MODEL FOR IMPLEMENTING TOD PROJECTS IN THE GUADALAJARA METROPOLITAN AREA (ZMG)

MEXICO LOW EMISSIONS DEVELOPMENT PROGRAM (MLED)
EXECUTIVE SUMMARY

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The Secretary of Agricultural, Territorial and Urban Development (SEDATU), with the support of the Secretary of Environment and Natural Resources (SEMANART), has begun to promote the adoption of Transit Oriented Development (TOD) in collaborations with the local governments of Mexico’s larger cities.

The goal of these initiatives is to incentivize cities to develop more planning and integration of transport and urban development policies, which will thus promote strategies for low-emissions development in Mexican cities. The implementation of a TOD policy has a high potential to mitigate emissions: a 10% increase in population density in areas connected to mass transport could reduce daily CO2 emissions by up to 7.4% (ITDP, 2015b).

It is in this context that ITDP has worked with SEDATU on a preliminary phase in the development of technical instruments to structure a TOD policy, thanks to the support of the Mexican Low-Emissions Development Strategy Program (MLED), financed by USAID. This phase focused on the development of the Guide for Implementing Transit Oriented Development Projects and Policies (ITDP, 2015a), a supporting document, Transit Oriented Development Instruments (ITDP, 2015d), an estimate of the impact of urban development policies on the reduction of greenhouse gases (ITDP, 2015b), and a critical path for implementing TOD in three metropolitan areas (Guadalajara, Aguascalientes y Valle de Mexico).

Of the three sites, Guadalajara was chosen as the pilot city for the second phase of the project, with a view to creating a model for implementing TOD projects in the Guadalajara Metropolitan Area (ZMG), which would be replicable in other cities in the country. The choice was based largely on the investments in sustainable mobility currently being made in the metropolitan area.
SUMMARY

The ZMG, the second most populated city in Mexico, has experienced sprawling, unplanned growth in the last few decades, its area expanding 381.5% between 1980 and 2010.

This growth pattern has led to a multitude of problems, one being the increasing and uncontrolled recourse to vehicles for personal use, which contributes to Greenhouse Gas emissions (GHG) – making mobility unsustainable, on top of causing other negative effects. To try to deal with this issue, local authorities are currently making significant investments in sustainable mobility, such as the extension and increase in capacity of the light rail transit’s lines 1 and 2, the construction of the light rail transit’s line 3, the extension of various routes of SITREN (the public bicycle sharing system), the upgrading of trolley units, and the implementation of 30 traffic calming zones, among other measures.
These mobility projects are moving towards achieving a sustainable city with low carbon emissions. However, there needs to be a direct link made with sustainable urban development planning in order that these measures be even more effective in the reduction of GHG emissions. There have been many recent developments in the Metropolitan Area of Guadalajara: the updating of the Metropolitan Area of Guadalajara’s Metropolitan Development Program; the Metropolitan Area of Guadalajara’s Urban Land-Use Plan; the creation of New Sustainable Urban Environments (or Special Urban Intervention Polygons) in the Guadalajara municipality; the investment in various sustainable urban mobility projects, such as those financed through the 2016-2018 Metropolitan Fund; and the recent approval of Jalisco’s Law for Action against Climate Change. This advancement opens the possibility to combine all the aforementioned developments into a single strategy, especially one based on the Metropolitan Planning Institute’s (IMEPLAN) ambition to solve the problems of a 4D city (dispersed, distant, disconnected, and uneven), while generating the necessary conditions to transition into a C3E city (with compact, close, connected, and fair communities) (IMEPLAN, 2016a). These measures are in line with the Assessment and Action Plan, elaborated by the UN for the ZMG (OUN, 2015).

Transit Oriented Development (TOD) strategies are the ideal complement for this objective, as they integrate mobility and urban development to improve accessibility, reduce commute times, and discourage car-use. For this reason, this document is focused on establishing a TOD implementation model and opportunities applicable for the ZMG.

The analyses that were carried out demonstrate that the areas around the mass public transit network have the necessary spatial conditions for TOD (low densities, vacant housing, diverse facilities, and mixed land-use). For example, in an 800-meter area around the mass public transit network there are 2,642 hectares, which could be re-densified, and 35,122 vacant dwellings, which together could accommodate up to a 52% population growth of the ZMG by 2030.

In addition, the conditions of the housing market are not entirely restrictive and present a variety of opportunities for establishing from social housing projects to value capture measures in order to generate areas that are connected to the mass public transit network. For example, the price of land per square meter in downtown Guadalajara is within the same range as the relatively low land prices in the periphery of Guadalajara.

An important element in the potential to implement TOD strategies is the construction of the light rail transit network’s line 3 (started in 2014 and projected to finish in 2017), as it will traverse three of the ZMG’s most important municipalities. In the municipality of Guadalajara, the light rail’s line 3 intersects with several other mass transit lines, especially in the center of the municipality. This area has the biggest potential to implement TOD strategies, as it has low
densities, a significant percentage of vacant housing, an abundance of diverse facilities, and various stations of the different transportation systems, including MiBici -- even though businesses compete with housing for space in the built environment.

It is important to emphasize that the construction of line 3 is close to high-value developments in the Financial Zone, Plaza Patria, which makes this an attractive zone for the creation of compensation measures that could finance the infrastructure necessary for making it a TOD zone. In the case of Zapopan, these opportunities are located around the historical center, while in Tlaquepaque, they are found around the periphery of the historical center and the bus terminal.

Along with these opportunities are the New Sustainable Urban Environments (or Special Urban Intervention Polygons), proposed by the Metropolitan Planning Institute and the municipality of Guadalajara. Many of the proposed areas are located around the Macrobus. These coincide with areas identified as having potential for implementation of TOD strategies. They are: Centro Histórico, Parque Agua Azul Reforma, Zoológico, El Dean and Miravalle.
Furthermore, there are institutions in the ZMG that facilitate the aforementioned policy (such as the Metropolitan Planning Institute), as well as various public policy instruments, and programs for its financing. Nevertheless, these institutions are not aligned with the implementation of TOD strategies.

For this reason, the proposed implementation model is the use of different strategies that can either be used independently, or each one can provide the basis for the next (in cardinal sequence) to generate a series of nested strategies. The strategies are the following:

- Plaza Patria
- Parque Azul-Reforma
- Tlaquepaque
- Zapopan
- Zoológico
- El Dean
- Fray Angelino
- Ciudad Creativa Digital
- Zona Centro Histórico
- Special Urban Intervention Polygons

**Sources:** TOD / New Sustainable Urban Environments (or Special Urban Intervention Polygons)
There has been demonstrated progress in each of these strategies, as evidenced by various government-led developments: there is a proposed public investment in mass public transit; there are zoning regulations being made; and the NEUSPIUE are being proposed as controlled development polygons with TOD characteristics around public transit.

Nevertheless, it is important to underline that there are two more elements that will be necessary in order for this model to work. The first is to complement the resources from the Metropolitan Fund, whether through federal or local funds, through value capture measures, or through private initiative associations. The second is that a series of secondary legislation modifications is necessary. These modifications would need to discourage car-use while reducing the costs of housing, such as the implementation of maximum parking requirements for new social housing around mass public transit.

Finally, it is possible that a social housing model around mass public transit could be pushed, with the following characteristics: vertical housing; housing units with different typologies; active frontage; space for bicycles; few parking spaces or only those required for people with disabilities; contributing to improvements to the surrounding area; among others.

Continuing on this path will pave the way for a TOD implementation model for the Guadalajara Metropolitan Area that can be replicable in the rest of the country. The ZMG could be the first city in Mexico to integrate urban development and sustainability policies, which can be used to plan the route for the implementation of low-emission strategies, allowing for the accomplishment of national and international goals to fight climate change.

Final document can be found at: http://itdp.mx/dotmx/
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