico y la Protección al Ambiente 1988*

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Between 2013 and 2018, SEDATU and 100 of the largest municipalities signed coordination covenants to promote minimum standards on housing and urban development. These covenants aimed to control urban sprawl, consolidate cities, strengthen coordination in metropolitan areas and improve disaster risk reduction. Municipalities committed to ensure that their development plans and actions were aligned with federal policies, while SEDATU committed to provide training, advice and technical assistance and give priority to investments in the participating municipalities. In practice, municipalities received technical assistance but not financial resources, and SEDATU controlled the money that was made available. The municipalities were also unprepared, as they lacked the policies, institutions and tools needed to coordinate urban development. Reforms are currently being discussed.

A path to more ambitious and systemic changes has been opened up by the PND 2019–2024, which sets objectives, strategies and priorities for national development, built around 12 general guiding principles focused on social development.<sup>81</sup> Every sectoral plan is expected to be aligned with the PND. Within this framework, Mexico has developed the PNV 2019–2024, discussed in depth in Section 2.2. The PNV defines objectives and strategies to meet them; cost projections and sources of finance; coordination strategies; mechanisms to avoid harmful practices; and strategies to promote the development of the rental housing market.<sup>82</sup> In August 2020, SEDATU and INSUS launched the National Land Policy (PNS), aimed at guiding urban growth and development to make better use of land from a social and environmental perspective. This is the first time Mexico has had a national land policy, laying a foundation for institutional coordination in land management.<sup>83</sup>

Since 2019, SEDATU has also been working on a National Strategy for Territorial Planning,<sup>84</sup> also aligned with the PND but with a 20-year vision. All sectoral plans will have to be in line with this strategy in terms of spatial planning, including the PNV, in relation to which

locations should be prioritised for housing development. However, approval of the strategy is still pending.

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**With weak and fragmented housing policy frameworks and institutions, the sector has been shaped mainly by financial flows – and those flows have long promoted unplanned urban development. Between 2007 and 2012, more than 80% of all funding from CONAVI went to acquiring new units, and the rest to construction and improvements.**

### **2.1.5 Housing financing**

With weak and fragmented housing policy frameworks and institutions, the sector has been shaped mainly by financial flows – and those flows have long promoted unplanned urban development. Between 2007 and 2012, more than 80% of all funding from CONAVI went to acquiring new units, and the rest to construction and improvements.<sup>85</sup> However, the large majority of households would prefer to upgrade their home and not move to a new one. Informal settlements are also the result of how housing has been financed. As noted earlier, low-income households often cannot access credit or subsidies. Land for development in central areas is scarce and expensive, and even people who already own land may not have the means to hire professional builders.



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Mortgage lending and housing subsidies have also incentivised sprawl. Only 8% of the more than 2.2 million houses built between 2014 and 2017 with funding from the National Housing Organisations (ONAVIS) are in the urban core with access to all services, and only 2.9% of low-cost housing is in consolidated areas.<sup>86</sup> Only 14.7% of the land reserved for future developments in Mexico has good access to infrastructure and job opportunities.<sup>87</sup>

Worst of all, housing finance institutions reach only about half the population – those in the formal economy. Workers in the informal economy do not have access to credit from government institutions. Efforts have been made to ensure lower-income households have access to subsidies but these do not suffice to provide access to adequate housing.

The Housing Law envisions that housing will be financed through a combination of credit, households' own resources (savings), subsidies (exclusively for low-income people<sup>f</sup>) from the national and subnational governments, and contributions from the social, private and public sectors.<sup>88</sup> The value of available subsidies depends on different conditions such as location or even materials used in the construction.<sup>g</sup> SEDATU's responsibility is to design financial schemes that combine resources from different sources of financing. However, access to housing in Mexico still depends largely on households' own resources. As Figure 6 shows, in 2018, almost 70% of households used their own resources to buy or build a house. Just below 20% had access to financing from public bodies such as INFONAVIT and FOVISSSTE, and about 6% had access to loans from banks.

Housing assistance has been insufficient, too, as it is addressed to salaried workers in the formal economy. Even if public lending institutions like INFONAVIT and FOVISSSTE together provide eight out of 10 mortgages in Mexico, conventional housing finance offered through these and other quasi-public entities is outside the reach of informal and independent workers.<sup>89</sup> Moreover, not all those who are eligible for housing assistance receive it: 75% of INFONAVIT's members never receive a housing credit.<sup>90</sup>

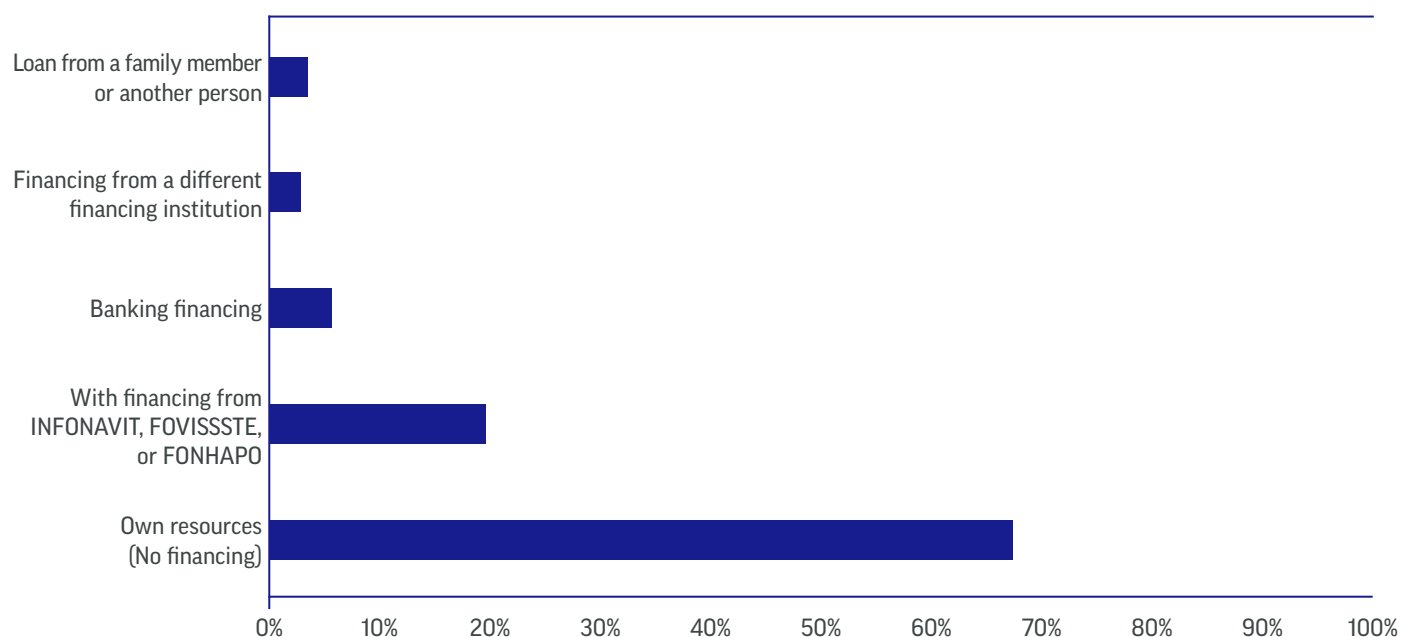
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<sup>f</sup>This is according to the Housing Law, Art. 61. Moreover, to determine if a person or household is in a situation of poverty, the national government follows the procedures established in the General Law on Social Development.

<sup>g</sup>The value of the subsidy may vary depending on the individual case. To buy a new house in a non-risk area that meets CONAVI's requirements regarding density, infrastructure, built area, access to services, etc., the subsidy may amount to 172 times the value of the Unit of Measurement and Update (UMA). To buy used housing that meets CONAVI's requirements the subsidy may amount to 143 times the value of the UMA. In the case of home improvements, the subsidy may amount to 13 times the value of the UMA, by housing unit, for the purpose of installation of technologies that reduce CO<sub>2</sub> emissions, save energy and water and protect the environment. In the case of maintenance work (e.g. electrical installation, plumbing, painting, etc.), the subsidy could be up to four times the value of the UMA in housing complexes (unidades habitacionales) and up to 25 times in individual homes. In many cases, people have the land where they intend to build their house in either rural or urban areas and they may be entitled to receive a subsidy of up to 127 times the value of the UMA for housing construction.



**Figure 6. Sources of housing finance in Mexico, 2018**



**Source:** INEGI, 2018. Encuesta Nacional de los Ingresos y Gastos de los Hogares 2018 (ENIGH) Nueva Serie, accessed at: [www.inegi.org.mx/programas/enigh/nc/2018/default.html](http://www.inegi.org.mx/programas/enigh/nc/2018/default.html) #Tabulados

#### **BOX 1      INFONAVIT: Mexico's main housing fund**

Established in 1972, the National Workers' Housing Fund Institute (Instituto del Fondo Nacional de la Vivienda para los Trabajadores, INFONAVIT) is the country's main housing provident fund. INFONAVIT has historically acted as a government-sponsored mortgage bank, providing loans for the purchase of housing that remain on its own balance sheet. According to the Labour Law, employers must make mandatory payments at 5% of workers' wages to the fund. INFONAVIT accounts for 70% of the Mexican mortgage market; one in four Mexicans lives in a house financed by the institute.<sup>91</sup> For the first 30 years of its existence, virtually the only source of funding for these operations was the funds in housing accounts. INFONAVIT's funding situation is much more favourable than those of most mortgage banks, since it obtains its funds from a mandatory contribution by employers on behalf of their workers. Thus, historically, it has had no obligation to pay competitive returns on housing accounts to obtain its funds or to maintain the confidence of those supplying funds, for, unlike depositors in a mortgage bank, the holders of housing accounts have no right to withdraw their funds.

The institute presently operates with a dual mission of providing housing finance and pensions to salaried, formal sector workers, who contribute a 5% payroll tax to an individual account managed by INFONAVIT. Currently, the Institute manages the assets of about 18.1 million people. An additional 31.3 million workers have an account with INFONAVIT to which they are not actively contributing, most likely because they are not formally employed at present.<sup>92</sup> In 2018, INFONAVIT granted 538,517 loans, of which 69% were for buying a house and 31% for home improvements.<sup>93</sup>

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National subsidies for housing are granted only to low-income households and those in extreme poverty. The amount depends on the level of the household's income but also on the PCUs, which give priority to projects in areas closer to the city core. Subsidies offered by other public institutions, such as CONAVI, have long waitlists. Government subsidies are used only for housing acquisition and not for rental housing. Between 2013 and 2018, CONAVI granted over 37,000 subsidies for houses located within DCs, benefiting 151,000 people. In the same period, CONAVI – together with the Housing Institute of Mexico City and the Social Security Institute for the Mexican Armed Forces (ISSFAM) – granted only 89 loans for renting new houses and 13,669 for renting existing houses.<sup>94</sup> Currently, a large percentage of the subsidies granted by CONAVI is used for acquiring new housing. For example, between January and June 2019, 94% of the 5,038 subsidies granted was used to buy a housing unit, 5% was used self-built housing and only 1% was used for home expansion or improvement.<sup>95</sup> Although the operation rules of the Social Housing Programme (PVS) run by CONAVI also allow households to self-build or improve their dwelling, the fact that it is used mainly for housing acquisition reflects the cultural preference for home ownership.

Housing subsidies allocation is in transition. In previous administrations, subsidies were based on the PCUs, and most of the resources went to the states of Jalisco and Nuevo León, which have the second and third largest urban areas in the country. The current administration has reoriented the subsidy to areas with a more acute housing problem, such as the southern states of Oaxaca, Guerrero and Chiapas. The administration wants to ensure that the subsidy gets to low-income families and that there is a sufficient supply of adequate affordable housing for them. However, the desired outcome should be that households in need obtain higher-quality affordable housing regardless of whether the subsidy goes directly to the household itself to do the work or to a company that will do it for them. Since there are no big housing developers in the region, this is an opportunity for small and medium enterprises (SMEs): the subsidy could be applied through them to conduct housing renovations or expansions.

CONAVI has been considering other mechanisms beyond subsidies to support access to housing financing. Options include schemes of guarantees, differentiated subsidies and guarantees for non-affiliated workers to INFONAVIT and FOVISSSTE. The SHF has been experimenting with schemes for self-built housing with technical assistance.<sup>96</sup>

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## 2.1.6 The vacant and abandoned housing problem

One of the consequences of the mass construction of social housing has been the phenomenon of abandoned and vacant houses. Vacant homes prevail in older and inner-city neighbourhoods as well as in newer developments in peripheral areas.

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**One of the consequences of the mass construction of social housing has been the phenomenon of abandoned and vacant houses. Vacant homes prevail in older and inner-city neighbourhoods as well as in newer developments in peripheral areas.**

Lending practices for home acquisition from government agencies, lack of urban services and amenities (notably urban transport connections) in newer developments<sup>97</sup> and rising levels of violence are the main reasons. In some parts of the country, such as in northern cities, higher levels of uninhabited homes contribute to an increase in violent crime.<sup>98</sup> At national level, there are an estimated 500,000 abandoned or vacant housing units.<sup>h</sup> Most were acquired with INFONAVIT loans, which means they are formal housing units. In some cases, housing developments took place in areas of high natural risk. The states of Jalisco, Nuevo León, State of Mexico and Tamaulipas have the highest share of abandoned houses financed by INFONAVIT.<sup>99</sup> Even in Mexico City it is possible to find abandoned housing units. In the area of Santa Lucía, where the government is building the new Mexico City airport, SEDATU has identified 120,000 abandoned houses. This creates additional planning problems in integrating the whole area into the functioning of the airport. One of the

key aspects to solve is the connectivity of those municipalities and housing units to the job centres in Mexico City.

To face the problem of vacant or abandoned housing, SEDATU has been signing cooperation agreements with municipalities to set the planning investment guidelines to provide services to the areas with abandoned housing units and to provide municipalities with technical assistance on the use of water and land. One example of how to tackle the housing problem is the programme Rent your House (Renta tu Casa), designed by the municipality of Tlajomulco in the state of Jalisco (Box 2). The impact of the programme in terms of the number of rescued housing units for rental is still rather low compared with the number of abandoned houses in the municipality, but it still points to potential solutions.

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<sup>h</sup> Vacant housing can be described as that uninhabited by its owners and not used for rental. When the government does not know about the property owner or a close relative who could inherit the property it is considered abandoned.

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**BOX 2      Grappling with the consequences of sprawling housing development**

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The municipality of Tlajomulco, in the state of Jalisco, is part of the Guadalajara Metropolitan Area (AMG), which is home to 5 million people. Like much of Mexico – and Latin America more broadly – the AMG has seen a hollowing-out of the city centre and significant urban sprawl. National policies focused on closing the housing deficit encouraged developers to build large amounts of new housing in Tlajomulco. The excess supply led to in-migration from other areas in the AMG. Between 2010 and 2015, 109,570 people moved to Tlajomulco, and the number of housing units grew from 12,496 in 1990 to 195,265 in 2016.<sup>100</sup>

However, these housing units were built in complexes disconnected from urban amenities and services, with limited access to jobs and public transport. Moreover, many people assumed more debt than they could pay: by 2015, only 6% had managed to keep up with their repayments, and the rest had to suspend or delay payments. This led some to be forced out of their homes; other people left because the units were too small for their needs, or they wanted to be closer to services. By 2016, Tlajomulco had 68,674 vacant units: 35.1% of the housing stock.<sup>101</sup> Developers left some complexes unfinished, and they could not be transferred to the municipality to provide the necessary services. Many uninhabited units were vandalised or occupied illegally, leaving the neighbours feeling vulnerable.

To address the crisis, Tlajomulco created a Municipal Housing Programme – unusual for Mexico – including an initiative called Rent your House (Renta tu Casa) that allows homeowners to lease their vacant unit to the municipality for Mex\$1,500 (US\$66) per month. The municipality then rents out the units to low-income households, which pay just Mex\$350 (US\$15) per month. Houses that lack basic services or are dilapidated cannot be part of the initiative, however. In the first phase, the municipality managed to rent only 200 houses, and it has struggled with the complexity of the process to reclaim abandoned properties.<sup>102</sup>

## **2.2 A NEW APPROACH TO HOUSING DEVELOPMENT**

Mexican policy-makers over the past decade have recognised the need to make urban development more compact, sustainable and connected to public transport, with a special focus on housing, but their efforts to date have yielded limited results. The López Obrador administration, which took office in December 2018 for a six-year term, is addressing urban and housing challenges through four programmes aligned with the 2019–2024 PND, summarised in Box 3. A key goal is to reduce the number of substandard housing units nationwide from 9.4 million in 2019 to 7.2 million in 2024. If progress were to continue at that pace, by 2040 the number of dwellings in need of improvement would be reduced to zero.

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**BOX 3 Mexico's national housing policy framework**

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The **National Housing Programme 2019–2024** (PNV), which drives Mexico's housing policy, aims to provide affordable, high-quality housing to all Mexicans, particularly low-income households, while advancing environmental objectives and land use reforms. Moving beyond the federal government's longstanding focus on promoting homeownership and housing development, it includes measures to improve the quality of units, promote rental housing, assist the social production of housing in low-income areas and promote housing cooperatives. It also redefines "affordability" to mean being able not only to buy or rent a house but also to cover the costs of living in it, and it seeks to diversify finance mechanisms, particularly for people ineligible for INFONAVIT and FOVISSSTE programmes, including through individual and collective microcredit.<sup>103</sup>

In addition, the PNV seeks to simplify and harmonise the housing policy framework, facilitate coordination through covenants across levels of government and with the private and social sectors, and use information and communication technologies (ICTs) to optimise processes.

The **Social Housing Programme** (PVS), managed by CONAVI, helps low-income households access adequate housing.<sup>104</sup> It aims to reduce overcrowding, assist people affected by disasters, contribute to orderly and compact urban growth through housing, reduce the share of substandard housing (measured using a deprivation index) and promote environmental sustainability. The PVS operates through a combination of savings, loans and subsidies. CONAVI uses a point system to assess sustainable housing projects and allocate subsidies; the criteria are aligned with other programmes that promote sustainable housing, such as the INFONAVIT's "green mortgage" and SHF's "Ecocasa".

The **Urban Improvement Programme** (PMU) focuses on ensuring that settlements in the urban periphery have access to high-quality housing, services and infrastructure; 100 cities are to be targeted between 2019 and 2024. The PMU works to improve neighbourhoods, clarify land ownership and tenure, and improve urban, metropolitan and land use planning. In 2019, the PMU worked in 10 cities near the northern border and five in touristic zones, aiming to benefit 1 million people living in informal settlements.<sup>1</sup> In 2020, it will focus on cities of more than 50,000 inhabitants but give priority to municipalities in southern states and the Metropolitan Area of the Valley of Mexico.<sup>105</sup>

The **National Reconstruction Programme** (PNR) is helping people affected by the 2017 and 2018 earthquakes in the states of Chiapas, Mexico, Guerrero, Morelos, Oaxaca and Puebla. This programme is operated by SEDATU and CONAVI, in coordination with the Secretariats of Health, Education and Culture. The PNR provides assistance for housing reconstruction and access to infrastructure and services. Beneficiaries receive a subsidy of up to 100% of the cost of repairing or relocating a home.<sup>106</sup>

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<sup>1</sup>For a full list of the municipalities benefiting see SEDATU, 2020. Programa de Mejoramiento Urbano "Mi México Late". <https://www.gob.mx/sedatu/acciones-y-programas/programa-de-mejoramiento-urbano>

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### 2.2.1 A new approach to meeting Mexico's housing needs

The new National Housing Policy is fundamentally different from past approaches in two key ways: it favours home improvements over new construction and it encourages families and communities to build their own homes instead of relying on

large-scale construction by developers. Both changes make housing programmes more responsive to actual demand.

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**The new National Housing Policy favours home improvements over new construction and it encourages families and communities to build their own homes instead of relying on large-scale construction by developers.**

Only an estimated 10.5% of dwellings in Mexico are so old, dangerous or poorly maintained that they need to be replaced but many more can benefit from upgrades, expansion or connections to infrastructure. Yet previous administrations allocated more than 60% of funding to new construction and only 15% to improvements. The current administration wants to spend 80% on improvements and only 20% on new construction. According to SEDATU, of the 9,289 housing subsidies authorised from December 2018 to June 2019, 21.6% were to buy new units, 38.8% to expand homes and 39.6% for improvements.<sup>107</sup> For 2020, the PMU aims to provide almost 16,600 subsidies – almost 88% for improvements or expansions. Low-income communities and households are to be prioritised.

The shift away from large-scale projects, meanwhile, favours the social production of housing, mainly by low-income people, who can benefit from support to build higher-quality dwellings – though still at a lower cost than profit-oriented developers. Not surprisingly, the developers who benefited from past policies have been sceptical of the new approach.<sup>108</sup> This change of direction is crucial because mass production of social housing – incentivised largely by the INFONAVIT and FOVISSSTE loans – created many of Mexico's current problems, including isolated settlements in the urban periphery and a glut of vacant units.

The new approach will allow households to use loans and subsidies to build or improve their homes according to their needs and cultural traditions, when the need arises. Self-builders and self-producers will be able to obtain technical assistance and improve quality, and may be able to avoid going into debt. In July 2020, SEDATU and Cementos de México launched the Handbook for Self-Built Housing to support homeowners in their home improvements and expansion through technical advice.<sup>109</sup>

The PMU, meanwhile, is supporting improvements of the broader living environment. It is upgrading neighbourhoods by rehabilitating and improving public spaces; bringing in new equipment; and replacing, repairing and adding urban infrastructure. A key goal is to encourage communities to work together to shape their own neighbourhoods and find their own solutions to the problems they face – a Latin American concept known as “social production of habitat”.<sup>110</sup> CONAVI and INFONAVIT may need to design innovative schemes to support individuals or groups in such projects, especially low-income people.



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Promoting the social production of habitat is a paradigm shift and an opportunity to empower communities and value their culture and history. It also contributes to social cohesion, by building relationships on an equitable basis, and to cultural and economic development, as it creates spaces where people want to live and work. These investments further contribute to economic growth and job creation, which are essential for COVID-19 recovery. Examples include the following:

- In Acapulco, the national government is supporting the revitalisation of the 22 hectare Papagayo Park, created in 1981 on the city's waterfront.<sup>111</sup> Acapulco used to be one of Mexico's top tourist destinations, but public safety problems have hurt the economy and residents' well-being. The aim is to make the park a public space for social and leisure activities and a tourist attraction.
- SEDATU, through the PMU, plans to invest in seven municipalities around Santa Lucía, where the new Mexico City International Airport is being built. The population is expected to grow by 1 million people by 2052, requiring 245,000 new housing units, as well as 6,000 hectares for new construction of industrial, retail and leisure zones. SEDATU's objective is to ensure orderly urban growth.<sup>112</sup> With SEDATU's support, local authorities plan to reclaim abandoned housing, reuse urban brownfields and identify areas where new construction is not desired.
- In the State of Mexico, SEDATU and INSUS plan to invest Mex\$450 million (US\$20 million) in 18 municipalities to secure legal property titles for more than 36,000 households, as part of the PMU. Having title to their land would facilitate these low-income households' access to public and private loans for housing and urban infrastructure.<sup>113</sup>

Mexico's new approaches to housing could prove critical for COVID-19 recovery. With stalled economic activity and rising unemployment levels, workers will prefer home improvements over new purchases – and that may

be all they can afford, too. In fact, in the first two months of lockdown, 100,000 borrowers applied for unemployment insurance from INFONAVIT, which covers three months of mortgage payments and defers payments for another three months. To help cash-strapped SMEs, INFONAVIT deferred payroll contributions to the housing fund. Social production of habitat could allow communities to use resources to improve infrastructure and urban equipment, creating jobs, and enable households to improve their homes without acquiring debt. For the Mexican government, it is a way to make the most out of limited resources to keep improving and expanding the housing stock and increasing access to basic services and key infrastructure.

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**Mexico's new approaches to housing could prove critical for COVID-19 recovery. With stalled economic activity and rising unemployment levels, workers will prefer home improvements over new purchases – and that may be all they can afford, too.**

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As part of the COVID-19 emergency package, SEDATU introduced the Emerging Social Housing Strategy, which will provide subsidies to vulnerable households in 67 municipalities with high levels of marginalisation. Families can use the money to build or improve their house.<sup>144</sup> The strategy will operate alongside the PMU to tackle the housing deficit, create jobs and improve urban areas.

## 2.2.2 Barriers to the success of Mexico's new housing approach

### *The PNV lacks an implementation strategy*

A major challenge with the PNV is that it lacks an implementation strategy. The 2020 national budget does not require operational rules for the PNV, and it is not listed as a priority programme, unlike the PMU, PVS and PNR.<sup>145</sup> It is thus unclear how the objectives and of the PNV will be achieved. Other concerns include:

- **Operationalisation:** The PNV lists a series of specific actions for each strategic priority and assigns a body responsible for it but does not indicate how they should proceed.
- **Financial resources:** It is unclear how much funding will be allocated to the PNV, or what share of resources will go to each priority objective and its strategic activities.
- **Unclear institutional responsibilities for INFONAVIT and FOVISSSTE:** The implications of leaving no clear role for the two key institutions that have historically played a key role in the country's housing finance and development need to be considered. This could create governance problems through to a lack of coordination and a potential contradiction in housing policy actions. It is important for the two institutions to know what their role on finding housing solutions for households employed in the informal economy will be, or whether they should continue to focus just on their existing members.
- **Accountability:** The PNV does not include performance indicators or specific deadlines for determined actions to be able to assess its progress.

Overall, since its adoption, the PNV has not received sufficient attention. The focus has been on the PMU, which is *de facto* the main urban development and housing policy – the role the PNV was meant to play. The lack of implementation mechanisms, as noted above, is limiting its relevance.

The PNV is the main housing programme but there is no clarity on how the others contribute to its main objectives. The lack of a coherent framework for the different housing-related programmes also creates the risk that they will not work together efficiently. All give priority to the low-income population in marginalised areas, but they differ in management structures, the role of the subnational government and their geographic area of operation.

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### ***Lack of incentives for private sector participation in affordable housing provision***

One important omission in the PNV is a clear plan to incentivise private sector participation in affordable housing construction. Historically, densification has not worked in Mexico because it has not been profitable for developers. Past administrations have left the promotion of affordable housing to the market but did not close the housing gap or improve the quality of units.<sup>1</sup> Indeed, for developers to be able to meet demand for affordable housing, they had to build in peripheral areas, where land is cheap. Without land reserves in central consolidated areas, or urban redevelopment plans to make better use of underutilised urban lots, the only option was to build on communal land (*ejidos*) away from urban centres. Many factories and enterprises are also in the urban periphery – some with housing nearby for their workers, but not necessarily the full range of services that households need to thrive.

### ***The PVS has a limited geographical coverage***

In March 2020, SEDATU reoriented the resources of the PVS to align them to the projects supported by the PMU. The PVS continues giving subsidies but only in the cities where the PMU operates.<sup>16</sup> Although the rationale is understandable, it also limits the geographic area of coverage, to only 20 cities in 2020; the rest of the country will not be included. For other urban areas, SEDATU, CONAVI, SHF and other housing institutions need to look for new funding mechanisms.

One option that SEDATU is considering is to use the Contribution Fund for Social Infrastructure (FAIS) for housing acquisition or construction in regions not covered by the PVS. However, this may not be ideal, as it is up to the municipal governments to decide how to use or where to invest these resources. FAIS housing funds can be used only for home improvements, and not to buy a home or self-build. Moreover, this would include another actor in the already fragmented and crowded institutional landscape, as the Secretariat for Welfare (SB) oversees the FAIS.

### ***There is no housing tenure diversification policy***

Another issue is the lack of a housing tenure diversification policy to support the shift away from Mexico's longstanding prioritisation of homeownership. Although current policy supports rental housing, it does not provide more options for housing assistance for lower-income households. The PNV states that rental housing is a viable option, particularly for lower-income households not affiliated with government lending institutions and/or in the informal economy. The PNV also recognises the importance of formal contracts for rental housing, along with land title for homeowners. However, it does not seem to recognise any other types of tenure that could be more effective in different contexts, such as customary tenure regimes and communal tenure.

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<sup>1</sup> UN-Habitat has found that the market has been unable to ensure affordable housing. See UN-Habitat, 2017. Affordable housing key for development and social equity, UN says on World Habitat Day. <https://www.un.org/sustainabledevelopment/blog/2017/10/affordable-housing-key-for-development-and-social-equality-un-says-on-world-habitat-day/>

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SEDATU and CONAVI are designing housing programmes to meet the specific needs of members of the armed forces, migrants and women. In Chiapas, for instance, there are communities where people live in overcrowded houses, and this has led to harassment and sexual abuse. CONAVI is working on a programme to meet the housing needs of those communities.

The composition of households is changing, particularly in urban areas, which will complicate the provision of housing. There are now smaller families, single-parent and female-headed households, and people living alone, including elders. All of this creates a need for more diverse housing options.

### ***There is a lack of integrated housing, land use and transport policies***

The new housing policies also fail to fully leverage linkages with transport policy, even though both the PNV and the PMU acknowledge the need to better link housing and transport policy. For example, the PNV and the PMU still focus predominantly on housing projects, and less on the specific needs of the people who are meant to benefit. The diverse mobility needs of household members are not taken into account, and there are no provisions to foster transport-oriented development. The PMU does support investments related to mobility, but those projects focus on improving existing infrastructure, not on achieving larger accessibility goals.

INSUS is exploring options to link the land use, housing and zoning (*ordenamiento territorial*) policies to provide urban land for mixed uses, at different densities and for all levels of income.<sup>k</sup> INSUS is working to ensure the land policy is multidimensional and works at different scales: neighbourhoods, municipalities, cities, metropolitan zones. If designed and implemented well, these measures could be beneficial. The recently adopted land use policy may be seminal in making land available for sale to low-income households in consolidated urban cores.

Mexico needs to consider that urban regeneration projects may lead to higher land and housing prices. This is a known issue with transport-oriented development projects in many cities across the world, such as Vancouver<sup>117</sup> – yet city leaders also recognise the enormous benefits of such projects. Mexico City’s government, for instance, is focusing its urban regeneration and inclusive housing investments on areas already served by public transport and with access to services (see Box 4). This is a positive development but care needs to be taken to ensure that low-income households are not priced out of these areas. It is also important to find ways to engage the private sector in building affordable housing in such areas, as land in the urban core tends to be expensive.<sup>118</sup>

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<sup>k</sup>INSUS is currently working on the design of the land use policy. The authors had no access to the draft, only to the information provided by INSUS.

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**BOX 4      Urban regeneration and inclusive housing in Mexico City**

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Mexico City is part of the Metropolitan Zone of the Valle de Mexico that is home to 17% of the country's population. To tackle issues such as rising home prices and a shortage of affordable housing or land for development, the city launched a Special Programme for Urban Regeneration and Inclusive Housing (RUVI) in 2019. The aim is to create incentives for the development of socio-economically inclusive housing in consolidated zones of the city that already are equipped with infrastructure and key services such as transport.

The city wants to promote medium- and long-term investments in restoring high-risk buildings in the historic centre, regenerating urban corridors and redeveloping industrial zones. Eleven zones and urban corridors have been designated as priorities for redevelopment in 2020.<sup>119</sup> The RUVI notes that, to incentivise investment in these areas, the government will ease administrative procedures and provide fiscal exemptions, but it does not provide details.

For projects to be accepted as “inclusive housing developments”, they should meet criteria such as ensuring that 30% of the units built are produced and marketed as “inclusive housing”; that units have an area of at least 45 m<sup>2</sup>; that the number of parking spaces be capped, and parking for bicycles and electric vehicles be provided; that units include energy- and water-efficient technologies; that there be rainwater storage infrastructure; and that developers of projects larger than 10,000 m<sup>2</sup> contribute to urban transport improvements.<sup>120</sup>

Mexico City government expects 7,500–10,000 inclusive housing units to be built within the next five years.<sup>121</sup> To avoid speculation, inclusive housing units can only be bought with a mortgage – with a maximum upfront payment of 15% – or with documentation that the buyer meets the socioeconomic criteria for the programme. Buyers must also show they do not own any other property.<sup>122</sup> The programme does not include provisions for promoting rental housing.

### **2.2.3 Institutional barriers to urban housing transformation**

Despite real progress made in recent years, Mexico still lacks a comprehensive federal urban regeneration strategy to guide implementation of the PMU and cities' own programmes and to clearly show that compact, connected, clean and inclusive cities are a government priority. The PMU mentions the need to incorporate unused or underused land in social housing programmes, but there is no mention of redeveloping built-up areas to improve conditions and add high-quality housing. For instance, it would be beneficial to rebuild and legalise informal settlements.

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Weak local institutional capacity may also hinder the success of the housing policy. Many municipalities lack the technical, financial and staff capacity they need for effective land use planning, zoning and urban development. The level of capacity varies greatly across cities; some have their own housing institute (León, Culiacán), urban municipal programmes (Mérida, Oaxaca) or housing programme (Tlajomulco); some, especially in rural and semi-rural areas, lack the capacity even to update their local development plans or collect property taxes.

Moreover, the large majority of municipalities in Mexico depend on transfers from the national government and have limited own-source revenues. One in five municipalities does not collect property taxes.<sup>123</sup> In this context, it would be unrealistic to have a single urban approach for all of Mexico; it is important to recognise the diversity of municipalities, and tailor programmes to local needs and capacities.

SEDATU, too, has limited financial capacity. The 2020 federal budget reduced SEDATU's allocation to Mex\$10.9 billion (US\$439.2 million), from Mex\$18.7 billion (US\$753.5 million) in 2019. This has implications for several programmes, including the PMU, PVS and PNR. The reduction in SEDATU's budget raises the question of how politically significant the Secretariat is for the administration. Since its creation, SEDATU has lacked political support, and its tight resources have prevented it from building up the staff it needs; instead, it often depends on external help. This problem will be exacerbated by the measures taken by the government to address the COVID-19 pandemic, including a 75% reduction in operational expenditures across the federal government.



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### 3. Transport dynamics in Mexico

To understand why Mexican cities continue to sprawl and put more people beyond the reach of public transport, it is important to understand the (dis)connections between the housing policies discussed in the previous chapter and transport policies, as well as how transport in Mexico is shaped by current institutional arrangements and economic, social and cultural dynamics. This chapter examines

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**COVID-19 has shone a spotlight on persistent inequities in Mexican cities. While many middle- and upper-class urban residents have been able to work from home and get around by car, many low-income residents do not have those options and continue to rely on public transport to get to work and access key services.**

the country's transport policies and their wider context, key tensions and trade-offs, and how some states and cities are working to improve urban accessibility.

Over the past months, COVID-19 has shone a spotlight on persistent inequities in Mexican cities. Crowded living and working conditions that make social distancing impossible have disproportionately affected the poor. While many middle- and upper-class urban residents have been able to work from home and get around by car, many low-income residents do not have those options and continue to rely on public transport to get to work and access key services (see Box 5). If they are in the informal economy, they may also be excluded from programmes that have helped formal workers get through the crisis.

The vast majority of Mexicans get to work and school by means other than private vehicles, but the transport infrastructure in most cities is heavily biased towards cars, reflecting deeply ingrained cultural norms in which public transport and walking are seen as mobility options for the poor and fundamentally unsafe. This pattern not only creates GHG emissions, air pollution and congestion but also carries high costs for low-income households. On average, spending on transport accounts for 19.3% of household expenses in Mexico<sup>124,125</sup> but some

extremely poor families spend more than half their income on urban transport. The high cost may keep children from accessing education and make it difficult for adults beside the primary breadwinner to access employment opportunities or critical services.

As noted in Chapter 1, urban sprawl can also make more options such as metro systems or BRT cost prohibitive. As a result, many peripheral areas are served only by private minibus services that are often not fully regulated by local municipalities. As a result, they can be unreliable and dangerous, especially for women, who are disproportionately affected by high levels of crime and harassment on public transport. Walking, meanwhile, is considered dangerous in many Mexican cities, owing to unsafe pedestrian infrastructure, so, beyond downtowns and specific neighbourhoods, it is mainly the low-income residents with no alternatives who walk. Cycling is even less common, as traffic is heavy and often chaotic, and, with a few exceptions in large cities such as Mexico City and Guadalajara, there are virtually no dedicated cycling lanes.

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The past few decades of transport policy in Mexico have shown that prioritising road construction does little or nothing to improve accessibility. A paradigm shift is needed to closely link transport with key urban planning considerations, including how housing, workplaces, services and amenities are spatially distributed.<sup>126</sup> True accessibility also demands the provision of a wide range of mobility choices that

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**The past few decades of transport policy in Mexico have shown that prioritising road construction does little or nothing to improve accessibility. A paradigm shift is needed to closely link transport with key urban planning considerations, including how housing, workplaces, services and amenities are spatially distributed.**

are well integrated with one another, including high-quality public transport and infrastructure for walking and cycling, so that there are attractive and reliable alternatives to the car for all population groups, as well as safe and efficient interchanges between different modes. There is robust evidence to recommend a sustainable transport strategy built on three pillars:

- **Avoid** or reduce travel or the need to travel (e.g. through integrated land use planning);
- **Shift** to more efficient transport modes such as active and public transit (e.g. investing in public transport, reallocating road space);
- **Improve** the performance and energy efficiency of vehicles (e.g. emissions standards, electric vehicles).

In recent years, several cities have made efforts to reverse decades of uncontrolled urban sprawl and underinvestment in public and active transport. Some are beginning to prioritise sustainable mobility, including safer pedestrian crossings and traffic-calming measures in Los Mochis and Xalapa, investments in cycling infrastructure in Hermosillo and Cuautitlán Izcalli, and new BRT systems in León and

Acapulco. Still, many of these initiatives are fairly limited in scale and disconnected from wider urban development strategies.<sup>127</sup> Notably, even road transport infrastructure in Mexico, though better than in many other Latin American countries, is aging, with total transport sector investments estimated to be barely a quarter of what is needed.<sup>128</sup> The sections that follow explore how Mexico has got to this point, and how it can start transforming its transport systems for the better.

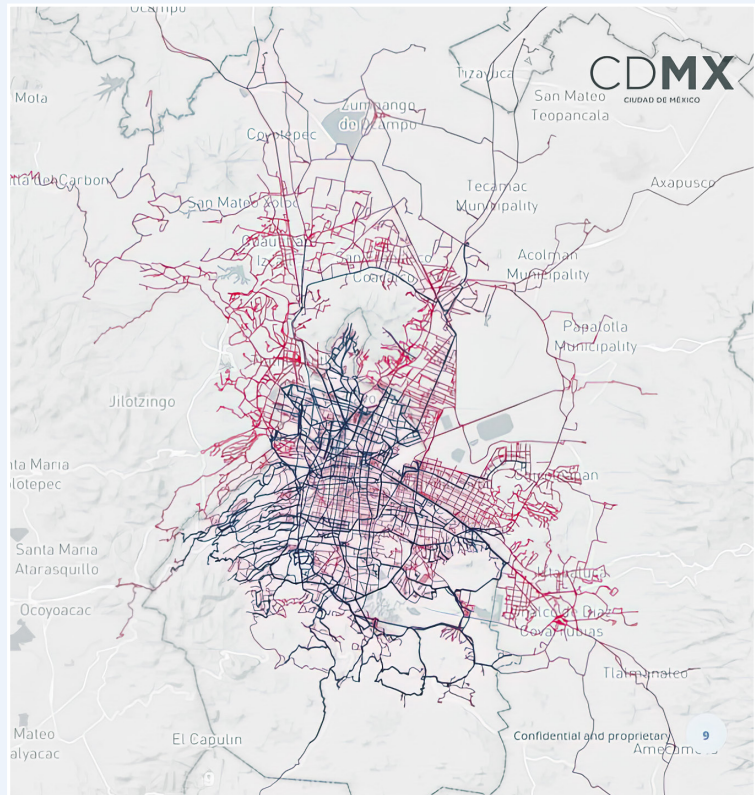
The vast majority of public transport in Mexican cities is provided by privately operated minibuses on semi-flexible routes. In the Mexico City metro area, concession-based minibus services make up 74% of total public transport trips.<sup>129</sup> Mexico City has 199 formal public transport lines and nearly 1,400 informal routes; the latter are often the only transport option for the city's poorest residents.<sup>130</sup>

During the pandemic, private operators in Mexico City have demonstrated that their flexibility and adaptability can be a real asset. They have kept most routes running even as formal transport services have shut down, and dealt with reduced demand by splitting routes between drivers.<sup>131</sup>

The government also acted swiftly, offering fuel subsidies to support the more than 18,000 minibus drivers and other financial support to vehicle owners, provided they signed up for the city's new Public Transport Formalisation Programme.<sup>132</sup>

There has long been a debate about the need to regulate these operators more closely to improve their safety and efficiency, and there have been some efforts in recent years to replace informal services with formal BRT lines (e.g. the Metrobús).<sup>133</sup> The current crisis has shown that these operators provide a vital service. The government should embrace these strengths and address the shortcomings by regulating services to become safer, greener, more efficient and more integrated with the existing formal network. One option would be to add dedicated bus-only lanes that could be used by private and public services, which would significantly cut journey times for millions of Mexicans.<sup>134</sup> Arguably the most pressing issue to be addressed is the real and perceived safety on these services. In a recent survey of Mexico City residents, 86% of respondents thought it was likely/very likely to have an accident while riding in a minibus, and 93% thought doing so meant it was likely/very likely they would fall victim to a crime.<sup>135</sup>

### Mexico City's transport network: informal routes in red and formal routes in blue



Source: Whereismytransport

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## 3.1 UNDERSTANDING THE EXISTING TRANSPORT POLICY ENVIRONMENT

Good urban mobility starts with a strong strategic vision of how transport should be integrated with other urban functions. Such a vision is essential not just within a specific city but also at the national level, given that national policies and budgets typically define the options available to municipalities. In Mexico, the government's overarching vision is laid out in the PND 2019–2024. While the previous PND acknowledged the need to support more compact urban development and invest in both mass transport and non-motorised transport,<sup>136</sup> this appears to be less of a priority in the current PND, which does not mention urban mobility except in the context of personal safety. It also does not touch on integrated urban planning, sustainable land use or investment in public transport.<sup>137</sup>

The PND is complemented by the National Infrastructure Plan as well as a set of sectoral programmes developed by the respective ministries, all of which are meant to align with the priorities set out in the PND. However, the broad language and limited details in the PND leave a lot of room for interpretation.

The PND lists several transport projects that are considered priorities, with special attention given to the Tren Maya, a 1,500 km railway that would link cities and tourist sites across five southern states. The Tren Maya is a landmark infrastructure initiative for this administration, but it has faced opposition from experts and indigenous communities on environmental grounds and has also been criticised for not meeting actual local transport needs (see Sub-section 3.2.1). Other major transport projects included are a new airport for Mexico City, modernisation of railways and ports to promote regional growth and significant investment in new roads.<sup>138</sup> The administration's recently unveiled ambitious Mex\$1 trillion (US\$43 billion) National Infrastructure Programme is designed to provide a major boost to the struggling economy.<sup>139</sup> A majority of the 147 projects listed will be developed under a private concession model. The transportation projects alone are estimated to be worth Mex\$366 billion (US\$14.7 billion) through 2024, representing one third of the plan's spending target.<sup>140</sup>

However, none of the flagship transport projects announced so far appears to address urban accessibility challenges, and, with new austerity measures in place, it seems unlikely that major new initiatives will be proposed. This means it will likely be up to individual states and cities to advance urban mobility projects, something that will be even more challenging now that their already limited transport budgets are shrinking further as a result of the pandemic.

### 3.1.1 The institutional challenge: fragmentation across government tiers and sectors

Transport policy in Mexico is highly fragmented between institutions and government entities at the national, state and municipal levels, with a significant private sector presence as well.<sup>141</sup> Lack of coordination among these stakeholders creates multiple challenges in integrating transport with urban development and

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housing policy. Understanding how these actors interact and their respective capacities and limitations and institutional remits is essential to design effective cross-cutting policies.

Under the Mexican Constitution, states and municipalities are responsible for managing urban mobility, whereas the federal government provides funding and technical guidance and oversees national urban development planning. In theory, this decentralised approach is positive in that it provides local governments with the political autonomy to make transport decisions that respond concretely to local realities. Unfortunately, local authorities often lack the capacity to design and implement integrated urban mobility strategies, and mayors' three-year terms make it difficult to take a long view. States also face a disconnect between their political autonomy and their dependence on federal transfers, which make up 80–90% of the budgets of most states beside Mexico City.<sup>142</sup>

At the federal level, meanwhile, urban mobility is not the specific mandate of any one ministry; instead, aspects of the issue are under the purview of three different agencies:

- As noted in Chapter 2, the Secretariat for Agrarian, Territorial and Urban Development (SEDATU) is responsible for planning, coordinating and executing urban development policies. It does not have authority over local transport policy but provides technical support and best practices as well as a modest amount of funding.
- The Secretariat for Communications and Transport (SCT) maintains the federal road and rail network, and is charged with developing modern, safe and high-quality infrastructure to boost economic competitiveness.
- The Secretariat for Environment and Natural Resources (SEMARNAT) oversees the management of natural resources and promotes sustainable development, including policies on climate change and air quality. This includes vehicle emissions standards and environmental impact assessments for new transport projects as well as designing climate change mitigation measures.

Aligning sustainable land use, efficient and safe mobility, and environmental protections requires an integrated strategy, but, though the three agencies do collaborate, they have no shared vision, and major budget cuts initiated in 2019, and likely to worsen as a result of COVID-19, will not help in this regard. SEDATU and SEMARNAT recently started collaborating on a new Urban Environmental Agenda to help Mexico transition towards a more sustainable urban development model.<sup>143</sup> Unfortunately, other federal policies are supporting the expansion of the fossil fuel industry and deprioritising climate issues.

### 3.1.2 Sparse fiscal support for sustainable mobility

Transport infrastructure is expensive – especially major projects such as metro lines, but even protected cycle lanes can cost more than municipalities can afford. Federal funds are thus crucial to the viability of these projects. However, less than



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10% of federal transport funding nationwide is spent on public and active transport, even though more than half of all trips are completed by these modes.<sup>144</sup> This generates a vicious cycle in which perpetual underinvestment leads to unreliable, unpleasant and unsafe public transport and walking and cycling infrastructure that is only used by people who cannot afford to drive. This in turn perpetuates a view of these transport modes as being fundamentally undesirable.

Even major cities have tiny budgets for transport infrastructure beyond roads. Between 2011 and 2017, more than 70% of federal transport spending in the 59 largest metro areas supported private car travel, even though car journeys made up less than 30% of all trips.<sup>145</sup>

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**Less than 10% of federal transport funding nationwide is spent on public and active transport, even though more than half of all trips are completed by these modes.**

The top 20 metropolitan areas spent only 2.1% of their overall federal funding on public transport even though 38% of their inhabitants rely on it.<sup>146</sup> This pattern is repeated at the state level, with only four states and Mexico City<sup>1</sup> spending more than 10% of their federal mobility budgets on public transport between 2012 and 2018.<sup>147</sup> The vast majority of federal public transit funding goes to mega-projects such as the Mexico–Toluca interurban railway, which is four years behind schedule and Mex\$30 billion (US\$1.34 billion) over budget.<sup>148</sup>

Fossil fuel subsidies also encourage car use, and at a high fiscal cost: Mex\$61 billion (US\$2.44 billion) for petrol in 2019.<sup>149</sup> Yet in Mexico, as in many other countries, cutting or ending these subsidies is politically challenging, as fuel costs are a significant expense for many households. However, fuel subsidies are highly regressive and penalise the poorest, most of whom do not drive, by reducing the available funding for vital social services or investments in more sustainable transport.

Transport budgets are also tightening as a result of the austerity measures imposed under the new administration, which the COVID-19 crisis is likely to exacerbate. A large share of the current budget is being invested in PEMEX, the state oil company, in the hopes of boosting extraction and using the oil industry as an economic engine.<sup>150,m</sup> The National Infrastructure Plan also includes several major high-carbon investments, including a new airport, highways, ports and refineries. While the government's budget announcement for 2020 recognised that investments in rail for both freight and passenger transport were important and that mass rail transit was a modern, sustainable and efficient mode of transport, funding for passenger rail is limited to the Tren Maya (see Sub-section 3.3.1), completing the long overdue Mexico–Toluca interurban rail link, and some support for the expansion of rail projects in Guadalajara.<sup>151</sup> Overall, public funding for rail projects has been reduced by more than two thirds under the new administration; of the Mex\$69.3 billion (US\$2.8 billion) allocated to the SCT for 2020, less than 7%, only Mex\$4.78 billion (US\$192 million), will go to railways. The SCT's total budget is 21.1% lower than in 2019.

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<sup>1</sup> The states that spent more than 10% on public transport during this period were Puebla, Nuevo León, Colima, Coahuila de Zaragoza and Mexico City.

<sup>m</sup> Oil revenues fund about 20% of the overall national budget. Despite the new administration's professed target of 4% GDP growth, 2019 saw the economy nearly entering a recession with zero growth, down from 2% growth in 2018.



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Other sources of federal funding for mobility are disjointed and hard to access, and sometimes exclude sustainable mobility projects. An analysis of the 2017 budget identified 30 separate federal funds that supported mobility services in metropolitan areas.<sup>153</sup> The most important ones are the Regional Fund (FONREGION), the Contribution Fund for the Strengthening of Municipalities (FORTAMUN), the Contribution Fund for Social Infrastructure (FAIS) and the Metropolitan Fund (FM).<sup>154</sup>

One of the major challenges is that these funds lack adequate operational rules that ensure investment in sustainable mobility options, and in some cases even preclude such investments (e.g. cycling and walking initiatives are not eligible for funding, not all funds are able to support urban mobility, smaller cities are not eligible, etc.). In the case of the FM, funding excludes smaller geographic areas that have a heightened need for sustainable transport infrastructure.

Recognising that many urban infrastructure projects need to be planned at the metropolitan level, the FM was created to allocate resources to support plans, programmes, projects, infrastructure and equipment to promote adequate regional, metropolitan and urban planning. However, although the FM's operational rules require that at least 15% of its funds go to sustainable urban mobility projects, it has actually supported very few such initiatives. The FM's budget was also reduced by more than 60% in 2017 and has not rebounded, leaving even less money for sustainable mobility projects.<sup>155</sup> COVID-19 now presents a fundamental threat to the FM. The Chamber of Deputies voted in October 2020 to eliminate the FM, together with 109 other federal funds, and to redirect these resources (nearly Mex\$170 billion, or US\$8.4 billion) giving the Secretariat for Finance and Public Credit (SHPC) more control over this budget to address the impacts of COVID-19. The proposal will still have to be approved by the Senate, but this could have grave consequences for infrastructure spending in Mexico's metropolitan areas for years to come.

The Public Transport Federal Support Programme (PROTRAM), part of the National Infrastructure Fund (FONADIN), was established in 2009 to support urban development through improved public transport, with a focus on better integration of transport modes, low-carbon transport and enhanced accessibility for low-income communities.<sup>157</sup> It is funded by revenue from national toll roads. The emphasis is on developing public-private partnerships for project delivery and the types of projects eligible for funding include suburban trains, metro, light rail, trams, BRT and multi-modal integration projects. PROTRAM offers subnational governments grants of up to 50% of the infrastructure costs, as well as supporting states in improving project implementation and management capacity. This includes a requirement for cities to develop sustainable urban mobility plans and have a local transport authority.

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It is important to note that PROTRAM does not cover investments in cycling and pedestrian improvements. The focus is on cities with more than 500,000 inhabitants excluding smaller urban centres. Even among eligible cities, only the largest and wealthiest tend to have the required institutional, technical and financial capacity to apply; fast-growing medium-sized cities, which could greatly benefit from good public transport infrastructure, cannot access these funds.<sup>158</sup> The future of PROTRAM and other federal funding mechanisms is currently unclear.

For several years, there have been efforts to establish a Programme to Promote Sustainable Urban Mobility, but this has failed to attract federal funding, even though there is a clearly visible gap in funding for public and active transport initiatives across municipalities.

### 3.1.3 Why Mexico needs a national urban accessibility strategy

SEDATU has been trying to take a more integrated approach to urban development, including accessibility. A key opportunity to achieve this is the new National Programme on Land Use and Urban Development that SEDATU is preparing.<sup>n</sup> Urban mobility features quite prominently in this, which aims, among other things, to reduce socio-spatial inequalities in human settlements.<sup>160</sup> SEDATU has also produced several important research reports on urban mobility, often in collaboration with international development agencies and local NGOs, although the recommendations made in these reports are not necessarily being implemented systematically.<sup>161</sup>

However, Mexico still lacks a comprehensive national urban policy or urban transport strategy. The National Housing Programme highlights location and accessibility as key criteria for new housing developments but only at a very high level. Discussions of specific interventions such as transport-oriented development or land value capture are mostly absent. Under the previous administration, SEDATU produced a National Sustainable Urban Mobility Strategy but it could not make this a full-fledged sectoral programme. It is unclear what will happen with the strategy under this administration.<sup>162</sup>

One of the most promising mechanisms for linking transport and housing and land use policies in Mexico remains SEDATU's Urban Improvement Programme (PMU), also discussed in Section 2.2. One of 25 current priority federal programmes, the PMU aims to address long-standing inequalities by improving housing and access to services and infrastructure in some of the most marginalised communities by tailoring policies to very specific local contexts. Over the next few years, the programme is to expand from the initial 10 cities to 100 nationwide.<sup>163</sup>

The PMU includes promising elements, such as a strong focus on citizen participation and detailed technical and policy guidance to support cities. Under the mobility and connectivity category, there is a focus on “complete streets”, with a long list of potential mobility projects eligible for funding, including pedestrianisation, cycle lanes, new traffic light systems and upgrades

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<sup>n</sup> So far published only in draft form.

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to intersections.<sup>164</sup> Still, most of the PMU's relatively modest budget is earmarked for housing upgrades and improvements. Of the more than 350 Comprehensive Neighbourhood Improvements initiated so far, only four have been related to urban mobility and connectivity.<sup>165</sup> The PMU's budget was also reduced between 2019 and 2020, although it is expected that in 2021 its budget will increase 52% to assist in the economic recovery efforts from the COVID-19 pandemic.

### 3.1.4 Legislative and regulatory reforms paving the way for more sustainable mobility

Although there are clearly still many challenges when it comes to national urban transport policy, it is also important to acknowledge that in recent years there have been various efforts to change the legislative and regulatory framework that privileges the car over other transport modes, and growing recognition that

more integrated mobility planning is an essential precondition of more sustainable urban development.

In September 2020, the Mexican Congress voted unanimously in favour of amending Mexico's Constitution to recognise mobility as a human right, stating that "every person has the right to mobility under conditions of road safety, accessibility, efficiency, sustainability, quality, inclusion and equality."<sup>166</sup>

Mobility has not been recognised as a human right in other countries to date, but the sustained challenges that Mexico has faced, in particular surrounding road safety, seem to have engendered a strong public sentiment that mobility is fundamental to a dignified life. The change will still need to be ratified by the different state legislatures, but the Constitutional Amendment will make it easier for federal, state and municipal agencies to take concrete actions to improve mobility for all, and give greater priority to initiatives that protect pedestrians and cyclists.<sup>167</sup>

Another promising development is a recent reform to the General Law on Human Settlements that establishes mobility as an essential part of urban development and gives the federal government more power to set land use and urban development policy.<sup>168</sup> These changes strengthen SEDATU's role and give

it a clearer remit over urban mobility, but they have yet to be backed by a new regulatory framework. A loan by the Inter-American Development Bank (IDB) aims to accelerate this process over the coming year and also supports the formulation, management and consolidation of national, state, metropolitan and municipal plans, programmes and instruments related to land use and urban development.<sup>169</sup>

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**Although there are clearly still many challenges when it comes to national urban transport policy, it is also important to acknowledge that in recent years there have been various efforts to change the legislative and regulatory framework that privileges the car over other transport modes, and growing recognition that more integrated mobility planning is an essential precondition of more sustainable urban development.**

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The new emphasis on mobility in the Law on Human Settlements has led many state governments to introduce new mobility laws or update their existing laws to move towards protecting more vulnerable road users and prioritising sustainable and multi-modal transport. Fifteen of Mexico's 32 states already have mobility laws, though not all have the capacity to enforce them.<sup>170</sup> The big challenge now lies in operationalising these new legal frameworks through the establishment of new norms, regulations, manuals, institutional and metropolitan cooperation arrangements, and new resources.<sup>171</sup>

Two national policies initiated by the new administration could also provide stronger federal leadership. The National Process of Normative Harmonisation for Mobility aims to update and align various state-level transport standards to include considerations of climate change and human rights, as well as to link much more clearly to housing and land use.<sup>172</sup> In collaboration with the Ministry of the Interior (SEGOB) and SEMARNAT, and with the help of GIZ, SEDATU organised a series of regional roundtables to gather input.<sup>173</sup> In March 2020, a first report with results from the roundtables was published, highlighting that by far the most pressing issue facing all states was how best to regulate and formalise public transport. Other concerns mentioned included planning, development and maintenance of cycle lanes, fiscal incentives to foster sustainable transport, and a focus on accessibility for vulnerable transport users.<sup>174</sup>

There is also a new training course for local transport planners on road design and green infrastructure, coordinated by SEDATU and the German Development Agency (GIZ), with eight states currently participating. The course builds on a Road Design Manual for Mexican Cities launched in 2018 and for the first time clearly prioritises non-car transport modes. Work is also under way to turn the now-voluntary manual into a mandatory standard. Given the sparse funding for sustainable transport projects, however, it remains to be seen whether the manual will lead to major changes in transport planning at the city level.<sup>175</sup> Related to this, there is a real shortage of courses that integrate transport with urban design and planning at Mexican universities. Addressing existing academic and professional formations and updating curricula may thus be an important first step towards embedding accessibility in national policy-making.

There does appear to be recognition by the government that the absence of adequate transport planning and modern regulatory frameworks has contributed to significant inequities. Yet policy-makers still see transport through the traditional lens of mobility – efficiently moving people and goods from place to place – and not yet as a matter of accessibility. There is little focus on the importance of mixed-use planning, co-location of urban functions or transport-oriented development. This is not to say that city governments are not picking up these concepts, but it is notable that they do not feature prominently in the federal government documents reviewed for this analysis.

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### 3.1.5 Local governments pioneering sustainable mobility approaches

In recent years, several cities have launched sustainable mobility initiatives and begun to think in a more integrated way about urban form, socioeconomic conditions and travel behaviour. This is a very positive development but so far it has been mainly the cities with the most technical and administrative capacity (generally larger, wealthier cities), as well as those with clear support by their respective state governments, that have been able to forge ahead. There is a risk that smaller cities that do not have the resources or know-how will be left behind.

A report published at the end of 2019 by SEDATU and GIZ reviewed 182 sustainable mobility actions implemented by Mexican governments over 25 years, noting a very significant increase in the past six years.<sup>176</sup> Of the actions reviewed for the study, 43% were classified as concrete public policies, whereas 57% were individual projects and initiatives. In terms of the responsibility for these actions, 57% were initiated at the municipal level, 32% at the state level, 7% at the metropolitan level and only 4% at the federal level. Only 4% of the initiatives focused on finance, highlighting the urgent need to create a specific fund or financing mechanism for urban mobility to bridge the gap between cities' ambitions and fiscal realities.<sup>177</sup>

Almost all the mass transport initiatives reviewed in the study were funded at least in part via PROTRAM, which, as Sub-section 3.1.2 noted, has a fairly narrow focus. Earmarking more federal funds for other types of urban mobility initiatives could be transformational, enabling cities to build more cycling and pedestrian infrastructure, upgrade bus (and minibus) services and create incentives to drive less and walk, cycle or use public transport more.

The need for more strategic and integrated urban mobility planning emerges as an urgent priority from the SEDATU study. While a growing number of Mexican cities have implemented individual actions to boost public and active transport, very few have established their own public policy framework that connects transport with long-term urban development plans, especially in the wider metropolitan area. This suggests there is a critical role for higher tiers of government to not only improve funding of local initiatives but also support the formalisation of transport policies through the creation of new regulatory and legal frameworks, the establishment of specialised transport institutions and new metropolitan governance mechanisms to ensure coordination of transport beyond administrative boundaries.

## 3.2 CASE STUDIES: DIFFERENT SCALES OF POLICY INTERVENTION

One way to gauge the potential for transforming urban accessibility in Mexico is to examine how change is already happening at the federal, state and municipal levels. This section presents three case studies: the Tren Maya, a flagship federal initiative; Jalisco's efforts to create integrated metropolitan and transport planning for the Guadalajara Metropolitan Area; and efforts to align Mexico City's transport spending with existing mode share to increase accessibility. These case studies were selected because they are emblematic of the challenges at each of these scales of decision-making, and they may set important precedents for urban transport systems across Mexico.

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### 3.2.1 The Tren Maya: an infrastructure mega-project with an unclear urban future

In several European and Asian countries, inter-urban rail has played a crucial role in facilitating the development of compact, connected, clean and inclusive cities, while also facilitating sustainable inter-urban travel. Rail systems offer high capacity, require less land and are safer, less polluting and lower-carbon than motorised road transport. In an urban context, the advantage of a more efficient use of scarce urban land is critical.<sup>178</sup>

The Tren Maya is the signature infrastructure project of the current administration and one of the most ambitious passenger rail projects in Latin America, spanning 1,460 km across five states in south-eastern Mexico, with a budget of Mex\$146 billion (US\$5.8 billion).<sup>o</sup> For the Yucatán peninsula, which already suffers from major traffic congestion between tourist hubs along the Riviera Maya, it has been presented as an alternative to further road development that could be disastrous for local communities and wildlife.

President López Obrador has framed the Tren Maya as “an act of justice” to bring critical infrastructure and “hundreds of thousands” of jobs to a part of the country that has suffered from chronic underinvestment and extremely high levels of inequality.<sup>179</sup> Despite this, the project has been beset by problems and faces strong opposition from those who see it as a “tourist train” that will exacerbate existing inequalities and cause untold ecological and cultural devastation. The fact that the project is led by the National Fund for Tourism Development (FONATUR), not SCT, reinforces that perception.

Government documents suggest that 95% of the track will make use of existing rights of way, including reviving several hundred kilometres of old railway lines.<sup>180</sup> However, environmentalists say that no proper environmental impact assessments have been performed, and consultations have been rushed and insufficient, given the ecological sensitivity of the diverse landscapes that the train will pass through. Indigenous communities have been particularly vocal in opposing the train. They recently won an injunction stopping construction in the community of Xpujil until a lawsuit is settled that claims that the Tren Maya violates their human right to territorial self-determination.<sup>181</sup>

The government seems undeterred by the pushback, and work officially started in June, despite the coronavirus crisis. The stated goal is to complete the project in four years. Several construction contracts have already been awarded to local and international consortiums. Any infrastructure of this scale and complexity requires careful planning and integration across a wide range of sectors to address potential negative impacts and maximise the strategic benefits for urban development. In this context, one serious concern with the Tren Maya is that, although it will pass through 112 municipalities, it is planned to have only 30 stops, including 19 with train stations.<sup>182</sup> Some argue that communities without stops will experience only negative impacts and see no accessibility improvements.<sup>183</sup>

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<sup>o</sup> Some estimates put the total cost closer to Mex\$480 billion (US\$19.2 billion): <https://imco.org.mx/diagnostico-imco-proyecto-del-tren-maya/>



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In the cities with stations, there are important questions about how to embed them in the existing urban fabric.<sup>p</sup> They could become important high-density urban nodes, but not if the surrounding development is left to speculators and not carefully managed. Some communities could see a boom in property prices, a drastic change in their character and mass displacement. This highlights how essential it will be to develop integrated strategies for the entire city that consider how the new transport infrastructure will affect housing, employment and demand for other critical infrastructure.

The issue of the new stations and surrounding development is complicated by the fact that much of the land is communal (*ejidos* – see Section 1.2). The government has proposed a new Infrastructure and Real Estate Trust to lease land to develop stations and new urban centres from communal landowners, but several legal and regulatory factors could limit the viability of this strategy.<sup>184</sup>

It is also unclear how the project will be financed. The government initially suggested it would fund just 10% of the cost, then said a “mixed investment scheme” would be used.<sup>185</sup> Funding for the Tren Maya was cut by 50% in the current federal budget, and cost estimates do not factor in station development and surrounding infrastructure.<sup>186</sup> There is potential to use land value capture around new stations and reinvest any profits back into essential urban infrastructure for local communities. However, poorly defined land titles, the disjointed funding approach and the lack of information about land values present a real barrier.

Given the major implications of the project for urban development and mobility, it would be helpful to coordinate closely with SEDATU – as well SCT and SEMARNAT – to ensure the train is properly embedded in the development strategy of the five states it crosses, and that the interests of the tourism industry and real estate developers do not eclipse important questions about the needs of local residents and other serious social and environmental considerations. The government’s decision to run large parts of the new route on diesel rather than electrifying the trains is a further concern, from both a climate and a local air quality perspective, but also because Mexico does not produce diesel in sufficient quantities and would likely have to import at least some of the fuel.<sup>187</sup>

The Tren Maya is an ambitious project with enormous potential, and the government should be commended for committing to rail investment as a sustainable high-capacity mobility solution. But it is crucial to better answer the question of who this train is for and what the benefits and costs are for the diverse local communities and fragile ecosystems on its route.

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<sup>p</sup> To date there are not many detailed plans available regarding the exact station design and location for most of the cities affected. Planning stations on the outskirts of cities can often seem cheaper and easier as it minimises the need for tunnelling and/or the displacement of existing communities. However, this approach reduces the co-benefits of a centrally located railway station and would undermine accessibility goals.

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### 3.2.2 Integrated metropolitan land use and transport planning in Guadalajara

Guadalajara, in the state of Jalisco, is Mexico's second-largest metropolitan area, home to 4.5 million people.<sup>188</sup> The Guadalajara Metropolitan Area (AMG) spans nine municipalities and has added nearly 2 million residents since 1990.<sup>189</sup> Between 1990 and 2015, 97% of that population growth was outside the core city of Guadalajara, in peripheral municipalities.<sup>190</sup> Most of the jobs, however, remain concentrated in the centre, drawing more than 1 million commuters every day.<sup>191</sup>

Up until 2011, there was essentially no integrated planning between the AMG's municipalities, which made it challenging to provide infrastructure and public services. Fragmented planning was particularly consequential for Guadalajara's mass transport system, which, with just two light rail lines and one BRT MacroBús route, failed to meet the needs of the growing and scattered population.<sup>192</sup>

In 2011, Jalisco approved a Metropolitan Coordination Law to promote integrated planning in the greater Guadalajara area. Following this, Jalisco and nine municipalities signed an agreement that established a Metropolitan Coordination Board (consisting of the state governor and mayors of all municipalities), a Metropolitan Citizen Council (representing views of civil society stakeholders) and a Metropolitan Planning Institute (IMEPLAN) to facilitate metropolitan coordination.<sup>193</sup>

IMEPLAN oversees planning instruments including the metropolitan land use plan, the development programme, the risk map and the annual investment programme, and helps municipalities incorporate those into their own plans and programmes. This model has also improved coordination between the state and municipalities. The federal government has a role to play too, as the main revenue source for municipal governments in the AMG, which average just 30% in own-source revenues.<sup>194</sup>

Since its 2014 founding, IMEPLAN's major accomplishment has been successfully shepherding a new land use law in the form of the Metropolitan Development Plan through all nine municipal governments, which will serve as a long-term guide for the development of the AMG up to 2042.<sup>195</sup> The institute has also launched targeted initiatives focused on mobility, zoning, water and urban forests, and created an open portal for metropolitan data.<sup>196</sup> The mobility initiatives include piloting a dockless bicycle-sharing system, producing micro-mobility guidelines and creating a comprehensive base map of transport coverage throughout the AMG. IMEPLAN is now developing an Integrated Plan for Sustainable Urban Mobility to expand mass transportation. This will also involve the AMG's first Origin-Destination Survey to better assess current patterns and gaps to inform the planning of future mobility projects.

Despite this progress, transport planning is not yet managed through an integrated metropolitan authority, and, even though IMEPLAN provides support and guidance to municipalities, alignment with the joint strategy is at the discretion of each municipality. However, this is set to change: a proposal to establish a Metropolitan Agency for Mobility Infrastructure was approved in early 2019, with three priority areas: active mobility, safe mobility and smart mobility.<sup>197</sup>

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While mobility benefits more than most other sectors from improved metropolitan planning, it is clear that numerous challenges exist, most of which are similar to those for metropolitan governance more generally. Horizontally, local jurisdictions are often in political and economic competition and have few incentives to properly account for negative and/or positive spillovers associated with mobility.<sup>198</sup> As metropolitan footprints grow, so do the number of local administrations involved. Over the past decades, local jurisdictions in the Valle de Mexico have increased from 12 to 76. This type of “jurisdictional sprawl” often brings with it some capacity fragmentation between different authorities, which is why some degree of higher-level government coordination is important – ideally via a metropolitan authority.<sup>199</sup>

### 3.2.3 Mexico City puts its money where its transport mode share is

Mexico City has a population of nearly 9 million, with a wider metro area of more than 20 million inhabitants – the largest in Latin America.<sup>200</sup> It generates over 15% of Mexico’s GDP.<sup>201</sup> More than 34 million trips are made in its metropolitan area every weekday. Almost half (45%) are on public transport, about a third are walking, just over 20% are by private vehicle and about 2% are cycling.<sup>202</sup> However, the public transport system is oversaturated in central areas, while areas on the outskirts have limited access and long travel times. A growing number of trips are made by car, and in 2019 Mexico City residents spent an average of 158 hours stuck in traffic.<sup>203</sup> With almost 80% of trips already via low-carbon modes, it is a sustainability priority to maintain the current mode share by increasing capacity and avoiding investments that incentivise a shift to private cars. This will also help reduce transport pollution, a major contributor to Mexico City’s often dangerously bad air quality, the worst in the country.

From an equity perspective, Mexico City’s major transport challenges relate to access to opportunity and affordability. The average resident can access only 37% of the city’s jobs within a one-hour commute, and 56% of residents can access less than half the city’s jobs within a one-hour commute.<sup>204</sup> According to INEGI, more than 20% of commuters spend three to four hours stuck in traffic each day.<sup>205</sup> Transport is also unaffordable for many residents. In Mexico, people spend an average of 19% of their income on transport, but this rises to 22.4% for people living on the outskirts of big cities like Mexico City.<sup>206</sup> This is higher than for many cities in the Global South, where urban residents spend an average of 8% to 16% of their household income on transport.<sup>207</sup> It is estimated that long commutes cost MXN33 billion (US\$1.33 billion) in lost productivity each year.<sup>208</sup>

Over the past 15 years, Mexico City has established itself as a leader in urban mobility, with progressive initiatives to promote sustainability and equity. It has invested heavily in new BRT infrastructure as well as cycling and pedestrian improvements. It passed a comprehensive Mobility Law in 2014, and in 2017 took a major step towards compact, transit-oriented development by changing minimum parking requirements to maximum requirements. The BRT system, Metrobús,

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replaced more than 2,300 polluting minibuses and an estimated 270,000 trips by car, equivalent to over 180,000 tons of GHG emissions every year. In 2018, ridership was up to 1.8 million passengers daily, and it costs a low tariff of Mex\$8 (US\$0.32 per trip).<sup>209</sup> Shared mobility has also increased significantly over the past decade. Since its 2010 launch, the local bike sharing scheme, ECOBICI, has recorded more than 58.5 million journeys and prevented 4,541 tonnes of CO<sub>2</sub> emissions.<sup>210</sup>

Despite these successes, public and non-motorised transport have not received public funds in proportion to their overwhelming majority use. In 2012, the transportation budget allocated 30% towards car infrastructure, compared with 13% to public transport, 1% to cycling infrastructure and 6% to pedestrian infrastructure.<sup>211</sup>

However, Mexico City has embraced a new “80/20” approach that will align the transport budget with the mode share by committing 80% (Mex\$23 billion/ US\$925.83 million) of funds to public transit, cycling and walking, and just 20% to car infrastructure. The 2019 Strategic Mobility Plan includes investments in a wide range of sustainable transport modes. For the Metrobús BRT system, Mex\$2 billion (US\$80.48 million) will be invested in expanding Lines 3 and 5, to extend service to the south and improve connections with other transport systems. Mexico City will also renew its public bus fleet, with 200 new buses costing Mex\$965 million (US\$38.84 million), and it will now meet the Euro V Plus and Euro VI emissions standards. For its light rail network, replacing 5.5 km of tracks between Tasqueña and Estadio Azteca will reduce travel times and improve service and safety for a cost of Mex\$292 million (US\$ 11.76 million). In addition, Mex\$465 million (US\$18.73 million) has been allocated to purchase 63 new electric trolleybuses, which will be trialled on eight corridors.<sup>213</sup>

The new cable car system, Cablebus, will receive a total investment of Mex\$6 billion (US\$241.57 million). For lower-income residents living in the high-elevation and peripheral areas of Cuauhtépec and Sierra Santa Catarina, Cablebus will improve accessibility to the central city’s opportunities for work, services and study, by drastically reducing travel times and offering greater safety and comfort.<sup>214</sup> Mexico City is also planning to invest Mex\$228 million (US\$9.18 million) in cycling infrastructure and fostering a cycling culture. This includes Mex\$159 million (US\$6.4 million) for over 50 km of cycle paths, including in peripheral areas like Tláhuac and Xochimilco, so that residents who are poorly served by public transit can use safe cycle routes to connect to transport corridors.<sup>215</sup>

Mexico City can take this bold, progressive approach to transport spending in part because the city budget has a higher share of own-source revenue than most cities: 46% compared with the national average of 30%. This gives the city greater autonomy to direct its spending in accordance with local priorities.<sup>216</sup> However, metropolitan transport planning will be complicated by the need to coordinate among the multiple municipalities and three states contained within the Mexico City metropolitan area. To address this challenge, Mexico City recently passed a law to establish a Metropolitan Development Council, following the example of the AMG.<sup>217</sup>

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Questions remain about the integration of transport and housing, given that the flagship initiative of the new administration to densify 11 urban corridors (see Box 4), with a strong focus on social housing, does not have a clear link to these transport plans. The Metrobús does not currently serve the corridors selected for densification, and new transport initiatives do not seem to be aligned with these priority corridors. Connections between the policies being developed for Mexico City and those in the works for the state of Mexico also provide important opportunities. Metropolitan planning, together with a cross-sectoral approach that integrates transport and housing strategies to promote compact, connected, clean and inclusive development, will be integral to making Mexico City more sustainable, inclusive and prosperous.

### **3.3 KEY BARRIERS TO ESTABLISHING A NATIONAL SUSTAINABLE URBAN MOBILITY STRATEGY**

The preceding sections laid out the major challenges in improving urban accessibility in Mexico, as well as promising developments and opportunities, with concrete examples at the federal, state and local levels. It is important to recognise that Mexico's Constitution puts responsibility for urban transport policy mainly in the hands of subnational governments, and limits the federal government's role for the most part to providing an enabling environment – and money. If subnational governments are given the resources they need to develop and implement their own plans, this decentralised structure has a lot of merit. It allows policies to be tailored to each city and ensures a greater level of accountability between local policy-makers and urban residents. However, cities will always need strong support from federal and state agencies, as well as leadership related to inter-urban and wider territorial development issues. Coordinated actions at all three scales of government are needed.

This section outlines three main categories of barriers that need to be overcome to achieve transformative change: institutional and governance, financial and implementation-related.

#### **3.3.2 Institutional and governance barriers**

##### ***Federal visions and priority projects do not support sustainable urban mobility***

- Urban mobility is not sufficiently prioritised, as evidenced by the very limited coverage in the PND and by budget allocations. The PND is also too vague and does not have measurable targets, which gives too much leeway for sectoral programmes to interpret the broad messages as they see fit.
- Some of the priority initiatives set out in the PND, such as the Tren Maya, the new airport and the extensive new road infrastructure, do not have a clear urban focus and may even undermine efforts to move towards more compact, connected, clean and inclusive cities.

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- The current social inclusion agenda does not integrate urban mobility issues enough, despite overwhelming evidence that Mexico's urban mobility problems disproportionately hurt low-income people.
  - SEDATU has begun the work of translating the PND into concrete policies but, without a clear federal strategy for urban mobility and a clearer mandate for SEDATU to then operationalise such a strategy, implementation will remain difficult.

### ***Lack of clarity regarding responsibilities for urban mobility has led to institutional inertia***

- The lack of specialised urban mobility institutions is a structural barrier across all levels of government. Even though urban mobility is technically the responsibility of states and municipalities, the Law on Human Settlements sets out a clear role for SEDATU in ensuring sustainable metropolitan development, of which mobility is a central component.
- The major control of the SCT over roads and rail makes it another important federal actor that has an impact on urban transport, although at the moment there is no clear mechanism for it to support the achievement of greater sustainable urban mobility.
- Institutional responsibilities are overlapping or poorly defined, leading to a lack of ownership from federal bodies. Coupled with a lack of resources and capacity at the local level, this makes it easy for urban mobility to fall through the cracks of existing policy-making structures.
- The lack of mobility institutions also means that a change of administration can lead to a drastic change in vision and prioritisation, which is a major barrier to the planning and implementation of long-term mobility initiatives.

### ***The private sector continues to dominate transport infrastructure and operations***

- In many parts of the country, public transport is managed entirely through a private sector concession system that has been linked repeatedly to corruption and clientelism.
- Private sector involvement in transport requires a strong and integrated urban development and transport strategy to serve as a framework for different transport services' operations, as well as effective regulation and enforcement.
- Municipal and state governments do not always have the capacity to ensure integration among private operators or to safeguard the quality and affordability of these services.
- In addition to traditional private sector operators (minibuses, taxis), new mobility services (shared bicycles and scooters, ride-sharing services) are proliferating across Mexican cities. Carefully and proactively regulating these new private providers is critical to ensure their operations align with a particular city's wider mobility objectives.



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### 3.3.3 Financial barriers

#### *The federal budget remains heavily biased towards roads and infrastructure for cars*

- Budget allocations are one of the main ways the federal government can shape urban mobility, but road infrastructure and maintenance consistently make up 75–80% of federal transport spending, and overall spending on mobility has decreased. Pedestrian, cycling and public transport spending continues to be de-prioritised in the federal budget, even though most Mexicans are entirely dependent on these transport modes and do not own cars.

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**Budget allocations are one of the main ways the federal government can shape urban mobility, but road infrastructure and maintenance consistently make up 75–80% of federal transport spending.**

- This budget split is not surprising given the institutional and governance barriers identified above – there simply is no federal institution with a clear mandate to advocate for a comprehensive reform of transport budget allocations.
- Funding that is earmarked for new road infrastructure will always be used, creating a vicious cycle where cities and states are incentivised to build more roads, since that is often all they have money for. Most cities do not have sufficient own-source revenues to invest in large-scale transport projects, creating a disjoint between their urban development and transport plans and their actual ability to implement these visions.
- Budget cuts to key ministries such as SEDATU, SCT and SEMARNAT and the overall context of government austerity make it challenging to turn good intentions into tangible mobility initiatives.

#### *Fragmentation of federal funding creates uncertainty*

- Federal funding for mobility is fragmented across a variety of budgetary branches and programmes, resulting in misaligned objectives and challenges in ensuring accountability.
- This complexity creates major barriers for municipalities with less technical and institutional capacity, which may find it difficult to identify the funding sources that are available to them.
- Many of these funds lack adequate operational rules that ensure investment in sustainable mobility options or, in the case of the FM, exclude geographic areas with heightened need for sustainable transport infrastructure (smaller and medium-sized cities).
- The lack of long-term local mobility planning is exacerbated by fluctuations in federal transfers in the medium and long term, in terms of both quantity and frequency.

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- Devolved transport planning is effective only if local governments have sufficient capacity to implement and plan strategically. This requires resources and, if these are not raised locally, they need to be systematically, consistently and fairly disbursed from the federal level.

### 3.3.4 Implementation barriers

#### ***A lack of appropriate policy instruments has led to uncoordinated transport planning***

- The development of comprehensive mobility strategies has been limited by the lack of standardised and widely used regulatory, technical and planning instruments that ensure that transport is fully integrated into wider urban planning.
- In addition, insufficient linkages between the instruments that are available mean that different instruments and approaches may at times conflict with each other.
- This lack of a standardised toolkit of policy instruments has also undermined greater harmonisation of approaches across levels of government, resulting in vast discrepancies in how different states and cities address similar mobility challenges and hindering mutual learning and the sharing of best practices.

#### ***Monitoring and evaluation of transport interventions is not systematically applied***

- Lack of monitoring and evaluation also undermines the sharing of best practice and the ability to holistically analyse the current state of mobility across all urban areas in the country.
- Most cities do not produce regular urban mobility reports, and there are very limited performance indicators that could be used to support better policy-making. Both ex-ante and ex-post evaluations of new projects and policies remain underdeveloped.
- Currently, the only public information available at the national level in Mexico on actual travel times by mode is the Intercensal Survey 2015, and the 2020 Census did not include such a question. This makes it very hard to measure the impact of specific interventions in the short term. Origin-Destination Surveys tend to provide more granular data but they are expensive to conduct and are therefore rarely undertaken (only Mexico City has this data at present).
- The lack of good data on public transport services for smaller cities makes it difficult to know whether they are making progress and impossible to evaluate the performance of new transport investments on the overall mobility outcomes of individual cities.

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- While cities are slowly improving their collection and dissemination of mobility data, by and large this information is still missing for most cities, either because it is not collected at all or because it is not made public. This has major implications for researchers and policy-makers trying to assess the challenges Mexican cities face and evaluating specific interventions.

### **3.4 FUTURE REFORM OPPORTUNITIES: PRIORITISING TRANSPORT POLICY INSTRUMENTS**

As the case studies in Section 3.2 show, there are innovative and truly transformative mobility projects under way in Mexico. This section suggests some concrete reform opportunities by looking at policy instruments that have been shown to advance urban accessibility in other country contexts, and how these might apply to Mexico.

This is based on the recognition that transport policy instruments are often seen as fairly un-ideological but the context within which they are implemented is inherently political. Thus, examining the role of national transport policies in fostering more compact and connected cities requires looking both downstream – what practical options are available, such as regulating traffic speeds, public transport budget allocations or road design codes – and upstream, to consider whether decision-making power and resources are allocated in ways that support implementation of those options.<sup>218</sup>

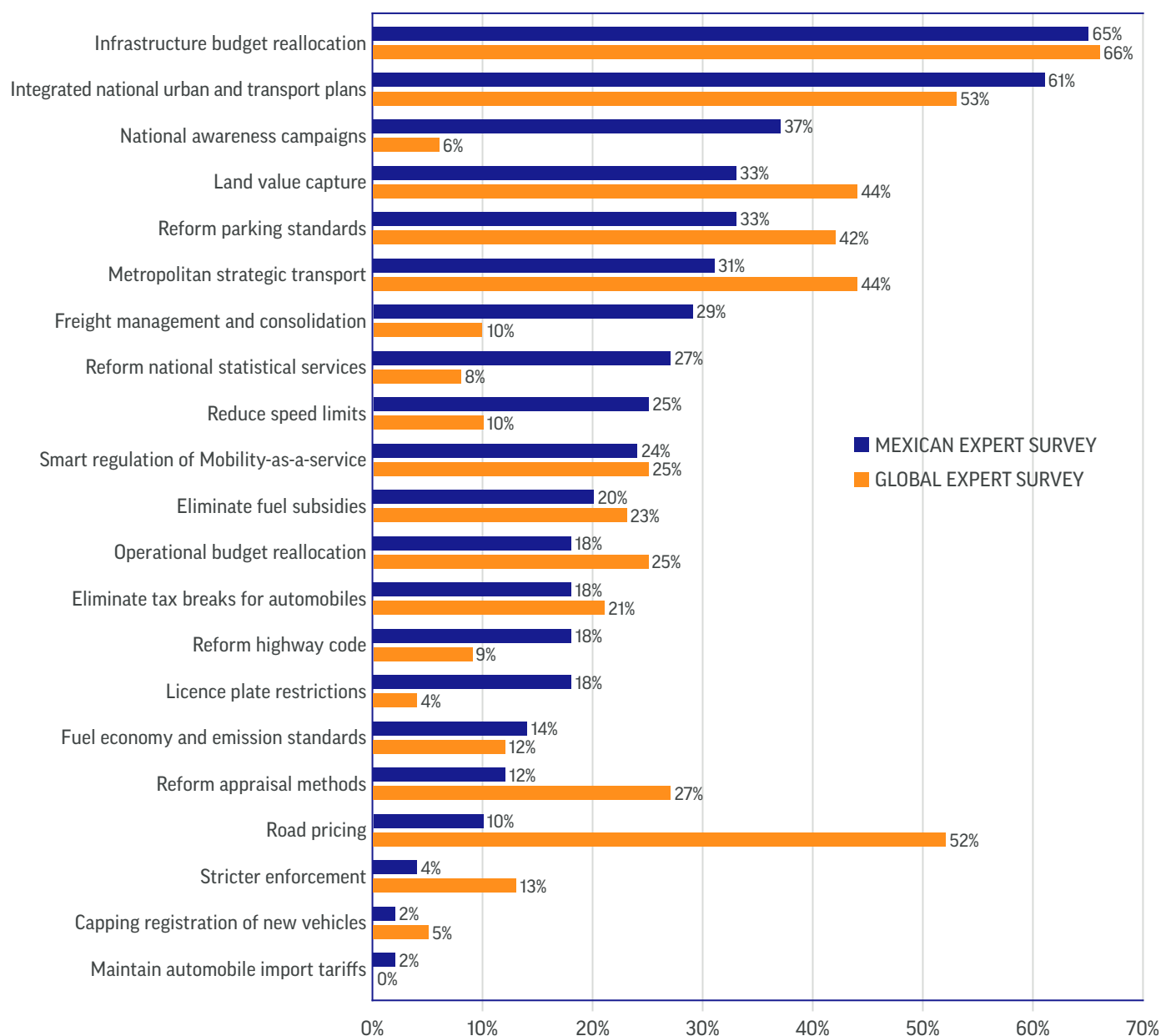
While it is clear that there are important institutional reforms required to integrate transport better with housing and land use planning, there are also concrete policy instruments available to the government right now that could contribute to more sustainable urban mobility outcomes. Ensuring the success of those policy instruments, especially as part of a wider urban mobility strategy, would require first tackling many of the institutional, financial and implementation barriers discussed in Section 3.3.

#### **3.4.1 Comparing Mexican priorities with a wider global context**

A previous paper by the Coalition for Urban Transitions explored the wealth of options available to national transport policy-makers wishing to support more compact and connected urban development, closely examining 21 by surveying global transport experts who highlighted the priority interventions seen as most effective in making cities more accessible.

To identify important transport policy instruments for the Mexican context, LSE Cities and the OECD hosted a workshop as part of the Urban Transformations Summit organised by the World Resources Institute (WRI) Mexico and SEDATU in Mexico City in October 2019. This workshop was designed to contextualise recent global research findings and to test the extent to which policy priorities in Mexico differed from those identified in the global research. Below are the results of an exercise where workshop participants were asked to identify transport policy priorities that they considered most important in promoting compact and connected urban development in Mexico (Figure 7).<sup>219</sup> For a full discussion of all 21 policy interventions and how they may be relevant to the Mexican context, see Annex 2.

**Figure 7. Percentage of experts that selected each policy as one of their five priority transport interventions to support compact and connected urban development**



Source: Authors' own data and analysis

<sup>a</sup>Participants had not been shown the results of the global survey of transport experts so as not to bias their responses. The participants came from a wide range of backgrounds, and included national, state and local policy-makers, academics and representatives of NGOs and civil society organisations.

<sup>r</sup>The global survey targeted well-established and respected transport experts and provided them with a detailed online questionnaire that they could fill out in their own time. In contrast, the workshop in Mexico was open to anyone attending the Urban Transformations Summit, so the level of expertise could not be confirmed. The information the latter were asked to input on was also more limited than in the global survey, and overall a smaller number of respondents took part in the exercise (n=54 compared with n=77 for the global survey).

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The interventions prioritised by the Mexican workshop participants were:

1. Infrastructure budget reallocation (65%)
2. Integrated national urban and transport plans (61%)
3. National awareness campaigns (37%)
4. Land value capture (33%)
5. Reform parking standards (33%)
6. Metropolitan strategic transport (31%)

Five of the six priority policies were also identified as the top priorities among the global experts. Overall, there is clear convergence around the top two policies: *Infrastructure budget reallocation* and *Integrated national urban and transport plans*. One striking difference between the Mexican and the global results was the far greater interest in Mexico in *National awareness campaigns*. Workshop participants noted that a lack of public awareness of the environmental and social costs of private motorised travel was a significant barrier to more progressive mobility policies in Mexico. Some also saw a need to highlight the benefits of compact urban development and to address deeply ingrained cultural preferences.

### 3.4.2 A closer look at the priority transport policy interventions

The top policy interventions chosen by experts have been discussed for many years and have been tested in several countries. Below we examine the six prioritised by Mexican stakeholders, highlighting how they contribute to compact, connected, clean and inclusive growth, with examples in Mexico and abroad.

#### *Infrastructure budget reallocation*

Budgets are one of the most fundamental policy instruments available to national governments. Reforms to national transport budgets and infrastructure spending priorities can shift spending from roads and infrastructure that primarily benefits private car use to public transport, walking and cycling. This supports the development of more compact, connected, clean and inclusive cities by increasing funding for much-needed public transport projects, bike paths and pedestrian areas and can also shape urban form and promote higher densities. Importantly, it does not require an increase in the overall transport budget; instead, it merely requires a reallocation of existing spending.

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Within cities, it has been suggested that infrastructure budget reallocation could shift 5–10% of motorised vehicle transport to non-motorised transport, and 10–35% of local trips could be shifted from private vehicles to public transport, walking and cycling.<sup>219</sup> Such effects were observed following reforms in the 1990s in the USA, Germany and the UK. More recently, budgetary reallocation in Colombia, China and Ethiopia has enabled more compact and connected development in fast-growing cities.<sup>223</sup> As this paper has highlighted, there is a clear disconnect in Mexico between transport spending and actual mode share, at all levels of government. Mexico City and a few other large cities are starting to actively counter this pattern in their own budgets (see Sub-section 3.2.3.) but it remains the case that support for transport infrastructure from the federal government is essential.

### ***Integrated national urban and transport plans***

Both global and Mexican experts recognised that we need more integrated planning processes that break down policy silos to tackle urban mobility, and that these need to start at the national level. Indeed, the Sustainable Development Goals (SDGs) note the need for “adopting and implementing integrated policies and plans” across transport, land use and environmental policy. Bringing experts and planners together across domains (e.g. from different ministries) makes it easier to develop more coherent, complementary policies and plans, and to take advantage of cross-sectoral synergies. Featuring transport as a priority within broader national urban policies also supports a shift to an accessibility paradigm that promotes compact and connected urban development.<sup>221</sup>

Many national governments have already started to change how urban transport is planned and implemented. In Brazil, France and India, for instance, the development of integrated urban mobility plans is now a requirement for receiving national government funds for urban transport projects, and all of these countries also have explicit national urban transport policies. South Africa’s National Land Transport Strategic Framework provides local governments with an overarching framework to implement their Integrated Transport Plans.<sup>222</sup> India’s National Urban Transport Policy embraces integrated transport and land use planning as its number one priority, with the central government covering half the cost of preparing such plans for Indian cities.<sup>223</sup> In Mexico, SEDATU recognises the importance of integrating mobility with wider urban development planning, and this would be the most appropriate existing federal body to advance this agenda. However, it lacks both the financial resources and a clear mandate to operationalise this connection.

### ***National awareness campaigns***

The focus on awareness campaigns among Mexican workshop participants points to the importance of developing a shared understanding of the value of sustainable urban mobility in the country. Most economic and regulatory policy instruments rely on incentives that assume the public has a fixed set of preferences and valuations – when in reality, effective interventions can change attitudes. This is where information-based or “soft” policy tools can be very helpful, through a variety of mechanisms to “nudge”, raise awareness and change behaviour and attitudes over time.<sup>224</sup>



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National awareness campaigns can help educate the public about the economic, public health and environmental costs of different transport choices as well as the benefits of using public transport, cycling and walking. This helps shift public perceptions and also empowers citizens by educating them about the ways in which their personal travel choices have wider societal impacts. Awareness campaigns can take many different forms, from large-scale advertising to more targeted initiatives for individuals, workplaces and schools; social media marketing; and special events, prizes and awards.

In the USA, Europe, Japan and Australia, programmes that support individualised marketing around commuter choices have led to significant reductions in car use not just by highlighting the benefits but also by ensuring people are aware of their options.<sup>225</sup> To combat deeply ingrained cultural aversion to public transport use in Mexico, any awareness campaigns will need to be accompanied by concrete efforts to improve the reliability, convenience, cleanliness and safety of public and active transport.

### ***Land value capture/Land-based finance***

Land value capture (LVC) is a range of instruments and mechanisms that allow governments to capture some of the increases in real estate values associated with large-scale infrastructure projects (e.g. when a new metro line enables landlords to command higher rents). In effect, it transfers some of the costs of infrastructure investment to those who benefit from it. In practice, there are a number of institutional preconditions that need to be in place to ensure LVC fulfils its potential and does not have unintended consequences. LVC instruments are increasingly used to fund urban transport infrastructure and have the potential to generate more compact development through better connectivity, more intensive use of land and rising land values.<sup>226</sup>

However, LVC can have unintended consequences if not accompanied by careful urban planning and strict land management. LVC has been linked to increased urban sprawl, exclusive city development, and rent-seeking behaviour and land-grabbing. Because of this, the use of LVC is far more common in higher-income countries, generally because of factors such as higher local government capacity and the maturity of land/property markets. However, several developing countries, including India, Colombia, Brazil and China, have started experimenting with LVC in recent years.<sup>227</sup>

In Mexico, some cities, such as San Luis Potosí have used small betterment levies for public space improvements such as street lighting, but larger-scale applications of LVC have to date not been attempted. Mexico City tried to incorporate LVC into its revised constitution in 2017 but massive public opposition scuppered these efforts.<sup>228</sup> LVC holds great potential to support more transit-oriented development in cities and is increasingly being discussed in Mexico, although insistence by the current government that there will be no tax increases calls into question whether there is political appetite for LVC in the current administration.

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### ***Parking standards reform***

Parking standards are the norms related to the amount of parking that is required, or permitted, for new developments of all types within the land use planning system. Parking standards in many parts of the world (including in most of Mexico) still mandate a minimum number of parking spaces for new developments. This leads to large amounts of parking, which in turn induces demand. Eliminating such minimums and instead setting maximum amounts of parking allowed for new developments is therefore a very effective transport policy reform. Parking takes up a great deal of space that can be freed up for other uses; limited parking also encourages walking, cycling and public transport use instead of driving.

The amount of parking required/permitted is often stipulated by individual local authorities, varying across jurisdictions, though this depends very much on the national context. For example, in the UK during the 2000s, the national government set out maximum parking standards, stipulating that all local authorities were required to apply for larger developments. In Spain and Germany, parking standards are set as minimums at the state and regional level – so at a higher level of government than the municipality.<sup>229</sup>

Mexico City changed its construction code in 2017 to curtail development of new off-street parking, changing mandatory minimum requirements to maximum allowances for new developments (although there are still loopholes that enable developers to provide more parking spots). Nevertheless, this is an important reform that sets a precedent for other Mexican cities.<sup>230</sup> The national government should support states to amend their construction codes to move from minimum to maximum parking standards and provide guidance on how this should be reflected in new state mobility laws. Ideally, such reforms should be paired with developer levies or other land-based financing mechanisms that support investment in public and active transport to increase the accessibility of new developments.

### ***Metropolitan strategic transport governance***

The idea behind establishing metropolitan transport authorities or similar strategic entities is to bundle key transport governance powers – fiscal, decision-making, infrastructure delivery and operations – at the metropolitan or “functional area” level. Many people who work in cities commute from the suburbs, so efforts to address transport issues will work best if they include officials from both the cities and their wider commuter belt. Metropolitan transport authorities usually oversee many (sometimes all) transport modes in their jurisdictions.<sup>231</sup> This means they are well positioned to develop comprehensive strategies to manage transport demand across the region, support more compact and connected development, and reduce carbon emissions.<sup>232</sup>

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This type of metropolitan transport governance reform has been adopted in many major cities in the past decade, particularly in Europe.<sup>233</sup> London's integrated transport authority – Transport for London (TfL) – is a good example. Since its creation in 2000, this citywide agency has increasingly taken over management of more of the region's transport services. TfL manages almost all public transport in London: all public transport, bus routes, cycle hire, taxi regulation and street design. Increasingly, the importance of such reforms is also being recognised in rapidly urbanising countries of the Global South. As part of its National Urban Transport Policy, the Indian government is encouraging all cities over 1 million inhabitants to work towards the creation of unified metropolitan transport authorities. To date, only Hyderabad has established such a new governing body, with Bangalore, Kochin and other cities working towards such reforms.<sup>234</sup>

In Mexico, the importance of metropolitan coordination seems to be rising on the political agenda but there have not been any concrete changes when it comes to more strategic transport governance. The Metropolitan Planning Institute of Puebla (which might have laid the groundwork for integrated transport planning) was recently disbanded just three years after its creation, and conversations to integrate transport planning in the Mexico City metropolitan area have been stalled for well over a decade. Although Guadalajara has been making good progress on metropolitan governance, it still does not have an integrated transport authority, and nor do any other Mexican metropolitan areas.

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## 4. Towards an integrated housing and transport agenda in the wake of COVID-19

As in many countries, COVID-19 is hitting Mexico hardest in its cities. The pandemic has exposed and exacerbated decades of social, economic and environmental inequalities. Urban sprawl, car dependency and wildly disparate access to opportunities have deepened the impact on marginalised communities. Densely populated neighbourhoods with high levels of poverty, such as Iztapalapa, Gustavo A. Madero, Nezahualcóyotl and Ecatepec in Mexico City and the State of Mexico, have seen the most infections so far.<sup>235</sup> There are multiple reasons, including existing co-morbidities, overcrowded housing conditions, inadequate access to water and basic sanitation, restricted mobility options, high rates of informal and precarious employment, and limited social safety nets.<sup>236</sup> The living and working conditions of most low-income households make it very difficult for them to adhere to social distancing and hygiene guidelines, and working from home is impossible for the millions of Mexican urban dwellers employed in the informal economy.<sup>237</sup>

The pandemic's economic impacts are also unevenly distributed. Manufacturing centres in the north (e.g. Tijuana, Mexicali and Ciudad Juárez), industrial and service centres (e.g. Monterrey, Mexico City and Puebla) and tourism hotspots in the South (e.g. Cancún, Mérida, Acapulco) are facing particularly great social and economic challenges that will require targeted responses.

A major risk now in Mexico and many other countries is that COVID-19 will actually reverse modest progress towards more compact, connected, clean and inclusive cities. Detached single-family homes may feel safer than apartment buildings, and personal cars may appeal more than crowded buses. Yet compact communities where housing, jobs, services and recreation are closely integrated not only have a higher quality of life; they also have proven to be more resilient in this crisis – and much better for low-income and vulnerable people, who can more readily access the resources they need. And, given the enormous threats posed by climate change, urban transformation is also crucial for climate resilience and to reduce the amount of land, materials and energy used by urban economic hubs.<sup>238</sup>

Mexico urgently needs to address urban air pollution as well. Many of the same communities that have been hit hard by COVID-19 also breathe some of the most toxic air in the country. By some estimates, air pollution caused as many as 11,000 premature deaths in Mexico City alone in the first six months of 2020,<sup>239</sup> and more and more evidence is emerging that toxic air worsens the impact of coronavirus.<sup>240</sup> The good news is that the same housing and transport solutions that can make cities more accessible and equitable are also excellent ways to reduce air pollution and GHG emissions.

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The COVID-19 policy responses and recovery packages being adopted now could shape Mexican cities' economies and social fabric for decades. Trying to restore "business as usual" is not an option, and prioritising the fossil fuel economy as is currently the case, while reducing investments in sustainable urban growth, would be profoundly damaging. Local governments, already cash-strapped,

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**Mexico needs an overarching national vision for sustainable cities to realign investments, focus key institutions on a shared agenda and move away from entrenched patterns that have locked Mexico into sprawling, polluting and deeply inequitable urban growth for decades.**

will see their budgets diminish further, undermining essential public services. Investment in critical urban infrastructure could stall for many years, and so would strategic planning for a more sustainable future. Mexico needs an overarching national vision for sustainable cities to realign investments, focus key institutions on a shared agenda and move away from entrenched patterns that have locked Mexico into sprawling, polluting and deeply inequitable urban growth for decades.

Chapters 2 and 3 laid out key challenges and opportunities in the housing and transport sectors. Here, we synthesise these into recommendations for each sector, while also identifying important reforms that will help integrate the two. Table 3 at the end of this chapter summarises the priority recommendations from these three sub-sections and identifies indicative timescales and key stakeholders involved in the

implementation of each of these reforms.

## **4.1 A NATIONAL STRATEGY FOR URBAN HOUSING**

Mexico needs to introduce reforms at each stage of the housing value chain, from securing land in consolidated urban areas, to building and improving homes that are safe, resilient and of good quality. It may help to prioritise actions based on their potential impact and level of difficulty in achieving them. The recently approved National Land Policy (PNS) constitutes a key tool for underpinning most, if not all, the recommendations suggested below, which include policy, finance and fiscal strategies.

### **4.1.1 Housing policy**

- ***Clarify the roles of the different housing policy actors.*** With SEDATU now in charge of housing policy, it is important to clarify how other institutions, such as INFONAVIT and state and municipal housing bodies, fit in. The distribution of responsibilities should align with the new strategic objectives of the housing policy, with a clear statement on how every institution is to contribute.

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**Mexico needs to amend the complex fiscal and legal frameworks that have hindered the broader development of rental housing.**

- **Promote renting and multi-family homes as much as single-family homeownership.** Mexican housing policy has long favoured homeownership and detached single-family houses, which has pushed lower-income households out into peripheral areas or denied them housing altogether. It is time to provide equitable support to other forms of tenure that may be more affordable and better suit the needs of many people, including the young, the elderly and low-income households. The PNV already recognises the need for rentals for the poor but there is potential across all income groups. Multi-family, multi-story buildings also have significant benefits when it comes to more efficient resource use, which can further increase their accessibility. SEDATU needs to ensure that housing supply is responsive to changes in demand to encourage residential mobility. For this

purpose, it will need to assist municipalities to improve land-use and urban planning to reduce house price differences across regions within urban areas.

- **Foster the development of the rental housing market, particularly in urban cores.** Mexico needs to amend the complex fiscal and legal frameworks that have hindered the broader development of rental housing. SEDATU and CONAVI may also want to provide grants to municipalities to support rental programmes. Private sector participation can be facilitated by regulating tenant protections, for example, as well as through rent controls (or liberalisation).<sup>241</sup> CONAVI can also promote rental-based social housing programmes in urban areas, with a focus on vulnerable populations and low-income households. Ensuring that rental regulations strike a balance between tenants' and landlords' interests could help stimulate the private rental market, create security of tenure and encourage the supply of affordable rental housing. This could contribute to higher levels of residential mobility.
- **Foster the development of mixed-income housing.** Social segregation is a strong barrier to economic mobility. Inclusionary zoning – in which projects in specific areas are required to set aside 20–30% of land or floor area for affordable housing – can help. Mexico City and others have already embraced this model but there are no clear federal guidelines on what the set-aside for affordable units should be. Promoting mixed land uses can help keep projects financially viable, as higher-profit uses can subsidise the cost of social housing. Two other options are density bonuses and surcharges on developers who choose sites in remote locations without adequate infrastructure. Implementation of the PNS may contribute in great measure to better management of land and planning of cities with mixed land uses.
- **Reform the Agrarian Law to prevent land mismanagement and speculation.** The Agrarian Law should limit agrarian authorities' power over the conversion of *ejidos*, and explicitly favour mixed-use development with adequate infrastructure to prevent the development of informal settlements, especially in high-risk areas or areas where service provision is challenging. Authorities should also work with community groups to use *ejidos* to create high-quality housing by strengthening the land use planning system.



- **Reinforce the process of formalising titling to give tenure security.** It is important to protect people in informal settlements from being displaced without due process and to identify local informal and semi-formal tenure categories that can give short-term security in particular contexts and build on them. This could be important for addressing the housing deficits in informal settlements. Issuing a tenure policy may encourage investment, improve access to formal credit for residents, improve the local tax base for municipalities (predial), increase government influence over the land and housing market and even help in meeting the SDGs.
- **Reinforce and expand green housing initiatives such as EcoCasa and Green Mortgage (Hipoteca Verde).** Investing in green building and construction is in line with the aims of the PNS and Mexico's commitments to international agendas such as the SDGs, the New Urban Agenda and the Paris Agreement. Enforcing new green standards in housing construction and upgrading would not only help reduce energy use and GHG emissions but also create much-needed jobs.

#### 4.1.2 Housing finance and tax policy

Ensure that financing programmes make an array of housing tenure options affordable, with particular focus on low-income households. Table 2 shows some options. To ensure that benefits reach those who need them most, eligibility requirements could be tightened – for instance so subsidies go only to people who own no other dwellings or industrial or commercial buildings. SEDATU also needs to ensure that the support provided reflects the additional cost of building in consolidated urban areas. The national government could give a larger role to state governments and municipalities in managing these programmes, with safeguards to avoid mismanagement or undue political influence.

**Table 2. Housing support options**

| Target population                                                                                               | Housing type                                  | Government support for households                                                                                                |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <br>Median-income households | Affordable homeownership (social and private) | Grants: home start initiatives for first homes<br>Exemptions: stamp duty waivers/concessions<br>Credit: mortgages, shared equity |
|                                                                                                                 | Market rental housing                         | Rental support: housing vouchers, rent assistance programmes                                                                     |
|                                                                                                                 | Affordable rental housing                     | Grants: housing preservation grants<br>Exemptions: tax reliefs                                                                   |
| Very low-income households                                                                                      | Social rental housing                         | Grants: operating subsidies, capital grants, etc.<br>Support services: income support, allowances                                |

**Source:** WEF, 2019. *Making Affordable Housing a Reality in Cities*. World Economic Forum, Davos

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- ***Provide incentives to make social housing attractive to private developers.*** As demand for social housing is likely to remain strong in Mexico, the government needs to find ways to finance further development through further engagement of the private sector. Policy options include tax incentives; tax exemptions for development on certain types of land or in designated areas; and government-guaranteed bonds to provide low-cost finance to community-based organisations to create and manage social housing. Mexico needs to grant greater financial guarantees to developers to encourage the construction of social housing in urban cores. It could also establish tax deduction schemes for rental housing landlords and administrative registry facilities to encourage formal lease agreements.
  - ***Support the establishment of housing cooperatives to finance housing and foster the social production of habitat.*** Cooperatives help their members not just find a place to live but also shape their neighbourhood and build communities. SEDATU could enable cooperatives to access loans collectively, and not just through individual members. It could also integrate cooperatives into housing guidance provided to municipalities, explaining their advantages and providing training on relevant regulations and technical aspects.
  - ***Expand funding that enables incremental improvements to existing properties,*** to help people stay in their homes and adapt them to their evolving needs (including during the pandemic). This could range from smaller interventions such as upgrades to the sanitation system to bigger projects such as adding an extension or another story. This could avoid people having to choose between moving to get better housing or staying close to urban economic opportunities.<sup>242</sup> Additionally, incremental improvements that use appropriate materials for local climates can improve the energy efficiency of existing homes, reduce the need for heating or cooling and lead to cost savings.
  - ***Develop new policies and incentives to promote affordable housing, more compact urban development and residential mobility.*** Along with options outlined above, potential approaches include adopting tradable and transferable development rights to help redevelop and preserve historical centres; giving preferential tax treatment to households that leave homes in peripheral areas to move closer to the city centre, especially within the PCUs designed by SEDATU; and introducing rental housing allowances or rent subsidy vouchers (see Annex 1). OECD research suggests that social cash and in-kind spending on housing is positively correlated with residential mobility. Moreover, generous cash income support to low-wage job seekers and minimum income schemes embedded in social transfers are positively associated with residential mobility.<sup>243</sup>
  - ***Encourage the use of the property tax (predial) to incentivise better use of urban land.*** The predial is a key source of revenue for municipalities but it is the state congress that sets the tax rates; municipalities cannot modify them. Collection rates are also low. The national government can help by eliminating tax exemptions; helping municipalities regularly update property valuations on the cadastre (i.e. within a subsidiarity scheme); offering training to municipalities on ways to increase revenues; taxing the underlying value of the land for plots that remain unused or underused; and applying higher tax rates to single-family homes than to multi-family dwellings.

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## 4.2 A NATIONAL STRATEGY FOR URBAN MOBILITY

Several policy and governance reforms could help Mexico develop a national urban mobility framework that promotes more compact, connected, clean and inclusive cities. Given the severe fiscal impacts of COVID-19, it is crucial to ensure plans are realistic and maximise benefits. At the same time, COVID-19 presents an important opportunity for systemic change.

It is clear from our analysis that local governments need to be empowered to take ambitious actions to improve urban mobility. This section thus starts with recommendations for high-level reforms to the governance and financing of urban mobility. This is followed by more specific transport-related reforms that will have to be tailored to local contexts and could complement existing efforts.

### 4.2.1 Institutional and governance

- **Clearly assign responsibility for inter-urban and intra-urban transport at the national level**, with SCT taking full responsibility for overseeing transport infrastructure that connects cities while SEDATU becomes the leading federal body in charge of urban and metropolitan mobility strategy (in close collaboration with local governments). This is a top priority and could be done promptly. The new division of responsibilities will have to be backed up with sufficient funding to enable both agencies to effectively carry out the duties assigned to them.
- **Expand and properly fund the Metropolitan Coordination Directorate within SEDATU so that it explicitly covers metropolitan transport planning.** This, too, could be done right away, and would enable SEDATU to exercise stronger leadership in supporting states and cities with urban mobility. The reforms to the Law on Human Settlements have laid the groundwork, but dedicated budgets and long-term commitment are needed to embed this in existing institutional structures.
- **Expand the technical capacity and accountability of local governments** by tying financial support to core requirements, such as the establishment of dedicated transport authorities that can develop their own sustainable urban mobility plans. Municipalities will also need more resources to comply. This will ensure funding is aligned with long-term development objectives and will require national-level guidance and continuous support to local agencies.
- **Depoliticise transport planning by establishing long-term federal strategies and plans that extend beyond political terms.** This would allow for greater continuity, which is critical for large-scale transport infrastructure projects, which can take many years to be completed. It would also help align transport projects with Mexico's Nationally Determined Contribution (NDC) under the Paris Agreement, allowing transport to be a driving force of decarbonisation efforts. To further depoliticise transport policy, any projects should undergo rigorous and transparent appraisals to ensure their viability and increase public trust.

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- ***Provide dedicated support for smaller and less wealthy municipalities.*** Many of these cities are currently unable to access many of the federal mobility funds, either because of restrictions in their rules of operation or because they lack the capacity and expertise to navigate the complex system of federal funds. Municipalities also tend to lack fiscal autonomy, so technical support and capacity-building to begin generating revenue (e.g. through LVC instruments) should be prioritised. If this issue is not addressed, the gap between large metropolitan centres and smaller cities will continue to widen and undermine territorial equity across the country.

#### 4.2.2 Transport funding

- ***Align federal transport spending with mode share so that the percentage of the budget allocated to walking, cycling and public transport corresponds to the actual use.*** At present, less than 10% of federal transport funding nationwide is spent on public transport, even though more than 50% of all trips are completed by this mode.<sup>244</sup> This does not necessarily require an increase in the overall transport budget but rather a reallocation towards investments that support sustainable mobility. While funding new infrastructure is essential, it will need to be accompanied by ongoing investments in operations and maintenance to ensure the experience of using public transport, cycling and walking is safe, pleasant and efficient.
- ***Reform the rules of operation of federal transport funds to prioritise investment in sustainable mobility.*** Priority should be given to mass transit and active mobility infrastructure in cities with the greatest need for such investments, including fast-growing small and medium-sized cities. Given the highly fragmented nature of federal funds, it may also make sense to consolidate urban mobility funding within the federal budget, aligned with national urban mobility priorities. One way to do this is to establish a dedicated sustainable urban mobility fund managed by SEDATU focused on investments in walking, cycling and public transport.
- ***Support fiscal devolution to align with existing political decentralisation.*** This will require reforms to the collection of property taxes (see Sub-section 4.1.2) alongside an exploration of LVC mechanisms that could help to establish a system of fiscal co-responsibility and provide vital funding for local transport projects. While this may be politically challenging for some cities, even smaller revenue streams such as raising parking fees and road pricing could provide additional funding for urban mobility. By building this capacity gradually, more complex interventions such as LVC can then be trialled in the medium term. Municipalities should receive clear guidance from the federal government on how to move towards greater fiscal independence and raise own-source revenues, within a framework that provides technical assistance to ensure accountability and transparency.

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### 4.2.3 Transport policy

- ***Reallocate existing road space to promote public and active travel.***  
COVID-19 has highlighted the urgent need to distribute road space more equitably. Federal support for urban mobility should not be restricted to new infrastructure investments, but also encourage cities to rethink existing road allocations and implement policies to limit car use. The federal government cannot mandate this, but it can incentivise it through funding, and provide technical support. In almost all Mexican cities, including the capital, there are ample opportunities to reallocate road space to prioritise people over cars and use available lanes more efficiently. Even relatively low-cost interventions such as dedicated bus lanes can act as a significant incentive for people to leave their cars at home while reducing travel times on public transport. Wider sidewalks and protected bike lanes are similarly low-cost ways of reconfiguring the existing road infrastructure to promote more sustainable mobility.
- ***Prioritise interventions that encourage modal shift and avoid the need for excessive travel*** in accordance with the “avoid, shift, improve” hierarchy (see the start of Chapter 3). This means crafting integrated urban development plans that foreground transport accessibility, higher densities and mixed use for all new developments. Improving vehicle fuel efficiencies and electrification are important from an environmental and public health standpoint but continuous growth in motorisation somewhat offsets their benefits. Investing in more compact and connected cities will have a much greater impact on reducing emissions in the long run.
- ***Support cities to employ both “carrots” and “sticks” in transport policy.***  
Improving public transport and walking and cycling infrastructure is often not enough to stop people driving. Some “sticks” are also needed, such as removing parking spaces, introducing or raising parking fees and restricting speeds. Congestion charges are the next step but they can be politically challenging, as they target people with significant political power. A strong national mobility framework that supports these policies and provides guidance on implementation is thus essential.
- ***Consider supporting the establishment of municipal transport companies.***  
in cities and metropolitan areas that have sufficient institutional capacity. Moving away from a concession model and towards public sector ownership and management of public transport could help ensure greater integration across the transport system and encourage improvements in quality, safety and reliability while also ensuring transport provision is not dictated by market forces but by actual public needs. In cities where this is not feasible, formalise public transport provision by regulating private operators, including regular safety training for drivers and checks for vehicles; providing support to operators to allow them to invest in low-carbon vehicles; and supporting municipalities to more effectively coordinate various private operators.

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## 4.3 RECOMMENDATIONS FOR INTEGRATING NATIONAL HOUSING, LAND USE AND TRANSPORT POLICIES

In Mexico, housing, transport and other urban development policies are still mostly planned and implemented separately, by different agencies, and at different levels of government. Moving towards greater alignment across these two essential sectors of policy-making is a gradual but crucial process.

While integration can sometimes require fundamental changes to decision-making processes and structures, coordination can be significantly improved by identifying key areas of overlap and ensuring the relevant ministries and agencies have shared strategic priorities, while still recognising each one's particular remit and skills.

Here are some potential starting points the current administration may wish to consider:

- **Operationalise reforms to the General Law on Human Settlements.** The 2016 reforms provide a foundation for higher densities, establish the need to promote accessibility and identify SEDATU as the federal body that should oversee all aspects of urban development in the country. However, no corresponding regulatory framework has been established, which is significantly delaying implementation of concrete policy reforms. One opportunity is the ongoing discussion on issuing an integrated national land use policy, which would provide the instruments to allow for densification and transport-oriented development.
- **Link urban development policies explicitly to federal climate and environmental policies.** Mexico will not be able to meet its obligations under the Paris Agreement if housing and transport policies are not strongly integrated with climate policy to support rapid decarbonisation. Mexico is on track to miss its NDC targets of reducing emissions by 22–36% by 2030. Ensuring that transport and housing policies align with low-carbon development objectives could help save up to 25,000 lives and US\$5 billion in public health costs over the next 12 years.<sup>245</sup> Possible ways to achieve this include ensuring that urban development is a central part of Mexico's Special Programme on Climate Change (PECC); incorporating clear targets for emission reductions and other environmental protections in the appraisal of new housing and transport projects; introducing an economy-wide carbon tax that could be reinvested to fund the clean energy transition; and promoting an interconnected set of policies to shift transport demand towards more sustainable options while promoting compact, mixed-use development.
- **Implement the recently published PNS.** The PNS is a strategic document designed to guide decisions on land use, zoning, urban development, housing and social protection – but it is not binding. Its implementation thus requires effective collaboration among national and subnational agencies. As a first step, SEDATU and INSUS need to create a National Land Programme with a dedicated budget to carry out strategic projects on land use and operationalise the PNS.<sup>s</sup>

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<sup>s</sup>INSUS is working on three pilot projects whose results will be released at the end of 2020.



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- ***Adopt a national urban policy with clearly defined roles and a mechanism to coordinate planning and collaboration across sectors and levels of government.*** While implementation at the national level should be overseen by SEDATU, the framework also needs to be adapted to different scales – territorial, metropolitan, municipal and neighbourhood. The national urban policy would thus provide an overarching vision to ensure policy coherence but also promote flexible and collaborative governance that cuts across administrative and geographic boundaries. It should also create incentives for more sustainable urban practices and provide a basis for the better allocation of resources. SEDATU may wish to adopt the principle of subsidiarity to ensure decisions are taken as closely as possible to the citizens and constant checks are made to verify that action at national level is justified in light of the possibilities at state and municipal levels.
  - ***Align and integrate sectoral policies to jointly promote compact, connected, clean and inclusive cities, particularly at the metropolitan level.*** Building on a shared vision framed by a national urban policy, and brought together by SEDATU's leadership, national agencies focused on housing, transport and land use planning could better prioritise their investments. Housing programmes might favour mixed-use and social housing development along major public transport lines, for instance, while public transport budgets might prioritise urban areas that are poorly connected to jobs or that are targeted for revitalisation. The national government would need to set incentives, regulations and coordination mechanism to manage trade-offs to foster policy coherence across ministries. SEDATU, in coordination with the SHCP and other relevant bodies, could support reforms to establish metropolitan planning agencies that coordinate infrastructure investments on housing, transport and urban amenities. The SHCP should revise the operating rules of the FM to ensure it provides increased support to integrated and sustainable mobility projects.

Reforms within individual sectors and support to subnational governments can also improve integration between housing, transport and land use policies and programmes in Mexico:

- ***Support integrated metropolitan planning as an urgent national priority.*** This is essential because cities have been growing most rapidly in their peripheries, and sprawl has led to very high levels of administrative fragmentation. For example, the Mexico City metro area spans 76 administrative units.<sup>246</sup> An OECD analysis found administrative fragmentation reduced urban economic productivity by 5–8% in a sample of OECD countries, but a metropolitan governance body could reduce this impact by 40–60%.<sup>247</sup> Prioritising the metropolitan scale in housing and transport investments will also help ensure a coordinated approach to achieving economic efficiency, affordability and access to opportunities for all. It is important to build capacity to enable local governments to proactively plan urban mobility interventions and link them to long-term land use plans and shared metropolitan objectives, with funding linked to their attainment.

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- **Encourage mixed land uses by supporting cities in reforming their zoning policies.** The federal government can support cities in updating their land use regulations so they require each neighbourhood to include green and open spaces, schools, health care and other services, as well as retail, and encourage mixed-use zoning to ensure a diversity of residential types, small-scale offices, light industrial spaces and community spaces. Once particular urban forms (e.g. low-density single-family detached housing) have been established, it becomes much harder to diversify land uses. However, for new developments and in denser inner-city areas, mixed uses can be promoted by updating zoning codes to mandate active and street-facing uses at ground level and providing subsidies for the types of land uses that would be most critical in meeting the needs of a particular neighbourhood (see Box 6).
  - **Ensure smaller cities have the tools they need for integrated planning and development.** Smaller municipalities have the fewest resources and are most at risk from land speculation, corruption and uncontrolled sprawl. Of the 401 cities in Mexico, 300 have fewer than 100,000 residents. Developing a toolkit of effective strategies to promote accessibility through integrated housing, land use and transport policies, paired with consistent financial, technical and capacity-building support, will make these cities more productive and improve quality of life. Many are growing fast and need to be supported before they become locked into high-carbon, inequitable development pathways. Often, modest investments can make a significant impact, such as investing in high-quality pedestrian and cycling infrastructure before car dependency becomes too entrenched.
  - **Prioritise urban regeneration over greenfield developments.** SEDATU should ensure that urban regeneration and redevelopment become key elements of national urban and affordable housing policies. Reusing existing urban land can help control urban sprawl, revitalise substandard and abandoned housing, improve the energy efficiency and sustainability of the built-environment, and repurpose abandoned or underutilised industrial land. The model could include more sustainable forms of transport and mixed-use developments as key points of reference. Upgrading informal settlements should also be a priority. For that, local governments could issue measures to strengthen credit assessments, underwriting and risk management. Initial loans could be used to improve informal structures so they can be used as collateral for further loans. Investing in improved urban infrastructure and services, especially better public and active transport, would allow for the upgrading of existing housing stock in informal areas and attract additional investment.<sup>248</sup>
  - **Promote minimum density standards for urban land use.** Municipal plans should contain policies to optimise the use of land in a way that meets the identified needs for housing and other types of development, particularly in city centres. Thus, land use planning would need to identify the need for different types of housing, local market conditions, the availability and capacity of infrastructure and services, and the desirability of maintaining the area's prevailing character in particular in historical centres. Minimum density standards should seek a

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significant uplift in the average of residential density, unless there are strong reasons that this is not appropriate. Minimum density standards should not be set across the board but should reflect each neighbourhood's accessibility, the availability of sustainable transport infrastructure and potential for development.

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**BOX 6      Building back better in the aftermath of COVID-19: from the two-hour commute to the 15-minute city**

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COVID-19 has accelerated a long-simmering debate about the need for a paradigm shift in how urban spaces are configured. A growing number of cities around the world, from Paris to Singapore, are embracing a model of radical accessibility that brings as many land uses as possible into a single area to create a “15-minute city” where all residents can meet most of their daily needs within a short walk or bike ride from home.

For large Mexican cities where hour-long commutes are the norm, this may seem utopian. But many Mexican cities are actively developing, and can still be shaped to be more compact and connected. By challenging the prevailing planning orthodoxy of separating residential areas from workplaces and services, Mexico can start to break the cycle of sprawling, car-dependent cities. It is more challenging to densify and diversify the existing urban fabric, but urban revitalisation projects provide key opportunities. Projects to foster the social creation of habitat can also explicitly embrace this approach.

**The core principles of a 15-minute city**

- Residents of every neighbourhood have easy access to goods and services, particularly groceries, fresh food and health care.
- Every neighbourhood has a variety of housing types, of different sizes and levels of affordability, to accommodate many types of households and enable more people to live closer to where they work.
- Residents of every neighbourhood are able to breathe clean air, free of harmful air pollutants, and there are green spaces for everyone to enjoy.
- More people can work close to home or remotely, thanks to the presence of smaller-scale offices, retail and hospitality, and co-working spaces.<sup>249</sup>

Finally, Mexico needs to enhance its capacity for policy formulation and implementation. While such efforts can often require long-term investments, the government can begin to lay the groundwork. It is important to:

- ***Conduct capacity-building activities for municipalities and states to help them improve their housing, land use and mobility planning.*** Municipalities, supported by state governments, have key roles to play in the successful implementation of the PNV. It is essential that SEDATU support their efforts to implement housing, transport and wider urban development policies by sponsoring workshops, discussion forums and technical seminars and providing educational materials to improve the technical and legal knowledge of municipal staff. Virtual courses could complement these efforts, as they reduce costs and are even feasible to take place during the COVID-19 period.

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- ***Improve data collection and statistical services to understand transport and housing needs and evaluate the success of new policy interventions.*** INEGI could support this by expanding data collection (including Origin-Destination Surveys) to all major urban areas. This is not only beneficial for transport planning but also should be seen as a basic input for federal housing policies. Data on existing travel patterns and mobility behaviour is essential for housing organisations to define adequate levels of support for existing communities. Open data projects and other new technology solutions can also help collect and analyse more granular information on the impacts of different planning decisions (e.g. using traffic or transit system data). This can help inform location choices for future development, to ensure access to key services within a reasonably short walk or bicycle trip (see Box 4) or on an easy public transport ride.
  - ***Support the establishment of interdisciplinary urban planning education at public universities and other institutions.*** Only a few academic institutions in Mexico offer professional planning degrees, most of which are based at universities in Mexico City (i.e. the National Autonomous University of Mexico, El Colegio de México and the Metropolitan Autonomous University), Guadalajara and Monterrey. This contributes to the lack of civil servants with a well-rounded disciplinary background that exposes them to the critical and analytical thinking skills required to deal with the complexities of urban development. Urban planning research and education should also respond to the actual needs of local administrations to create a stronger link between academia and the public sector. To further improve institutional capacity for urban planning and development, Mexico could also leverage planning institutes to strengthen capacity for urban planning at municipal and metropolitan level.
  - ***Professionalise the public workforce at all levels of government to promote better urban policy-making.*** Mexico struggles with an inadequate civil service system – particularly in municipalities, where the public workforce changes almost entirely every three years with new elections. The current system accords subnational government officials a lower status, including lower salaries, fewer chances for advancement, no job security and few opportunities for targeted training. Many of these problems are also experienced by public servants at the national level. Mexico can address these issues, in collaboration with subnational governments, by taking steps to professionalise the local public workforce – for instance through strategic workforce planning, a greater focus on merit, introduction of a certification of competencies, targeted training, the possibility to make a career in municipal public administration and measures to ensure ethical conduct.

**Table 3. Summary of priority national reform recommendations that would facilitate more compact, connected, clean and inclusive Mexican cities**

| PRIORITY POLICY REFORMS                                                                                                                                       | POLICY FOCUS | TIMEFRAME            | KEY IMPLEMENTING AGENCIES                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------|------------------------------------------------------|
| <b>Institutional and governance reforms</b>                                                                                                                   |              |                      |                                                      |
| Operationalise reforms to the General Law on Human Settlements, Land Use and Urban Development                                                                | Integrated   | Short term           | SEDATU, INSUS                                        |
| Link urban development policies explicitly to federal climate and environmental policy                                                                        | Integrated   | Short term           | SEDATU, SEMARNAT, SHCP                               |
| Implement the recently published National Land Policy (PNS)                                                                                                   | Integrated   | Short to medium term | SEDATU, INSUS, state and municipal governments       |
| Adopt a national urban policy with clearly defined roles and a mechanism to coordinate planning and collaboration across sectors and levels of government     | Integrated   | Long term            | SEDATU                                               |
| Expand and properly fund the Metropolitan Coordination Directorate within SEDATU so it explicitly covers metropolitan transport planning.                     | Transport    | Short term           | SHCP, SEDATU                                         |
| Clearly assign responsibility for inter-urban and intra-urban transport at the national level                                                                 | Transport    | Short term           | SEDATU, SCT, SEGOB                                   |
| Promote renting and multi-family homes as much as single-family homeownership, recognising their respective benefits                                          | Housing      | Short to medium term | SEDATU, CONAVI, INFONAVIT, FOVISSSTE, SHF, INSUS     |
| Clarify the division of responsibilities among the different actors in the housing policy field                                                               | Housing      | Short term           | SEDATU, SFP                                          |
| <b>Funding and financing reforms</b>                                                                                                                          |              |                      |                                                      |
| Align federal transport spending with mode share so the percentage of the budget allocated to walking, cycling and public transport corresponds to actual use | Transport    | Medium term          | SHCP, SCT, SEDATU, municipal governments             |
| Reform the rules of operation of existing federal funds to prioritise investment in sustainable mobility projects                                             | Transport    | Short term           | SHCP, SEDATU, SCT, SEMARNAT                          |
| Ensure financing programmes make an array of housing tenure options affordable, with particular focus on low-income households                                | Housing      | Medium term          | SEDATU, CONAVI, INFONAVIT, FOVISSSTE, SHF            |
| Provide incentives to make social housing attractive to private developers                                                                                    | Housing      | Medium term          | SEDATU, CONAVI, INFONAVIT, SHF                       |
| <b>Reforms that support integrated policy-making across other levels of government</b>                                                                        |              |                      |                                                      |
| Support integrated metropolitan planning as an urgent national priority                                                                                       | Integrated   | Medium term          | SEDATU, SHCP, SEGOB, municipal and state governments |
| Encourage mixed land uses by supporting cities in reforming their zoning policies                                                                             | Integrated   | Medium to long term  | SEDATU, INSUS, municipal and state governments       |
| Conduct capacity-building activities for municipalities and states to help them improve their housing, land use and mobility planning                         | Integrated   | Short term           | SEDATU, municipal and state governments              |

**Note:** Timeframe denotes the feasibility of implementing the policy recommendations in the short- medium- or long-term. Key implementing agencies are those that will be involved in the implementation of the recommendations.

## ANNEX 1: HOUSING POLICY INSTRUMENTS AFFECTING URBAN FORM AND AFFORDABILITY – RECOMMENDATIONS FOR MEXICO

This table presents a series of policy instruments that could have an impact on compactness and inequality. They are divided into three categories: (i) policy instruments affecting use of land for housing development, thus affecting the general housing market; (ii) policy instruments mainly affecting the owner-occupied housing market; and (iii) policy instruments mainly affecting the rental housing market. The table highlights whether their adoption in the Mexican context would be recommended or not.

| POLICY INSTRUMENTS                                                                                             | OBJECTIVES                                                                                                                                                                                     | IMPACT ON COMPACTNESS                                                                                                                                | IMPACT ON INEQUALITY                                                                                                                                                               | IS IT RECOMMENDED TO MEXICO?                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Policy instruments affecting use of land for housing development</b>                                        |                                                                                                                                                                                                |                                                                                                                                                      |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                               |
| Split-rate taxes/differential tax rates on land values/progressive property taxes for underused or vacant land | Incentivise property owners to build on (or improve) their properties while disincentivising land speculation                                                                                  | If well designed and adequately targeted (e.g. taxes on land should be higher than taxes on buildings), split-rate taxes reduce incentive for sprawl | Neutral (effect on housing prices is mixed)                                                                                                                                        | It is not in the legislation. However, implementing progressive property taxes for underused or vacant intra-urban land and housing would be a way to contribute to compact development.                                                                                                      |
| Impact fees                                                                                                    | Internalise cost of infrastructure provision (i.e. recover the social cost of conversion to housing), by charging developers/land owners for the cost of infrastructure for their developments | More dense and less fragmented development as incentives to build near existing stock increase                                                       | Typically positive as it prevents windfall gains to landowners (for developing their land without providing necessary infrastructure)                                              | It exists partially in legislation, mostly when transforming communal land into developed land. Mexico could make better use of fully adopting impact fees, and analyse the possibility of having higher rates in remote areas to incentivise developing closer to already developed land.    |
| Development tax                                                                                                | Internalise the social and environmental loss of open space by levying tax on land that is converted from agricultural to urban use                                                            | Less sprawl, as it provides disincentives to land owners for land conversion                                                                         | Improved equality through capturing and redistributing land owners' benefits to urban residents in general if the tax revenue is used for mitigating social and environmental loss | Not contemplated in legislation, but Mexico may wish to consider its introduction to incentivise more intra-urban development and urban regeneration projects. The tax must reflect the real cost of development. The aim is that the costs for all services the city provides are recovered. |



| POLICY INSTRUMENTS                                                  | OBJECTIVES                                                                                                                                                                                                                                            | IMPACT ON COMPACTNESS                                                                                                                                                            | IMPACT ON INEQUALITY                                                                                                                                                            | IS IT RECOMMENDED TO MEXICO?                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tradable/ transferable development rights                           | Compensate restricted development rights by allowing a right to develop a parcel to be transferred to another parcel; often used to preserve historical buildings                                                                                     | May not directly reduce sprawl but can produce more dense development if restricted rights in urban fringes are traded to urban centres; the correct cap needs to be established | Uncertain impact on inclusiveness; this depends on the initial state of regulation and allocation of development rights                                                         | If implemented correctly, this instrument may help in redeveloping and preserving historical centres. Government may give development rights to people to build in other zones when the public interests is affected by building in conservation zones, for instance.     |
| Urban growth boundaries/ urban service boundaries                   | Contain sprawling housing development by physically limiting developable fringe areas                                                                                                                                                                 | Less sprawl and more dense development, but more sprawl and more fragmented if boundaries are not drawn properly or updated periodically                                         | Increased inequality through increased housing prices                                                                                                                           | This does not exist in Mexican legislation but it is not recommended to use it as it may give room for speculation unless proper planning takes place.                                                                                                                    |
| Greenbelt                                                           | Designate areas of open space surrounding urban areas (or certain parts outside urban areas) that act as physical boundaries against city expansion                                                                                                   | Less sprawl and more dense development, but fixed greenbelts are likely to lead to leapfrogging (development outside the greenbelts)                                             | Increased inequality through increased housing prices                                                                                                                           | This does not exist in Mexican legislation and it may not be recommended as it may foster speculation increasing land and house prices in central areas. Having better reserve land plans would be advisable.                                                             |
| Tax breaks/ supplementary subsidies for density/access requirements | Incentivise housing development with higher density/ floor-to-area ratio and with better access by tax breaks/ subsidies; used in areas where densification needs to be encouraged (e.g. near public transit infrastructure or high employment areas) | Less sprawl and more dense development                                                                                                                                           | Increases affordable housing stock; access requirements can increase inequality through housing cost overburden (higher grants and subsidies can capitalise into higher prices) | This may be a valuable instrument to foster densities in central areas such as the urban corridors planned to be redeveloped in Mexico City. But they may also be another incentive to build homes with larger spaces adapted to the needs of average Mexican households. |

| POLICY INSTRUMENTS                                                                                                                    | OBJECTIVES                                                                                                           | IMPACT ON COMPACTNESS                                                                                                                                                                                                                                  | IMPACT ON INEQUALITY                                                                                                                                                                                                                                                                                                                     | IS IT RECOMMENDED TO MEXICO?                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Policy instruments mainly affecting the owner-occupied housing market</b>                                                          |                                                                                                                      |                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                    |
| Grants for buying or constructing a new home                                                                                          | Increase access to housing; alleviate housing cost burden                                                            | Less compact if preference is given to single-family home projects                                                                                                                                                                                     | In theory, it should improve inclusiveness, but this is typically not observed; increased inequality through housing cost overburden (unless restrictions on mortgage uptake are in place); if targeting is weak this mostly benefits higher-income households                                                                           | In Mexico this has been the subsidy for housing or the mortgage credits from public lenders like INFONAVIT. These have favoured home-ownership in single-family homes. It is not recommended to introduce grants for home ownership at this stage, unless they are for the exclusive used in central areas and for social housing. |
| Mortgage interest deduction                                                                                                           | Allow taxpayers to own their homes and bring positive externalities to their communities                             | Increase in space per capita consumption/ shared of single-family homes in peripheral areas (more in places with rigid housing supply)                                                                                                                 | Increased inequality when beneficiaries are high-income households that benefit from large tax deductions/ higher through higher housing prices in places with rigid housing supply                                                                                                                                                      | Not recommended for Mexico as it would benefit mostly high-income households. It might be considered for beneficiaries of INFONAVIT or FOVISSTE mortgages in central areas.                                                                                                                                                        |
| Preferential tax treatment on home sales                                                                                              | Increase positive effects of homeowners in communities by promoting homeownership and increasing share of homeowners | No densification effect expected; higher space per capita consumption/ higher share of single-family homes in suburbs                                                                                                                                  | Overall increases inequality through lower-income households overburdened by housing costs; can have a positive impact on labour mobility as homeowners can sell homes more easily when needed.                                                                                                                                          | This instrument may be considered for households that have abandoned their houses located in remote areas to move to closer to the centre. They could be sold to government to integrate them into housing rental programmes.                                                                                                      |
| Construction of new housing to be sold at below-market prices (subsidies/ tax break for developers e.g. Low-Income Housing Tax Credi) | Ensure access to owner-occupied affordable housing by providing financial incentives to investors                    | More compact through regeneration and conversion of central housing stock or explicit subsidies for multi-family dwellings; less compact through development in peripheral areas, with maximum negative effects when combined with low occupancy rates | Decreased inequality through lower housing burden; increased inequality through lower-income households overburdened by housing costs and increased housing prices if social housing crowds out private housing; if developments are built at low-cost in areas with low connectivity this can lead to worse access to jobs and services | Mexico may wish to introduce this instrument only in cases of urban regeneration to foster compact development.                                                                                                                                                                                                                    |

| POLICY INSTRUMENTS                                                   | OBJECTIVES                                                                                                                                        | IMPACT ON COMPACTNESS                                                                       | IMPACT ON INEQUALITY                                                                                                                                                                                                    | IS IT RECOMMENDED TO MEXICO?                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Policy instruments mainly affecting the rental housing market</b> |                                                                                                                                                   |                                                                                             |                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                              |
| Regulations on tenant-landlord relationships                         | Address asymmetric information and/or unequal bargaining power between landlords and tenants                                                      | Neutral                                                                                     | Uncertain – may increase security of tenure and minimum quality standards of rental housing but decrease supply                                                                                                         | They do not exist in Mexican legislation and could be one of the first priorities to develop the rental market.                                                                                                                                                              |
| Rental housing allowances/rent subsidy vouchers/rent control         | Ease housing cost burden of renters by lowering rents                                                                                             | Neutral                                                                                     | Increased inequality if allowances are based on share of income or rent; when targeted to specific groups; or eligibility is not periodically reassessed; may increase access to affordable housing but decrease supply | Mexico may need to legislate on how to determine the subsidy for rent; one possibility is use of households' income as a base. It should be targeted to low- to medium-income households.                                                                                    |
| Permanent use of social housing for rent in central areas            | Create a pool of social housing units to be leased out to eligible vulnerable households through a below-market use contract                      | More compact if housing is located in more central areas                                    | Decreased inequality through increased access to social rental housing                                                                                                                                                  | It is not contemplated in the legislation but Mexico may wish to consider introduction. The challenge may be to ensure social rental housing is available in central areas. It may be necessary to combine it with other instruments such as the subsidy for rental housing. |
| Inclusionary zoning                                                  | Ensure access to owner-occupied housing by reserving new housing for rent at below-market price levels (often for certain periods, e.g. 20 years) | More compact if housing is located in more central areas compared with social housing stock | Decreased inequality through lower housing costs; housing quality may degrade if rentals are kept at low rents                                                                                                          | It is partially use already in Mexico through the PUC. The central perimeters may be designated as inclusionary zones. The on-going revision of the PUC may serve to consider designating the central zones as inclusionary for rental housing.                              |

**Note:** Information for Mexico (right-most column) based on the results of seminar on Housing for Everybody and Sustainable Urban Mobility held in Mexico City on 22 October 2019 in the framework of the Forum for Urban Transformation: Better Cities for Everyone, organised by WRI Mexico and SEDATU.

**Source:** Based on Moreno-Monroy, A. et al., 2020. *Housing Policies for Sustainable and Inclusive Cities: How National Governments Can Deliver Affordable Housing and Compact Urban Development*. Coalition for Urban Transitions, London and Washington, DC

## ANNEX 2: TRANSPORT POLICY INSTRUMENTS AFFECTING 3C+I URBAN DEVELOPMENT – RECOMMENDATIONS FOR MEXICO

The following tables explore the flagship policy instruments tested with global and Mexican experts in a bit more detail and highlight the current status of these interventions in the Mexican context as well as providing specific recommendations around federal government action. The tables are broken down into regulatory, economic and information-based instruments as well as wider governance reforms.

### REGULATORY TRANSPORT POLICY INSTRUMENTS TO PROMOTE 3C+I CITIES

| Policy intervention                            | Description of policy intervention                                                                                                                                                 | Benefits for compact and connected cities                                                                                                      | Recommended Mexican federal government action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parking standards (5)                          | Many jurisdictions have minimum parking requirements; eliminate such minimums and instead set maximum amounts of parking allowed for new developments                              | Parking takes up a lot of space that can be freed up for other uses; limited parking also encourages walking, cycling and public transport use | Federal government should provide guidance on how states can amend their construction codes to move from minimum to maximum parking standards and curtail development of new off-street parking (following example of Mexico City but very carefully setting the maximum standards). Such reforms should be paired with developer levies that require investment in public and active transport for new developments.                                                                                                                |
| Smart regulation of mobility-as-a-service (10) | National regulation that enables multi-modality and integrated ticketing, avoiding new mobility service monopolies and securing transitions towards autonomous and shared vehicles | Ensuring that new transport technologies are adapted to meet sustainable urban development objectives instead of the opposite.                 | To date, only 7 out of the 20 biggest metro areas explicitly consider new transport operators in their mobility laws and only 3 cities have created specific requirements regarding how these new platforms should interface with the municipal transport system. The federal government could provide guidance regarding how these new operators and technologies should be regulated at the local level.                                                                                                                           |
| Licence plate-based restrictions (15)          | Bar vehicles with certain licence plate numbers (e.g. odd- or even-numbered, or commercial registrations) from accessing the city centre on certain days or at certain times       | Reduces congestion by limiting the number of vehicles operating on city streets                                                                | This policy instrument, also known as road-space rationing, has been tested in Mexico City and Mexico State for 30 years, where vehicle use is restricted during weekdays, based on registration plates (Hoy no Circula). The policy has had mixed results and roll-out in other cities makes sense only if enforcement is strict and alternative transport options are available – focus of government should therefore be on expanding public transport infrastructure and other measures such as high-occupancy vehicle lanes.    |
| Freight management and consolidation (7)       | National guidelines that regulate the movement of trucks in inner cities and require that logistics centres be situated on the outskirts of cities                                 | Reduces congestion and improves road safety and air quality                                                                                    | Urban road freight is only loosely regulated in Mexico and large trucks entering inner cities cause pollution, road safety issues and congestion. The federal government should tighten emissions standards for trucks, adopt regulation on hours of service for drivers and increase enforcement capacity for these new standards. It should also develop a national urban freight strategy that encourages construction of logistics centres on outskirts of cities and restricts large lorries in inner cities during peak hours. |

| Policy intervention                      | Description of policy intervention                                                                                                                      | Benefits for compact and connected cities                                                                                         | Recommended Mexican federal government action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Speed limits (9)                         | Reduce national speed limits, e.g. to 30 km/h on all urban roads and 80 km/h on all urban highways                                                      | Improves road safety, air quality, public space and liveability                                                                   | Currently, speeds limits on urban roads in Mexico range from 20 km/h to 80 km/h although this differs between states. 20 km/h zones are reserved for areas outside schools and hospitals and most primary roads still have speed limits of 50 km/h or more. The federal government could introduce stricter speed limits that bring speeds down to 30 km/h on all urban roads that are not highways.                                                                                                                                                         |
| Fuel economy and emission standards (16) | Raise standards to considerably more ambitious levels                                                                                                   | Reduces air pollution and GHG emissions from vehicles                                                                             | Despite the fact that Mexican fuel economy and emissions standards have been tightened in recent years and there is an ambition to harmonise with US standards by 2021, Mexico is still lagging behind most OECD countries when it comes to efficiency standards and future targets for cars and trucks. In addition to aligning the emissions standards with international best practice, Mexico should consider introducing vehicle taxes based on the environmental performance of the vehicle, to encourage people to invest in the most efficient cars. |
| Enforcement regimes (19)                 | Strengthen enforcement of speed limits, driving restrictions and parking regulation (through better technology, human resources and appropriate fines)  | Ensures that existing laws are effectively implemented and can thus fulfil their purpose                                          | Proper enforcement of regulations, including speed restrictions and parking regulations, continues to be a challenge, especially since this is mostly the responsibility of states and municipalities, and a lack of resources and human capital can make consistent enforcement difficult. The national government should support local governments through training for law enforcement and federal funding of enforcement infrastructure (e.g. speed cameras, parking meters) should be expanded.                                                         |
| Highway codes and road standards (14)    | Reform existing national highway codes and road standards to enable more flexible urban street design (e.g. reducing road width and speed requirements) | Ensures roads in urban areas can be designed to meet local needs, including safety and accessibility for pedestrians and cyclists | The new Road Design Manual for Mexican Cities that was launched in 2018 is a promising step in the right direction, and for the first time clearly prioritises non-car transport modes in cities. The training SEDATU is offering to state transport planners is an important initiative that should be expanded. In addition to providing this training, funding to enable local administrations to implement the guidance from the new road design manual will be important to ensure it is effectively rolled out across the country.                     |

## ECONOMIC TRANSPORT POLICY INSTRUMENTS TO PROMOTE 3C+I CITIES

| Policy intervention    | Description of policy intervention                                                                                                                                                                           | Benefits for compact and connected cities                                                                | Recommended Mexican federal government action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Road pricing (18)      | Charge for the use of inter- and intra-city roads through different forms of user fees                                                                                                                       | Fees incentivise modal shift and generate revenue for better urban transport services and infrastructure | Mexico has around 9,000 km of toll roads so there is already a precedent for road pricing. Road user charging remains focused on large motorways and has so far not been applied in an urban context beyond the segundos pisos (flyovers) in some cities. It is seen as politically challenging to implement. However, local governments already have the powers to introduce time- and/or location-based road user charging. Improved metropolitan transport coordination in some of the larger Mexican cities may provide opportunities to introduce road pricing and the federal government could help cities in assessing the costs and benefits as well as technical and infrastructure requirements of road pricing.                                                                 |
| Land value capture (4) | Enable governments to raise revenue from increases in property values and/or business income owing to public investment (e.g. a metro line expansion), and use it to finance public transport infrastructure | Increases available funding for public transport projects and other urban services                       | The reform of the Law on Human Settlements explicitly mentions the importance of LVC as an instrument in developing more equitable cities, yet a number of political, administrative and technical barriers have so far prevented more widespread adoption. Federal government should support local governments in institutionalising LVC mechanisms, ensuring large-scale public investment in new infrastructure can be co-financed through this new revenue stream. To dispel misconceptions and ensure effective implementation, the government should provide training programmes for states and municipalities to educate them on how LVC could be applied in their jurisdictions and how to create the correct information base (e.g. mapping existing land values) to enable this. |
| Fuel subsidies (11)    | Eliminate national subsidies for all non-renewable transport fuels (including diesel)                                                                                                                        | Makes alternative means of transport more cost-competitive and reduces air pollution and GHG emissions   | Mexico has a long history of fuel subsidies, which are often promoted as a fiscal measure that supports poorer households, even though evidence shows that the most low-income families do not have access to a car and therefore do not benefit from gas and diesel subsidies. Although consumer subsidies have been reduced in recent years, subsidies benefiting oil and gas companies remain. To correct for the many negative externalities resulting from excessive car use and to support investment in public and active transport, the federal government should fully eliminate all fossil fuel subsidies and instead introduce or increase green taxes (e.g. gasoline tax, CO <sub>2</sub> tax, vehicle ownership taxes).                                                       |



| Policy intervention                  | Description of policy intervention                                                                                                   | Benefits for compact and connected cities                                    | Recommended Mexican federal government action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operational budget reallocation (12) | Adjust national transport budgets to increase spending on the maintenance and operation of public and active transport services      | Ensures public and active transport operations are well funded               | In addition to increasing infrastructure budget reallocation towards more active and public transport, it is also important to support the maintenance and operation of existing transport services. Many Mexican cities struggle with ongoing maintenance of their public transport fleet as well as neglect of sidewalks and cycle infrastructure, discouraging their greater use. Ensuring sustainable mobility infrastructure is continuously maintained is thus essential and any infrastructure projects initiated with federal funding should have a clear plan for how operational costs will be covered in the long run. |
| Tax breaks for automobiles (13)      | Eliminate any national tax breaks that incentivise the purchase of new personal or company vehicles or subsidise the cost of driving | Makes car ownership less attractive                                          | Most Mexican states either do not charge vehicle ownership taxes or subsidise them heavily. To correct for the many negative externalities resulting from excessive car use and to support investment in public and active transport, the federal government should encourage an increase in state vehicle ownership taxes, but this needs to be accompanied by measures to address corruption and build public trust that the tax income is well spent.                                                                                                                                                                          |
| New vehicle registration (20)        | Limit the registration of new vehicles, either through a fixed ceiling with lottery or via licence plate auctioning                  | Limits the number of cars added to roadways to match infrastructure capacity | There are no limits on the number of new vehicles that can be registered in Mexico and vehicle registrations have been rising steeply year on year. China is one of very few countries that have introduced limits on annual registrations or lottery systems; however, studies have shown a lot of rule-breaking. Strict enforcement is needed to guarantee effectiveness. At the moment, this policy instrument is not recommended for Mexico owing to limited evidence of its effectiveness in reducing congestion.                                                                                                            |
| Automobile import tariffs (21)       | Maintain automobile import tariffs at the highest levels applied over the past decades                                               | Makes car ownership less attractive                                          | Despite discussions of stricter import tariffs for used cars from the USA and Canada, Mexico has decided to continue to allow imports of these vehicles without charging import tariffs for at least another year. While higher import tariffs for used cars would ensure that the vehicle fleet in Mexico becomes cleaner, it can also encourage the purchase of new vehicles and continue to fuel growth of the domestic car market. Import tariffs need to be carefully considered and regularly reviewed to ensure they do not lead to counterproductive outcomes.                                                            |

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## INFORMATION-BASED TRANSPORT POLICY INSTRUMENTS TO PROMOTE 3C+I CITIES

| Policy intervention      | Description of policy intervention                                                                                                                                      | Benefits for compact and connected cities                                                     | Recommended Mexican federal government action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Statistical services (8) | Ensure national statistical services gather data on all modes of travel, measures of accessibility and information on the social costs of different transport modes     | Provides crucial data to help policy-makers align transport with urban development objectives | INEGI, the national statistical service, should be supported so it can expand data collection (including Origin-Destination Surveys) to all major urban areas. This is not only beneficial for transport planning but also should be seen as a basic input for federal housing policies. Data on existing travel patterns and mobility behaviour is essential for housing organisations to define adequate levels of support for existing communities. This is a relatively low-cost way the federal government could support urban development and develop a robust information base to inform decision-making. |
| Awareness campaigns (3)  | Launch national campaigns to raise public awareness of the consequences of different transport choices and the benefits of riding public transport, cycling and walking | Helps shift public perceptions to favour public transport and active options                  | The federal government can run country-wide awareness campaigns about important issues such as road safety but in most cases it should support local governments in developing targeted campaigns for their jurisdictions highlighting the benefits of public and active transport as well as educating individuals about the wider environmental and social impacts of their travel choices.                                                                                                                                                                                                                    |

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## GOVERNANCE REFORMS TO PROMOTE 3C+I CITIES

| Policy intervention                               | Description of policy intervention                                                                                                                                                    | Benefits for compact and connected cities                                                                           | Recommended Mexican federal government action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integrated national urban and transport plans (2) | Establish national frameworks that align strategic urban development with transport planning and facilitate sustainable urban mobility plans at the city level                        | Ensures transport planning is aligned with urban development and accessibility objectives                           | The federal government has started the National Process of Regulatory Harmonisation for Mobility, which aims to update and harmonise state laws on mobility and transport under a vision that focuses on human rights, road safety, territorial integration and climate change. While this is an important initiative, the federal government could go further and expand the technical capacity and accountability of local governments by tying financial support to core requirements such as the establishment of dedicated transport authorities that can develop their own sustainable urban mobility plans. This will ensure funding is aligned with long-term development objectives. This will require national-level guidance and continuous support to ensure new institutions and strategies are fully integrated in the wider urban planning system.                                                                                                            |
| Metropolitan strategic transport governance (6)   | Bundle key transport governance powers (fiscal, decision-making, infrastructure delivery and operations) at the metropolitan level                                                    | Helps ensure a coherent approach to multi-modal transport for connected urban development                           | The federal government has recognised the importance of metropolitan planning, including in the context of transport planning. A few large metro areas such as Guadalajara have made meaningful progress towards integrated transport governance, although these initiatives are in their infancy and would benefit from sustained federal support and guidance. Given that cities have been growing most rapidly in their peri-urban areas, the need for integrated metropolitan planning, and in particular transport integration, is particularly urgent. In addition to clarifying the support metropolitan areas will receive from the federal level, an important focus needs to be on how local level planning and implementation capacities can be strengthened to give local governments the tools to proactively plan critical urban mobility interventions and link them to long-term land use plans that ensure cities grow in a sustainable and accessible way. |
| Appraisal methods (17)                            | Reform appraisal methods for transport infrastructure projects to enable a shift away from “predict and provide” and travel time savings to a focus on accessibility-oriented metrics | Ensures the viability of transport projects is gauged by metrics that align with compact and connected urban growth | The federal government should support the reforming of appraisal methods so they consider accessibility as a critical outcome across all new transport and housing projects supported by the federal government. This will ensure these projects increase access to opportunities, especially for the most vulnerable urban dwellers. In the context of finite resources, rigorous appraisal methods for new projects are also a good way of prioritising very limited budgets and could help inform the federal housing programme in terms of the most appropriate location for new developments.                                                                                                                                                                                                                                                                                                                                                                           |

**Note:** Information for Mexico (right-most column) based on the results of the seminar on Housing for Everybody and Sustainable Urban Mobility held in Mexico City on 22 October 2019 in the framework of the Forum for Urban Transformation: Better Cities for Everyone, organised by WRI Mexico and SEDATU.

**Source:** Based on Rode, P et al., 2019. *National Transport Policy and Cities: Key Policy Interventions to Drive Compact and Connected Urban Growth*. Coalition for Urban Transitions, London and Washington, DC

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## ANNEX 3: NATIONAL-LEVEL BODIES WITH A ROLE IN HOUSING POLICY

| National-level body                                                                     | Responsibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Secretariat for Agrarian, Territorial and Urban Development, SEDATU                     | Responsible for regularising land ownership, promoting an orderly and planned use of the territory, enhancing urban development, coordinating and financing regional and urban development, coordinating urban and metropolitan planning, promoting the construction of regional and urban infrastructure and exercising the right of expropriation on the benefit of public interest. Coordinates actors at all levels of government and from the private and social sectors.                                                          |
| Secretariat for Environment and Natural Resources, SEMARNAT                             | In charge of issuing environment regulations for urban development and assessing the environmental impact of urban development projects. It develops the National Ecologic Planning and strategies for climate change mitigation, and collaborates with subnational governments in ecologic planning in rural lands.                                                                                                                                                                                                                    |
| Secretariat for Welfare, SB                                                             | Designs, coordinates and implements the policy for social inclusion and the fight against poverty. Promotes the construction of infrastructure and equipment works to strengthen development and social inclusion, in coordination with the federal, state and municipal governments and with the participation of the social and private sectors. It manages the Contribution Fund for Social Infrastructure (FAIS), which seeks to provide better access to basic public services and home improvements in low-income neighbourhoods. |
| National Housing Commission, CONAVI                                                     | Coordinates, promotes and implements the national housing policy and the National Housing Programme of the federal government. Its aim is to guarantee access to housing for Mexican families and enhance the development of sustainable housing.                                                                                                                                                                                                                                                                                       |
| National Institute of Sustainable Land, INSUS                                           | Plans, designs, directs and executes programmes, projects, strategies, actions, works and investments related to land management, with territorial, planned and sustainable development criteria. Its main purpose is to create a National Land Policy in accordance with the New Urban Agenda, within the framework of the Law on Human Settlements, to address the causes of irregular land occupation, facilitating and managing the production of soil suitable and well located for development.                                   |
| National Workers' Housing Fund Institute, INFONAVIT                                     | Manages the resources of the National Housing Fund and operates a financing system to allow workers from the private sector to access cheap credits to buy, build, improve and rent properties.                                                                                                                                                                                                                                                                                                                                         |
| Housing Fund of the Social Security and Services Institute for State Workers, FOVISSSTE | Operates a financing system for the mortgage credits of federal public workers affiliated to the institute.                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Social Security Institute for the Armed Forces, ISSFAM                                  | Aims to provide social and economic benefits, including mortgage credits to members of the Mexican Armed Forces and their beneficiaries, as well as health benefits to retired military personnel, pensioners and beneficiaries.                                                                                                                                                                                                                                                                                                        |

| National-level body                                                                     | Responsibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Federal Mortgage Corporation, SHF                                                       | A financing institution that is part of the development banking system. Its aim is to promote primary and secondary housing credit markets through guarantees for the construction, acquisition and improvements to, in particular, social housing; the increment in the productive capacity and technological development related to housing; and the financing related to the equipment of housing complexes ( <i>conjuntos habitacionales</i> ).                                                                                                                                                                                                                                                                                                                                                                                        |
| FOVI                                                                                    | It is in charge of the Operation and Finance Housing Fund, which aims to provide financial support and guarantees for the construction and acquisition of social interest housing, channelling resources through financial intermediaries. It supports the sound development of the social interest housing sector through greater private sector participation in its financing.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| National Bank of Public Works and Services, BANOBRAS                                    | <p>An institution, part of the development banking system, that finances or refinances public and private investment projects in infrastructure and public services. It plays a key role in the financing of social basic infrastructure to improve the living conditions of the population, but also infrastructure aimed to raise competitiveness and development by financing projects of high rentability.</p> <p>BANOBRAS operates the National Infrastructure Fund (FONADIN), a coordination vehicle of the Federal Public Administration for investment in infrastructure, mainly in communications, transportation, hydraulics, environment and tourism, which assists in the planning, promotion, construction, conservation, operation and transfer of infrastructure projects with social impact or economic profitability.</p> |
| National Water Commission, CONAGUA                                                      | Aims to preserve national waters for their sustainable management and ensure water security with the responsibility of all levels of government and society in general.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Federal Electricity Commission, CFE                                                     | Among other things, guarantees open access to the National Transmission Network and General Distribution Networks, efficient operation of the electricity sector and competition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| National Council of State Housing Organisms, CONOREVI                                   | Represents, coordinates and supports the State Housing Organisms (OREVIS) to work with the federal authorities responsible for the formulation of housing, urban development and territorial policies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| National Chamber of the Industry for the Development and Promotion of Housing, CANADEVI | Represents 80% of the real estate developers in Mexico and works with the federal government in the promotion of housing development.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**Sources:** OECD (2015), *OECD Urban Policy Reviews: Mexico 2015: Transforming Urban Policy and Housing Finance*, OECD Publishing, <http://dx.doi.org/10.1787/9789264227293-en>; Ley Orgánica de la Administración Pública Federal 1976; Ley General de Asentamientos Humanos, Ordenamiento Territorial y Desarrollo Urbano; INSUS <https://www.gob.mx/insus/articulos/objetivos-estrategicos?idiom=es>; FOVISSSTE: <https://www.gob.mx/fovissste>; ISSFAM <https://www.gob.mx/issfam/que-hacemos>; National Housing Fund <http://www.fovi.gob.mx/default.htm>; FONADIN <https://www.fonadin.gob.mx/fni2/acerca-del-fonadin/>; CONAGUA <https://www.gob.mx/conagua/que-hacemos>; CFE <https://www.cfe.mx/acercacfe/Quienes%20somos/Pages/conceptocfe.aspx>; BANOBRAS: <https://www.gob.mx/banobras>; CONOREVI: <https://conorevi.mx/>; CANADEVI: <https://www.canadevi.com.mx/>

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## ABOUT THE COALITION FOR URBAN TRANSITIONS

The Coalition for Urban Transitions is the foremost initiative supporting national governments to secure economic prosperity and reduce the risk of climate change by transforming cities. The Coalition equips national governments with the evidence and policy options they need to foster more compact, connected, clean and resilient urban development. The Coalition's country programmes in China, Ghana, Mexico and Tanzania provide models for other countries on how to effectively develop national urban policies and infrastructure investment strategies.

A special initiative of the New Climate Economy (NCE), the Coalition for Urban Transitions is jointly managed by C40 Cities Climate Leadership Group and the World Resources Institute Ross Center for Sustainable Cities. A partnership of 35+ diverse stakeholders across five continents drives the Coalition, including leading urban-focused institutions and their practice leaders from major think-tanks, research institutions, city networks, international organisations, major investors, infrastructure providers, and strategic advisory companies.

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