

Revert or readjust?

Designing mobility for liveable and social cities

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MANILA



About this series

A lot of money has been spent on transport infrastructure and services worldwide in recent decades. The aim was to enable people to participate in social and economic life and to ensure the functioning of businesses. This has certainly contributed to the economic development visible in many regions. However, since many things necessary for daily life and economic activity were centralised, dependence on the mobility system increased at the same time. The resulting longer journeys place a temporal and economic burden on people, and the increase in passenger and freight transport is a burden on societies through more noise, exhaust fumes, CO₂ emissions, accidents, and more.

In view of its importance and the negative social, ecological and economic consequences, mobility must change, and much more quickly and comprehensively than before. Cities in particular can set good examples in this respect.

Friedrich-Ebert-Stiftung (FES) examined four cities in Asia to see the current state of each city, how they plan to shape mobility in the coming years, how this plan is to be assessed and what leads can be derived from this particular strategy for other cities. The central question is how can a mobility system be designed in such a way that all people can participate in social and economic life, economic development is supported and negative effects for the society and the climate can be eliminated?

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METRO MANILA

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and social cities

December 2021

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List of Abbreviations

DHSUD Department of Human Settlements and Urban Development

EDSA Epifanio de Los Santos Avenue

GIZ Deutsche Gesellschaft für Internationale Zusammenarbeit

JICA Japan International Cooperation Authority

MMDA Metro Manila Development Authority

MRT 3 Manila Metro Rail Transit Line 3

NEDA National Economic Development Authority

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Executive Summary

The roads of Metro Manila are among the most congested in the world. Ambitious transport infrastructure plans have fallen to the wayside. Road spaces have become extremely limited due to the unregulated entry of jeepneys and buses onto the roads and the preponderance of cars. The middle-class households regard cars as a necessity not just because public transport is a daily physical battle but because the central business district and their own homes in gated residential enclaves are designed for cars.

Major shifts are underway. First, there is a costly plan to direct urban growth to new centres southward and to the north of Metro Manila via major rail and expressway projects. The transport projects aim to reduce private

motor vehicle use for long distance travel in and out of Metro Manila. The second is the modernization of the public utility vehicle fleets and the rationalization of routes so that fewer but more reliable public transport facilities would lead to a shift from car use. Third, active transport is a necessary complement to the modernization of public utility vehicles, but it is also a contentious battle for road space for bikers and pedestrians. Nothing can be taken for granted because the institutions and players that created the status quo are also in charge of the shift.

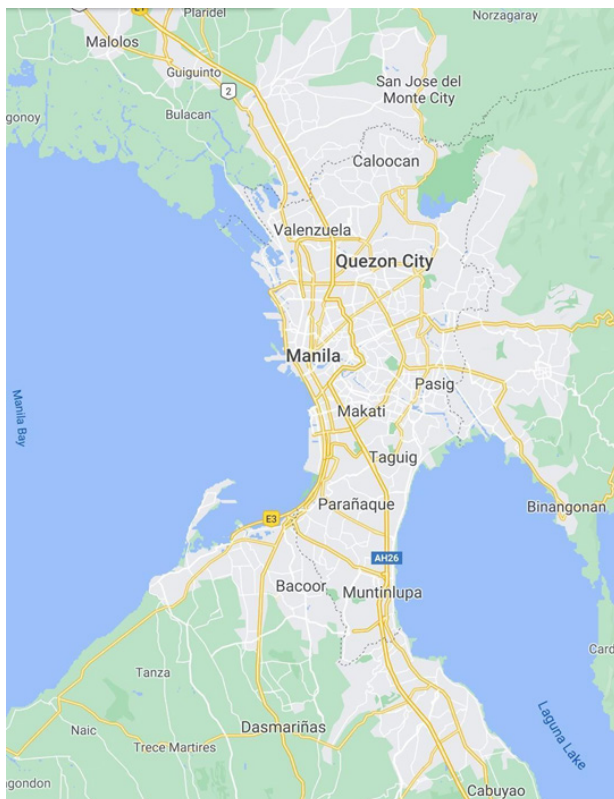
Introduction to Metro Manila

Metro Manila is the country's primary urban centre. In 2020, it had a population of more than 13 million on 620 square kilometres of land. It is as dense as Tokyo and Seoul but with 11 per cent of its population living in informal settlements, and almost half of them living in flood zones and near earthquake faults. Metro Manila's share in GDP rose above 40 per cent in 2015, from 31 per cent in 1990. Its economy, its environment and the life of its people spillover into the nearby provinces of Bulacan, Cavite, Rizal and Laguna, which have a combined population of more than 10 million.

Metro Manila has 16 component cities and one municipality, and they form a Council of Mayors of the Metro Manila Development Authority (MMDA), which convenes on matters of administrative coordination. The MMDA did not produce its own regional development plan until recently. National government agencies also have significant programmes in Metro Manila. The city of Manila is the historic capital and the country's premier port city, but there is no single central business location.

Figure 1: Map of Metro Manila

Source: Google Maps.



Makati city is the premier business district, which is home to the headquarters of multinational corporations. Other prominent business districts are Bonifacio Global City, Ortigas Center, Cubao Binondo and Alabang.

Looking back

The destruction of the historic port city of Manila during World War II led urbanization away from the colonial centre. There was no formal plan that led to the suburban residences and “fringe cities” for the rich. But this development, according to Hollnsteiner (1969), may have resulted from the desire of colonial administrators and businessmen to escape the noise and cramped conditions of the old city. This trend led to what were then semi-rural suburbs becoming Metro Manila's “multiple central business districts” of today.

The grand American planning paradigm was a configuration of ring roads and radial roads to and around the old city. A later plan centred around Quezon City was launched after the destruction of Manila and also as a signal of national independence. But the public infrastructure ambitions crumbled as other priorities ate away at the reserved lands and as fiscal difficulties set in. Manila regained its status as the capital city, but the private sector-led dynamic of post-war urbanization moved towards the suburbs and public investments merely followed.

The Japanese-led making-do-with-limited-space approach from the 1970s until today did not abide by the grand post-war plans. Rather, they first centred around addressing the emerging congestion in the main thoroughfares. The Japan International Cooperation Agency (JICA) proposed elevated interchanges and secondary roads to ease the flow of traffic, especially in avenues that can no longer be widened (JICA, 2009 and 2008).

To this day, the execution of the pre-war and post-war master plans for the city of Manila and Quezon City remain only half complete. Financial constraints, regulatory weaknesses as well as sociocultural factors led to the present gridlocks in Metro Manila and to the roads being dominated by cars going into the central business districts and gated villages of the gentry.

Metro Manila continues to pull in migrants from its hinterlands. City slums allow people to stay close to where work is available. The weaknesses in the public transport regulatory capacities have led to “free entry” into limited road space.

The Filipinos’ desire to buy their own cars and to live in their own gated communities has been a post-war cultural mainstay. That desire is reinforced by the sorry state of public transportation.

Paradigm shifts

The proposition of moving people instead of cars has been gaining ground in the past five years. The National Economic Development Authority (NEDA) recently formulated the National Transport Policy (NEDA, 2017). The most important operational programme of this policy is found in the implementation of the public utility vehicle modernization programme, which seeks to reduce emissions, modernize fleets, remove the excess number of buses and jeepneys on the roads and improve service standards so that people might shift away from individual car use.

Budgets were allotted for the first time to improve road-based public transport by retiring private jeepneys and buses and subsidizing the acquisition of more fuel-efficient public utility vehicle fleets. Previously, government spending was largely for road building and subsidies for a limited number of Metro rail riders.

COVID-19 and urban development and mobility

The COVID-19 pandemic has accelerated the demand for active transport: Cycling and walking became a necessity in the first year of the pandemic because the lockdowns coincided with a complicated revamping of public utility vehicle routes by the government. This expansion of active transport came about at the same time as private sector-led public transportation investments and entry into the roads of Metro Manila was ending, all in accordance with the Public Utility Vehicle Modernization Programme and National Transport Policy. Because of reform-induced vehicle shortages, ongoing reforms and the pandemic-

related physical distancing rules, the cost of transport to households increased by 17 per cent in 2020 (PSA, 2021).

Shifting preferences

The emergence of ride-sharing conveniences and the coming of age of environmentally conscious young people may be neutralizing the cultural preference for buying a car and a garage (Paronda et al, 2016). Cycling, too, is no longer for the working class. It is also being taken up by young people; and there is econometric evidence that people below forty years old have a lesser tendency to either own a car or to consume more fuel than people above forty (Rith et al, 2018).

The environmental zeitgeist in cycling also appears to be driving shifts in property development trends (Poco, 2020; Kleibert, 2019). And it is perhaps softening the “keep everyone else out of our residential enclaves” mentality of the rich and middle-class homeowners. The emergence of mid-rise and high-rise dwellings ensconced in open mixed-use mini cities may be setting a new trend.

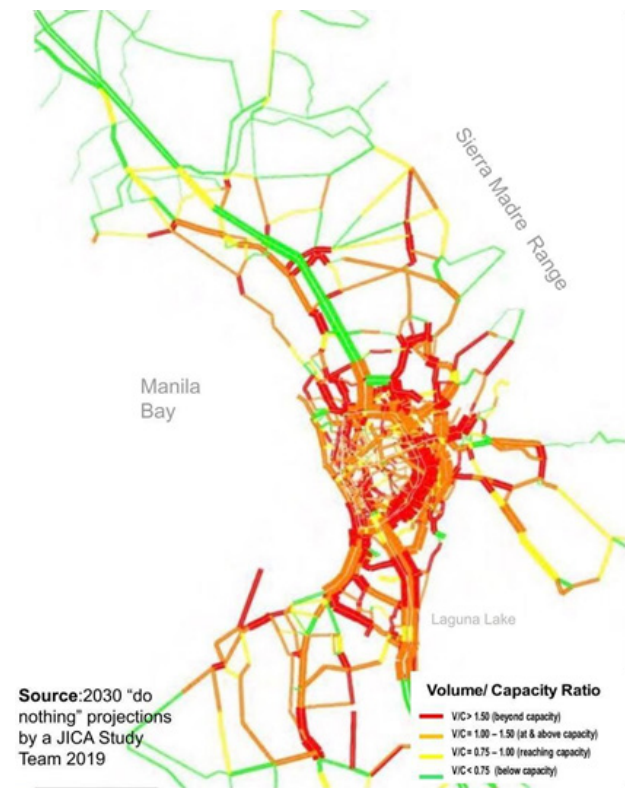
Players and the state–market nexus

The private sector property developers were a key player in shaping the “fringe cities” of post-war Manila into Manhattan (New York City) mimics. The private sector is now not only in property development but also in road, rail and airport building businesses. Many of the new roads and interchanges connect central business districts to each other. Within these districts, giant air-conditioned malls, offices and condominiums serve to “internalize” urban amenities inside walls (Kleibert, 2019; Kleibert and Klippers, 2016; Connel, 1999), in contrast to the more egalitarian and traditional mixed-use urban spaces of developed countries.

Local government units are nominally in charge of land-use planning. But once the property developers persuade a city council to rezone a certain area, say, from industrial to commercial use, the rest of the design of the urban enclave, including transport, is up to the developer. City route planning is assigned to city governments.

Since the 1990s, the central government agencies have been almost passive recipients of road and urban development proposals from the private sector. Figure 2 distils JICA analysts' anticipations of how things will end if nothing is done -- ubiquitous gridlocks shown (in red) by 1935 due to motor vehicle volumes rising at rates much faster than road capacities can. The daily economic costs of the congestion would then rise to \$111 million from the present \$72 million. But with the 2014 NEDA–JICA master plan, the government is poised to assert its own spatial and urban development priorities via the pace, the place and timing of publicly financed mass transport projects. The creation of the public utility vehicle modernization programme, despite implementation challenges and political pushback, has likewise put the state back in the driver's seat.

Figure 2: Transport road network and its various managers



Visions for a liveable & social city

Three visions

There are three kinds of transport visions in Metro Manila. Of them, the principles and programmatic expressions of the National Transport Policy's vision engage the attention and the energies of the public the most.

Disruptions and engagement born out of the new National Transport Policy. The two most important touch points of public engagement with this vision are the Public Utility Vehicle Modernization Programme, which promises reliable, comfortable and affordable rides for the public and expands the scope for active transport. Both the modernization programme and the expansion of active transport confront the central bias for private motorized transport that underpinned practically all past transportation initiatives in the Philippines.

And both of them promise a revision of priorities following a hierarchy that puts walking and cycling ahead of all other modes of mobility, followed by increasing the throughput of public transport that will move more people instead of private vehicles.

Induced innovations for active transport from the bottom up. The NEDA website says that key public consultations were launched in 2017 and 2018 for the formulation of the National Transport Policy. But it is also the subsequent bottom-up engagements by active transport advocates that, by many indications, are inducing the exercise of state authority for changes at scale (Sunio et al., 2021; Sidel, 2020). Examples of these are the establishment of active transport templates for engineering, traffic and infrastructure use regulation and the demonstration of how these templates are actually installed on the ground and used in practice.

In the coming years, second-generation bottom-up disruptions might also succeed as public demand rises for green and convivial urban spaces and land use after more people get out of their cars to walk and bike.

Legitimacy and necessity of collaborations in the public utility vehicle modernizing. The public utility vehicle modernizing started in a largely top-down fashion. The principles of the National Transport Policy quickly established the legitimacy of the mission to modernize the technology, the business models, the service standards and the regulation for re-entry into road-based public transportation. Transport sector organizers¹ were surprised by how the principles of the National Transport Policy provided them the basis for significant initial concessions in the size of the subsidies for acquiring replacements to the traditional jeepney fleets, safety nets for drivers and budgets for service contracting pilot projects during the COVID-19 pandemic. For decades, transport organizers have come to accept public transportation as more of a business rather than a service that the government was also supposed to be paying for.

The methodology of the public utility vehicle modernizing reform tends to be experimental and incremental by necessity (Sunio et al., 2019). This is likely due to the limited government technical expertise; the need to neutralize powerful players whose influence may affect the perceived fairness of the reform (Sunio et al., 2021; Sidel, 2020); and the inherent unpredictability of the modal shift that might or might not happen as the level of convenience and reliability are experienced by the riding public. Dialogues and even co-design will be essential for the recalibration of routes, fleet sizes, subsidies and service standards so that both business viability and modal shift are achieved.

A vision of high walls and gates that exclude

Public objectives have long had limited reach within many of the privately developed residential and commercial districts (Shatkin, 2008). Movement between the exclusive residential subdivisions into the districts that provided the entertainment and ancillary services had to be and still is largely by car (Poco, 2020). Subdivision gates are closed to both public transportation and to foot and bicycle traffic, even where it is the city government that maintains roads and drain systems inside the subdivision.

1 Personal communication with Josua Mata, General Secretary of the national labour centre Sentro ng mga Nagkakaisa at Progresibong Manggagawa (SENTRO), 15 July 2021.

This arrangement makes walking, cycling and public transport routes unnecessarily circuitous.

In the privately developed commercial districts, the predominance of car-riding clients has resulted in minimal foot traffic along the roads because the cars go directly into parking spaces inside buildings. The urban space that is typically outdoors in many countries is interiorized in Metro Manila, inside air-conditioned giant malls (Connel, 1999). Even the green spaces have increasingly been circumscribed inside walls and out of reach from people who walk or bike (Saloma et al., 2020).

The **NEDA–JICA Transport and Infrastructure Vision 2035** breaks away from Metro Manila-centred transport and urban development to accelerate the creation of

several new regional centres and transport-connected urban densities north and south of Metro Manila. It de-emphasizes urban development westward (towards Manila Bay) and eastward (towards Marikina, Caloocan, Quezon City, and Pasig-Rizal), where major earthquake faults and flood zones are prevalent.

A major role for corporate property developers is also envisioned, and land value capture mechanisms will be tapped for financing the transport and urban development investments. The plan, however, also explicitly speaks of the institutional weakness of local governments in credibly committing to and buying into plans that benefit jurisdictions outside of their own (JICA, 2019). This may be setting the stage, however, for the marginalization of stakeholders around the planned new urban developments.

Building a future pathway from the status quo

The organizational set-up explored here relates to the reforms that are intended and how local governments and their constituencies might bring in their agenda or maybe even exercise veto in policy conversations.

Many of the outcomes described in the 2019 National Transport Policy are incarnated as programmes, activities and projects in the NEDA–JICA master plan. The modernizing of the public utility vehicle transport infrastructure and mobility plans are novel. Thus, the organizational arrangements that would ensure that agencies indeed implement the new policies, instead of reverting to the status quo when impediments arise, must also be novel.

Land use, urban design and transport divide

In large part, the existing institutional modules and combinations that are implicated in the emergence of the status quo are still in place. For example, while mid-level teams at the Department of Human Settlements and Urban Development (DHSUD) have work plans to issue design guidelines for urban development around transit stations, they are not in conversation with mid-level teams at the Department of Transportation, who are set to propose large budgets for 10 transit-oriented development pilots around train stations. The Department of Transport transit-oriented development teams need to inform and refer to the standards that the DHSUD would set so it can function like an external ally for the fledgling transit-oriented development pilots in the competition for limited project funds.

Similarly, DHSUD's own pilots for affordable public rental housing do not have geographical priorities. But in the early stages of the fight to reclaim road space from cars, the DHSUD public rental housing pilots, aside from merely increasing affordable city dwellings, can be selected so that they will be in locations that also increase the social returns of public investments in bike lanes and greenways.

Who gets the road budgets and how?

In contrast, the Department of Public Works and Highways, which is the gatekeeper for the country's budgets for new and wider roads, has top-level agreements with the secretaries of the Departments of Tourism, Agriculture, Agrarian Reform, Transportation and others. These department

secretaries are in turn also under pressure from more than 250 district and party list legislators who sit in Congress and demand road budgets for their constituencies, contractor friends and landowner friends who are hoping to raise the market value of their idle lands. The legislators representing the congressional districts around Metro Manila are also all traditionally entitled to their share of the road budgets, thus the urban sprawl.

This local political demand for roads creates a wedge between the sequence and priorities within ambitious transport (and other network-based) master plans of NEDA and the budgets because they are approved in Congress (Medalla, 2004), where legislative majorities supportive of the country's president are formed and preserved through the apportionment to district representatives of limited public investment budgets (Kasuya, 2009). Deviations from transport master plans also frequently occur because cabinet secretaries champion new projects, which often also have the informal go-signal from the president.

The private enclave developers, like the public agencies that administer the long-running car-biased infrastructure programmes, are also invested in the toll road business. They go through the route of unsolicited public–private proposals of NEDA's Public–Private Partnership Center to secure government support for the right of way of their projects and for the resettlement and compensation of people living along the path of the proposed projects.

Breaks from the status quo

The initial break from the status quo that initially led to massive funding for rail infrastructure of the NEDA–JICA dream plan and for the Public Utility Vehicle Modernization Programme comes from the fiscal space created by the fuel-taxing TRAIN Law of the Duterte administration. Part of the selling point for the fuel taxes to be levied upon operators is that there will be subsidies for the acquisition of more efficient vehicles, which is also aligned with investments in greenhouse gas emission reductions that the country is committed to. The TRAIN Law makes the fiscal pie bigger instead of forcing a politically difficult choice of defunding road building.

Funding for other components of the reform may have just run out. The reform effort is already creaking under the weight of its ambition and may be in jeopardy due to the fiscal difficulties and higher debt burdens as a consequence of the COVID-19 pandemic and also due to the reduced bankability of traditional operators. The country's Supreme Court has ruled with finality that the national government will have to increase the share in taxes of local governments, and an Executive Order from the president has ordered central government agencies to refrain from proposing budgets for services previously devolved to local governments under the Local Government Code (EO 138, 2021). This sudden funding crisis, however, may be an opportunity for further shifts in institutional configurations so that rail investments already made are not left half completed and useless and so that the former drivers and operators of the traditional jeepneys and buses will be able to afford the investment for the shift.

Institutional configurations may be heavily political in nature and not just technical, as the NEDA–JICA and public utility vehicle modernizing experts assumed: First, in light of the fiscal difficulties, land value capture policy may have to be developed as an entirely new source of funding for the shift. This was only a secondary and underdeveloped mechanism in the NEDA–JICA master plan, but due to the new funding difficulties, it may have to come front and centre as the post-Duterte administration examines its options. The taxing of undeserved land wealth increments due mainly to government infrastructure investments will of course be dissonant with the long-standing business model of local politics in the country.

Second, NEDA may need to give the local government units and their constituencies their seats at the table. It may no longer be possible to ignore local governments and their active mobility constituencies altogether, as JICA consultants unabashedly suggested in their report (JICA, 2019), because the local government units have short-term planning horizons and do not care about network-based projects that require expenditures and generate benefits beyond local jurisdictions (and rely mainly on public–private partnerships and the now-diminished central government budgets). Local government units are now in possession of the financial resources that used to be held by the central government, and they can (and have always been able to) block alterations to local land-use plans.

Property owners—if their properties are to be taxed and reassembled to create transit-oriented development urban configurations—need to be assured that they will be better off than before. Active transport constituencies will be the drivers of local non-motorized mobility investment plans, so that the local government units' share in land value capture taxes will still translate into votes for the mayor, even if new infrastructure will no longer be a means for creating undeserved private wealth for friends.

Third, public–private partnership transit-oriented development proposals will probably have to take a turn towards blended financing with local government units and property owners, especially if partnerships with local stakeholders become unavoidable. Local governments banding together as corporations (as advocated by the Department of the Interior and Local Government in other areas of service delivery) can create long-lived multijurisdictional public corporations that can be joint venture partners of public–private partnerships for transit-oriented development proponents.

Finally, the Executive Order on Full Devolution may have to be altered. The Department of Public Works and Highways may still have to co-finance local roads because these will be critical for creating the connectivity, density and walkability around and towards the train stations. In exchange, the local government units may be allowed to share in the revenues from the land value capture mechanisms. Central government co-financing will be needed because these are investments for long-term outcomes that will not always help incumbent mayors in the next elections, especially if mayors are expected to help in the contentious reassembling of private land (Batley and Wales, 2015).

The organizational arrangements that will underpin a radically different set of interests and public policy priorities will still have to be conceptualized, and they will have to co-evolve with the roll-out of projects and tactics for achieving the twin goals of improving mobility and reducing emissions.

Nothing is certain because the institutions are largely unreformed, even if there is an attempt to launch a reform and even if nearly half of the plans have already been conceptualized.

Affordability, availability & inclusivity

Mobility justice considerations 1

Motorcycle ride-sharing taxis are egalitarian modes of public transport, able to supply mobility services without the road congestion that car-based ride-sharing services might cause. And they are an essential complement to the fledgling point-to-point non-stop bus services in Metro Manila. Legitimizing them creates livelihoods for drivers and enables first-mile and last-mile connections to public transport hubs (Sunio, 2021; Sidel, 2020). Motorcycles are in regulatory limbo because they are unsafe, especially when it rains. But the socioeconomic benefits of the modal shift from car use to point-to-point bus services that they enable may make it worthwhile to make public investments to address safety and pollution concerns.

Mobility justice considerations 2

The public utility vehicle modernization programme is unfair, according to drivers and operators of traditional public utility vehicles, because it phases out traditional jeeps that are still roadworthy (Philippine Senate, 2021) and because it favours operators with powerful informal connections inside the Land Transportation Franchising and Regulatory Board (Sidel, 2020). The small operators contend (Philippine Senate, 2021) that the official commitment to a just transition for them and their drivers is imperilled whenever these well-connected entrants win the right to serve the routes. They argue for transparency and for greater public equity investment into the transport cooperatives of the small players to ensure that drivers will not be impoverished by the debt payments for fleet modernization.

Inclusivity for sectors with special needs

Transport bureaucracies have no formal goals nor accountabilities for the design of services around the needs of women, older persons or persons with disabilities. Two examples: First, there are as of yet no standards of accessibility that ride-hailing services must institute for persons with disabilities, nor for public utility vehicles in general. Second, the policy is indifferent to women in Metro

Manila, who tend to take shorter and more numerous trips and tend to take more non-commute trips than men, especially during off-peak hours, and prefer buses and trains compared to motorcycles (Ng and Acer, 2018).

Multistorey pedestrian bridges are built high above metro lines, imposing physical stress on older persons and on women with children in tow.

Persons with disabilities, however, push a counter-balance to the official indifference. They make up one of 14 marginalized sectoral councils represented in the National Anti-Poverty Commission (chaired by the president), and they have long-running advocacy for the accessibility of public transportation. In 2021, buses and bus stops for point-to-point services and the buses on EDSA (the busiest thoroughfare through the city) have fleets that already comply with accessibility standards of the Land Transportation Franchising and Regulatory Board. The EDSA bus route is the busiest. However, it is only one of 35 bus routes in Metro Manila. The Persons with Disabilities Council has advocated the enforcement of accessibility standards for the new modernized public utility vehicle fleets and for tricycles, but without success thus far.²

Ad hoc transport subsidies

The government launches gas subsidies occasionally, such as when international gas prices are unusually high or when there is a need to cushion the effect of new taxes on the sale of fuel (Government of the Philippines, 2017). While one of the three metro lines receives an annual subsidy, there has been no significant investment for active transport and for road-based public transport (Suzara et al., 2021).

In 2003, the Land Transportation Franchising and Regulatory Board granted fare discounts to senior citizens, persons with disabilities and students. These discounts are equivalent to 20 per cent of the regular or normal fare. The discounts, however, do not matter if the built environment is hostile and prevents persons with special needs from making any trips.

2 Based on an interview and email exchange with Abner Manlapaz of the Persons Disabilities Sectoral Council of the National Anti-Poverty Commission, 23 July 2021.

Makeshift inclusion via city settlements

For the urban poor in Metro Manila, transportation comprises up to 15 per cent of their household expenditure—double the national average (World Bank, 2017). Yet, the urban poor have a marked “preference for informal transit (jeepneys and tricycles) and walking” (Singh and Gadgil, 2017), which are modes indicative of short trips. This propensity for informal transit is even more marked for residents in informal settlements that are able to house people closer to where they find livelihood opportunities.

Costly daily “carmageddon” for city workers

Whereas poverty makes transport unaffordable and leads people to reside closer to work in informal settlements, long, multi-modal and time-consuming trips can make transport costly even for persons of middle-class status who own homes outside of Metro Manila, such as in Cavite, Bulacan, Laguna or Rizal, and must commute daily into the city. Waze reported that Philippine commuters spent on average 1,000 hours of unnecessary travel time in 2015 (700 hours more than the global average) because of congested traffic (Adrian, 2016). This time expense comes down to a quarter of a day, which for workers earning the minimum 500-peso daily wage and constantly in search of additional employment, is a value of 125 pesos per day. For 421,000 workers who commute daily into Metro Manila (JICA, 2015a), this would be on top of their daily commuting expense of up to 150 pesos if they have to take all three modes: tricycle, train or bus and jeepney. The high cost of daily commutes is much reduced for those who can find accommodation in the city, in the already crowded informal settlements.

Exclusion via expulsion from the city

Around 42 per cent of informal settlers have no tenure on the land or in the structures they reside in. For informal settlers whose dwellings must be demolished to give way to public infrastructure and private property developments, the default mode of resettlement is in public housing on the cheapest rural land in Cavite, Rizal or Bulacan, where half a million families have already been resettled by the National Housing Authority since the mid-1970s. The lack of public transportation and other basic amenities in these remote places is common (PCUP, 2017). The remoteness means that people lose their connection to their social networks and their jobs. Many who manage to retain their jobs end up leaving their families in the resettlement sites, often permanently (Koga and Karaos, 2017).

One way out from the two extremes of daily “carmageddon” and living tenuously in slums might be in the NEDA–JICA dream master plan, which intends to develop new urban agglomerations around the high-capacity transit nodes northwards and southwards of Metro Manila. Land for housing along these train corridors may still be affordable to minimum wage earners, and there would be unimpeded travel in and out of Manila. However, the dream plan for transit-oriented development must come together in complex ways. Urban land reforms and vertical housing on at least 3,500 hectares of privately owned lands is a second solution, but the business models that could financially sustain them have remained only on paper for several decades now.

Safety & reliability

From 2009 to 2014, there were 1,253 reported road fatalities. The World Health Organization reported that, on average, 53 per cent of road fatalities are riders of motorized two- or three-wheelers; 19 per cent are pedestrians; and 25 per cent are of passengers and drivers of four-wheeled cars and light vehicles. These statistics indicate that roads are unsafe and that pedestrian facilities lack safeguards from accidents.

In Metro Manila, incidents of pedestrian crashes rise where roads are long and are lower in secondary and tertiary roads. Road sections with bad surfaces also increase pedestrian crashes because drivers focus on maintaining control of vehicles rather than on pedestrians (Obinguar and Iryo-Asano, 2021).

Crashes are common in urban poor areas where populations are dense and structures and daily activities spillover into streets. Crashes are also high where there are pedestrian bridges. Gutierrez et al. (2017) found that pedestrians cross the surface street instead of using the footbridge because of fatigue associated with climbing up and down the footbridge and because they are uncovered and have unusable elevators, especially for children or older persons. The Metro Manila mayors have imposed speed limits on the most important thoroughfares, but enforcement has yet to be audited. There is no lack of detailed knowledge on actions needed to achieve road safety (see for example, JICA, 2015b). But they need to be followed through and continuously evaluated.

There are special coaches in the metros for women, and public transport is among the “safe spaces” where sexual harassment is to be proactively addressed. Yet, there are no clear goals set for this that would indicate progress.

Innovation and participation for safety

Central government agencies have issued design manuals and traffic advisories and now provide training programmes so local governments can make roads safe for bicycles. Beginning in 2020, resources have been devoted to providing protected bike lane networks. By mid-2021, penalties began being imposed on motor vehicles that occupy bike lanes. Quezon City, Marikina city and Pasig

city engage bikers in the design and in the assessment of the safety of bike infrastructure. The “cycling embassy” of the Netherlands and active transport advocates have been reaching out to assist local governments (Perez et al., 2021) and operators of private residential and commercial enclaves to persuade them to redesign streets, intersections, curbs and sidewalks for the safety of bikers and pedestrians. Desired improvements have been identified by bike lane users (Madarang, 2021). Active mobility advocates under the umbrella of the Move As One Coalition have been made a permanent member of the government technical working group for improving transport during the pandemic. In many ways, this merely formalizes collaborative and critical engagements that have been building up, beginning with efforts of local advocates (Sunio et al., 2021).

Reliability of ride-hailing, trains and public utility vehicles

Commuters point to the reliability and reputation-based safety of ride-hailing taxis (Paronda et al, 2016), compared to regular taxis, for their reduced use of their own cars. Trains, on the other hand, can be unreliable because there are days and hours when commuter lines can be unexplainably long; in 2018–2019, MRT 3 became unreliable as trains and tracks deteriorated following contract disputes with the service provider. Commuters are beginning to rely on apps using crowd-sourced information to sense the time it takes to board the metro.

Buses and jeepneys typically get stuck in unpredictable traffic, especially when it rains. The Land Transportation Franchising and Regulatory Board makes no commitment to commuters, except to periodically report on experiments being taken to get vehicles on the roads to move faster. Before and after rush hour, buses and jeepneys race hazardingly towards stations and then wait until enough passengers are on board. Drivers are not paid a daily wage; they rent their vehicle and take home only what is left after paying the rent.

The buses running on the dedicated tracks along EDSA do not race to the stops, and they are more reliable because their trip schedule is via contract with the Department of Transportation. On a pilot basis, public funds are spent to

deploy bus units as needed, and drivers have their incomes guaranteed. The 19-kilometre trip from one end of EDSA to the other has reportedly been reduced from 2.5 hours to 45 minutes because of this system. Budgets, however, are still limited (Suzara et al., 2021), so commuter congestion at stations occurs almost daily.

The private buses with rights to serve the point-to-point routes from one giant mall complex to another provide

trip and waiting time predictability. The ridership of these buses is limited because they are mostly unconnected to jeepney routes. Commuters going home must either take costly ride-hailing car services or walk long distances to a bus or tricycle stop. The deregulation of app-based motorcycle taxis can increase the use of these point-to-point buses (Sidel, 2020).

Ecological sustainability, internalization of external costs & traffic avoidance

Mitigation actions under the Philippine Urban Mobility Program are expected to achieve accumulated greenhouse gas emission reductions in the range of 15.01 MtCO₂e to 27.13 MtCO₂e over 10 years, between 2020 and 2030. This would be an annual greenhouse gas emission reduction of 1.5 MtCO₂e to 2.7 MtCO₂e.

Programmes for emissions mitigation

The implementation of the mitigation actions will reduce the total accumulated transport greenhouse gas emissions in the Philippines from 2020 to 2030 by 6–10 per cent. These programmes are presently focused on the modernization of public utility and freight fleets and the rationalization of assigned routes. Public utility vehicle modernizing will increase efficiency in fuel utilization and reduce pollution. The improvements in the service levels of public utility vehicle modernizing are designed to result in a modal shift away from private motorized vehicles. Not as much attention is being devoted to active non-motorized transport, which is important for first-mile and last-mile connections to public utility vehicle stations. The unprecedented investments in rail infrastructure are expected to discourage the use of private vehicles for long trips. At present, private vehicles account for 42 per cent of passenger kilometres in Metro Manila, while bus and rail account only for 20 per cent.

Cognitive touchpoints

The extreme loss of tree cover and even the impact of concrete overlays on the capacity of aquifers to absorb rain water are featured in situation analyses of different agencies. These become public concerns when there are storms and floods. But what sustains public attention is the time that people lose in waiting and in transit.

When the public pulse is taken, however, the overwhelming majority of Filipinos cite a cause–effect relationship between health and the transport system: In a November 2020 poll commissioned by the Department of Health, 85 per cent of Filipinos said they believe that their city can become a

great place for walking and cycling; and they also agreed that public transportation, bicycles and pedestrians should have priority over private vehicles.

National policy champions

Senior officials within the Department of Health, Department of Transportation and the Department of Interior are the policy champions that articulate external costs of motorization and support demonstration projects.

Aside from its support for the Philippine Urban Mobility Program, of which the public utility vehicle modernization programme is the most visible, the Department of Finance pushed for fuel taxes in 2018. Part of the proceeds from these new taxes are now subsidizing the acquisition of fuel-efficient fleets under the Public Utility Vehicle Modernizing programme.

Unevenness at the local level

Some city mayors and advocates openly debate with the Secretary of the Transportation (who was originally unconvinced about the benefits of bus rapid transit) and with the traditional Secretary of Public Works and Highways, who regularly celebrates elevated highways and bypass roads to ease the congestion.

A third of the component cities of Metro Manila now have bike lanes, and some component cities also require private establishments to provide amenities like bike racks.

But a GIZ survey to assess local government capacities and understanding of public utility vehicle route planning objectives found that local government units prioritize congestion, road accidents and air pollution. Only a minority of respondents cited as primary concerns the supply of public transport and the regulations that support the movement of people instead of vehicles.

Demand management

Demand-management programmes have largely remained on the drawing board. Sidewalks are routinely used for car parking. The cost–benefit analysis for the building and widening of roads does not account for the costs incurred when additional car-riding is induced and when taxes have to be spent to house displaced people in remote places. Building codes make housing in the city costly by mandating car park spaces. A number coding scheme that sought to ground cars for at least a day a week had the perverse effect of inducing a demand for an extra car that can be used when the other car is grounded.

But there is optimism. Some train lines are being subsidized, and many more are being built. Programmes to green urban plazas were subsidized from 2017 to 2019. Managers of enclave development give concessions to active transport. Traffic rules supportive of active transport (speed limits to protect pedestrians and penalties for motorized vehicles that step on bike lanes) are being issued. Awards are now being given to recognize best practices. Pilots are underway for transit oriented-urban developments around 10 train station) policies to support public rental housing to make city dwellings nearer to workplaces affordable are being crafted. Telecommuting is being legally recognized, and the barriers to entry into the telecom industry that kept broadband connections sparse and slow are being removed.

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Appendix

Institutions and coordination in the Philippine transport sector*

Department of Transportation (DOTr) is the primary national agency mandated with policy, planning, programming, coordinating, implementing, regulating, and administrative matters to promote, develop, and regulate dependable and coordinated networks of transportation systems. It is the head agency of the Land Transportation Office and the Land Transportation Franchising and Regulatory Board. Sits in the INFRACOMM, which is chaired by the NEDA Secretary.

Department of Public Works and Highways (DPWH) is mandated with planning, design, and construction of national roads and bridges, flood control systems; mandated with planning for water resources and other public works; and is responsible for the administration and enforcement of the National Building Code, which lays out minimum design standards and requirements for all structures. It collaborates with the DOTr and other agencies in securing annual national budget funding for subcomponents of networked infrastructure programmes.

Local government units (LGU) are mandated to craft and implement land use plans. They are responsible for delivering basic services to its constituents, including planning, provision of infrastructure listed in the Local Government Code of 1991, and traffic management, including the formulation of local public transport route plans. At the regional level, provinces and large cities coordinate with each other and with national agencies through the NEDA Regional Development Council. Metro Manila produced a Regional Development Plan for the first time in recent memory in 2018.

Land Transportation Franchising and Regulatory Board (LTFRB) approves intercity route configurations. It provides technical assistance to local government units. It issues operating franchises to road-based vehicles for public use of both commuters and of goods, in accordance with safety regulations and standards of the Land Transportation Office. It is in charge of the registration of vehicles, licensing of drivers, and the enforcement thereof of regulations.

Metropolitan Manila Development Authority (MMDA) provides services that impact across the 17 local government units or that entail huge expenditures, including transport and traffic management within Metro Manila. The MMDA serves as the NEDAs planning body for Metro Manila.

National Economic and Development Authority (NEDA) is the premier socioeconomic planning body that provides high-level advice to policymakers in the Executive agencies (such as the DOT and the DPWH) and Congress. It coordinates and vets transport policies, plans and programmes across departments and across regions through the cabinet-level INFRACOMM, supported and INFRACOMM Technical Board and by the NEDA Infra staff. Implements economic evaluation for proposed large infrastructure projects, and public–private partnerships proposals. Prepares Infra Master Plans.

Department of Finance (DOF) chairs the determination of infrastructure project financing modalities (annual budget, foreign loans, public–private partnerships) within the NEDA-Investment Coordinating Committee, supported by the Technical Board Chaired by NEDA.

Department of Human Settlements and Urban Development (DHSUD) potentially has a role in land assembly and urban design templates for transit-oriented development in collaboration with local government units, the DOT, the NEDA Infra-staff and private sector property developers.

* Updated with emphasis on 2021 roles and coordination modes but partly based on Appendix 4A1 (Institutional Review of the Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas) Region III and IV-A.

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Imprint

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