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Challenges Facing Vietnam's Emerging Automobility Landscape

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Workers walk past finished cars at the assembly plant of VinFast, Vietnam's first homegrown car manufacturer in Haiphong on June 14, 2019. Photo: Manan VATSYAYANA, AFP.

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EXECUTIVE SUMMARY

- International trade agreements, especially the ASEAN Free Trade Area, are making cars more accessible to Vietnamese consumers and reshaping the country's transportation landscape.

- The pace and sequencing of mobility transitions are a concern given limitations in Vietnam's transportation infrastructure, planning coordination and environmental and safety management.

- Future mobility solutions and sustainability models that are being developed by automakers in conjunction with research labs in Singapore for application across Southeast Asia are insufficient to address Vietnam's particular transportation needs.

- Given impending congestion problems, the completion of public transportation systems in Vietnam's major cities should precede the removal of non-tariff barriers to automobile imports.

- How the Vietnamese government coordinates with stakeholders in the auto industry as well as trade and urban planning authorities will have an impact on the growth and expansion of cities. With proactive planning and foresight, Vietnam can reduce the primacy of cars while developing effective multi-modal transportation networks.

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INTRODUCTION

Vietnam, which attained lower-middle-income status in 2009, has grabbed global attention as an emerging hub of international supply chains. One of the metaphors for the increasing circulation of capital that has characterized Vietnam's now highly global economy is the expansion of road traffic since the 1990s, often embodied by the seemingly ubiquitous motorcycles on its streets.[1] In recent years, however, motorbike sales have started to flatten, while automobile sales have been increasing. Vietnam is expected to reach per capita GDP of US$5,000 in 2025[2] (up from $2,700 in 2019), which market analysts consider an important threshold that will fully launch the nation into the "next stage" of widespread car consumption, or "motorization".[3]

Over 17 auto makers have built factories or entered into joint ventures with Vietnamese companies to build cars since 1995, although the vast majority of output comes from plants that assemble cars from mostly imported components. Market leaders such as Toyota, Thaco and Thanh Cong assemble and distribute a variety of foreign brands like Toyota, Mazda, Peugeot, Kia and Hyundai, while emerging local companies such as VinFast hope to build a national car brand that will extend its presence to the global market.[4] The Vietnamese auto market has therefore been driven by not only the increasing wealth of Vietnamese consumers and the removal of tariff barriers under free trade agreements, but also by investments from foreign car companies and the Vietnamese government's ambition to develop a native automotive industry. However, a relatively underdeveloped road infrastructure and poor urban planning are constraining the growth of Vietnam's auto market.

This article examines how the Vietnamese auto market has been shaped by industrial development policies, and how these are shifting with the implementation of international free trade agreements, particularly the ASEAN Free Trade Area (AFTA). It then considers Vietnam's mobility infrastructure and urban planning shortfalls, and whether multi-modal transport models and technologies, such as those developed in Singapore, can be implemented in Vietnam. The article concludes by interrogating the automotive inevitability assumed in future mobility research agendas and car companies' market strategies.

EFFECTS OF TRADE AGREEMENTS ON VIETNAM'S AUTO MARKET

Car sales in Vietnam, which has a population of 96 million but a relatively low car ownership ratio, have soared in recent years. In 2019, for example, over 300,000 cars were sold in the country, nearly a tenfold increase from 2006. Vietnam's participation in free trade agreements (FTAs), which has reduced trade barriers once designed to protect Vietnam's emerging automotive sector, is a major driver behind this trend.

In 2007, Vietnam joined the World Trade Organization, which required a phased reduction of the 90% tariff previously imposed on most automobiles. Of greater significance for the Vietnamese car market, however, is the country's membership in the ASEAN Free Trade Area (AFTA). AFTA's ASEAN Trade in Goods Agreement (ATIGA) imposed on Vietnam a complete elimination of tariffs by 2018 on automobiles assembled in any ASEAN member state. While lower prices on imports have been offset by consumption taxes, registration and license fees as well as other non-tariff measures such as inspections to maintain elevated

car prices, the inevitable erosion of added costs that made cars unaffordable in the past now contribute to the emergence of an automobility society.[5]

AFTA is causing many automotive companies to rethink their manufacturing and market strategies across the region and in Vietnam. This has been especially the case for Japanese car manufacturers that made significant investments in Thailand and until recently maintained a dominating market share in Vietnam as well as the region.[6] Many expected that the AFTA would encourage Vietnam to focus on light truck and van building, drawing on its comparative advantage in this segment, rather than passenger cars.[7] Yet anticipated manufacturing shifts away from passenger cars remain in play. Non-tariff barriers, such as the requirement issued in 2018 for completely built-up (CBU) cars to undergo tests in a Vietnamese lab to ensure that they met environmental and emissions standards, slowed the expected flood of cars manufactured in other ASEAN countries into Vietnam.[8]

While some companies scale back their production in Vietnam, Hyundai, which surpassed Toyota to become the best-selling car brand in Vietnam in 2020, has opted for an expansion strategy by increasing production capacity at its joint venture with Thanh Cong in Ninh Binh Province. With the EU-Vietnam Free Trade Agreement opening up cost-efficient supply chains for parts, and with the Regional Comprehensive Economic Partnership (RCEP) on the horizon, Vietnam is still considered by some companies as an attractive car market and production hub.[9]

What remains to be seen is how the implementation of the latest regional trade agreements, such as the RCEP and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), will further reshape Vietnam's auto industry as regional supply chains become further integrated. The CPTPP took effect in Vietnam in 2019; and the RCEP, which Vietnam signed in November 2020, is expected to be ratified in 2021. Adaptations to trade agreements' provisions will be gradual but will most likely further connect the supply chains and consolidate the production strategies of automotive companies. Against this backdrop, and together with the increasing income of Vietnamese consumers, it is likely that Vietnam's auto industry and car market will continue to expand.

INFRASTRUCTURE AND URBAN PLANNING LIMITATIONS

While many Vietnamese are generally excited about the prospect of car ownership, the country's poor transportation infrastructure – including roads and alternative public transportation options - remains a challenge to expanding automobility.[10] Urban planning in Vietnam remains weak and uncoordinated compared to more developed countries in the region such as Singapore,[11] which has become a hub for designing mobility solutions for Southeast Asia.[12] Many of the solutions developed in Singapore through grants from auto companies project technologically sophisticated multi-modal mobility models intended for not only Singapore but also densely populated mega-cities throughout the region.[13] One such future urban mobility research group's stated goal is to "develop, in and beyond Singapore, new paradigms for the planning, design and operation of future urban mobility systems."[14] For another, "a key focus will see how research outcomes can benefit the Asian market based on the needs of the region".[15]

For most Vietnamese living in major cities like Ha Noi, Ho Chi Minh City and Da Nang, the motorcycle remains an essential part of life. Yet the use of motorbikes has also led to

congestion, pollution, traffic fatalities and other growth dilemmas.[16] Many interlocuters that I interviewed feel that given the uncontrolled growth of cities, cars offer mobility as a valuable escape to more sustainable and safe suburban lifestyles.[17] They also map their previous experiences with motorcycles onto their future expectations of cars. Some signed up for driving lessons even before owning cars, and bought land and houses in suburban satellite districts as they prepare for an inevitable lifestyle shift.

Although the Vietnamese government has declared that the positive effects of "modernization and industrialization" brought by the auto industry's expansion must be synchronized with "traffic infrastructure development, consumption policies, environmental protection requirements and energy saving trends",[18] most interlocuters have little faith that local or national authorities will effectively implement sustainable urban development plans. Consequently, many residents have been anticipating and building alternative living spaces, often piecemeal. Among the growing middle class, there is a strong desire for "civilized", safe, and pollution-free living environments, as anthropologists have discovered in recent studies of new urban districts in Ho Chi Minh City such as Saigon South.[19] In other mid-sized cities like Da Nang, residents watch as an urban landscape designed for future automobility efficiency rapidly unfolds, featuring multi-lane highways, bridges, and new suburban zones, in anticipation of increased car ownership and the metro area population doubling by 2030.[20]

Mobility futures attached to the automobile can excite or terrify, depending on one's vantage point. Spectral to Vietnam's automobility horizons are cautionary tales of regional cities such as Jakarta or Manila that suffer under the congested weight of poorly-planned urban expansion and motorization. Tran Bao Ngoc, a general director at Vietnam's Ministry of Transport, identifies the following challenges to urban transportation in Vietnam: slow road and public transport infrastructure development, high growth of personal vehicles, inadequate planning and management, and no targeted control of personal vehicles to manage traffic.[21] Studies of Ho Chi Minh City's infrastructure planning and development, including its subway system, warn of generally weak and uncoordinated responses by urban planners that if left unaddressed will have long-term congestion consequences.[22] A city and regional planner analyzing conflicting transit plans in Ho Chi Minh City identified competing and fragmented regimes of legal and regulatory frameworks, grant incentives, and planning principles that act as barriers to a more streamlined and effective development approach to the metropolitan public transport system.[23] The first subway line in Ho Chi Minh City, financed by Japan, and Ha Noi's first metro line, financed by China, are well behind schedule. The former was supposed to open in 2018 and the latter in 2017, coinciding with the drop in auto tariffs imposed by AFTA, but by mid-2021 both remain uncompleted. Meanwhile, in Ha Noi, Da Nang, and Ho Chi Minh City, bus public transit accounts for less than 10% of commuter transportation, a small proportion compared to other major cities in the region.[24]

On the other end of the Southeast Asian city traffic spectrum, Singapore has invested heavily in car-lite city planning and its Land Transport Authority has emphasized technological innovation and transportation engineering to discourage widespread individual car use.[25] The automobile has come to co-exist with a variety of other mobility options, especially trains and buses, producing a city that remains surprisingly mobile for its size. The ease and connectivity of multiple modalities of transportation in Singapore have made it a test-bed, model and hub for developing and exporting mobility solutions for cities

across the region.[26] A number of mobility labs funded by corporate and government grants at Singapore University of Technology and Design, Nanyang Technological University, National University of Singapore, and TUMCREATE[27] have been conducting research on the "future of mobility" from various urban planning, technology and engineering perspectives. These include investments in areas of environmental sustainability and first- and last-mile connectivity. Collaborative industry grants from companies such as Daimler, BMW, Volvo, Hyundai, Grab and Huawei which fund these labs are highly technology-centred, and generally revolve around key research areas such as autonomous vehicles, electromobility, traffic modeling, connectivity and vehicle sharing. According to one researcher, mobility solutions developed in these labs can be applied in Singapore and used as "models" for cities across the region.[28]

While these mobility futures under development sound promising, lingering within them are some of the very problems they purport to address. Central is the issue of sustainability. Across the board, technology is promoted by mobility service providers as a requisite solution to address problems of emissions, environmental degradation and climate change. In particular, electrification, car sharing, and multi-modal links to public transport are seen as progressive measures that can help tackle these issues. Yet, electrification often depends on energy generated by traditional power sources such as coal-fired power plants. Electric cars themselves still take up more space than is available on narrow Vietnamese city streets, requiring a continuous expansion and upgrading of infrastructure. Their batteries require many rare earth minerals, and are still not widely recycled. New car models that are technologically connected will also have shorter life spans and faster replacement rates, which produce more expenses and waste.

Future mobility projections that rely on automobile companies' research grants are also likely to produce new dilemmas down the line. While many policy and industry efforts have been taken to make cars more energy-efficient and mega-cities more car-lite, such visions are still based on the assumption that the car must be here to stay, even if produced and used in modified and interconnected forms. While reinvented mobility services are meant to help expand automotive companies' revenue in the global North, targeting emerging markets like Vietnam that are reaching the profitable stage of "motorization" for legacy car sales remains an important parallel strategy for many car companies.

Widespread motorization has not yet happened in Vietnam, partly because the country is still relatively low on the development ladder. Another reason is that the Vietnamese government has managed to maintain their own version of "car-lite" cities through taxation. However, this planning and revenue tool is being eroded. The 90% tax rate on automobiles sold in Vietnam just 15 years ago made car ownership a rare luxury and mostly prohibitive. But since Vietnam is now a member of the WTO and 15 free trade agreements, tariffs on automobiles are being removed and markets are being pried open. A former luxury is likely to eventually become a necessity.

Unlike Singapore where research institutions are working in greater tandem with urban planners, the government, and industry to get ahead of the problem and maintain a mobile and environmentally friendly city, the coordination between local stakeholders to improve Vietnam's urban planning and to facilitate a car-lite future does not necessarily exist to the same extent.[29] The mandatory elimination of tariffs on cars in Vietnam and elsewhere in the region through trade agreements does not bode well for cities that are already congested and

polluted and where strong planning mandates or alternative transportation infrastructures are lacking.[30]

If imported mobility solutions are limited in their applicability to the Vietnamese context, and the country's infrastructure to support widespread automobility remains insufficient, what alternatives are there to address Vietnam's expanding mobility needs?

CARS AS VIETNAM'S INEVITABLE FUTURE?

Vietnam's automobile consumption has recently slowed. The closure of borders and the disruption of economic activities during the COVID-19 pandemic saw car sales in the country decline 8% in 2020. Disrupted supply chains have also constrained automobile production.[31] Special consumption taxes, vehicle certification requirements and other protective measures, although being challenged, are also temporarily decelerating the flood of imported cars into Vietnam.

Nonetheless, many potential problems associated with capitalist hyper-mobility await on the post-pandemic horizon. Now is perhaps the time to rethink what future mobilities should realistically look like over the longue durée, and how to more holistically project and extend the collective "profit" of sustainable living to future generations. Interrogating assumptions about the inevitability of Vietnam's auto market expansion is a good starting point.

The post-automotive future has already been anticipated by the auto industry. Vietnam should avoid becoming a dumping ground for legacy car sales – the primary profit area that car companies focus on in emerging markets without having to take responsibility for associated problems. For Vietnam's densely populated cities, it is urgent that the national and local governments coordinate to prioritize the rapid completion of essential transportation infrastructures, especially highways and city metro systems. Until then, authorities should continue to stave off widespread auto consumption with short term non-tariff barriers – as they have tried to do since 2018. Such barriers will inevitably be challenged, but even a short extension of Vietnam's public infrastructure development timeline will help prepare the country for more seamless and appropriate mobility solutions.[32] In the interim, targeted qualitative studies that emphasize user needs, experiences and constraints in Vietnam's rapidly changing urban and transportation ecosystems are also required to effectively inform the implementation of sustainable urban development plans. Being proactive, rather than reactive to the transportation challenges facing Vietnamese cities, is critical.

As Vietnam tweaks its national industrialization and urban planning priorities and policies, it should encourage some leapfrogging within assumed transportation development trajectories. Most studies anticipate an influx of cars in the near future, but given Vietnam's late start in motorization, they also hold out the possibility of alleviating if not bypassing the presumed inevitability of mass automobility. If approached with creative foresight and planning, automobiles and their associated problems may not necessarily have to dominate the future of mobility in Vietnam and elsewhere.

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[3] Joyce Dargay, "Income's Effect on Car and Vehicle Ownership" *Transportation Research Part A* Issue 33 No. 2. (1999): 101-138.
[4] VinFast bought General Motor's Vietnam manufacturing and distribution operations in 2018. On VinFast, see Le Hong Hiep, "Vietnam's Industrialization Ambitions" *ISEAS Trends in Southeast Asia* No. 2 (2019).
[5] On automobility and society, see Mimi Sheller and John Urry, "The City and the Car", *International Journal of Urban and Regional Research* Vol. 24 Issue 4 (2000): pp. 737-757.
[6] Kaoru Natsuda and John Thorne, *Automotive Industrialisation: Industrial Policy and Development in Southeast Asia*, (London: Routledge, 2021).
[7] Prime Minister Decision No. 229/QD-TTG (2016) incentivizes manufacture of priority vehicles including trucks and 9-seater vans.
[8] Thailand, dubbed the "Detroit of Asia" for its efficiency of scale in auto manufacturing, is Vietnam's primary concern within ASEAN and the target of protective trade barriers against imported CBUs. Lamonphet Apisitniran and Piyachart Maikaew, "Heat on Vietnam Car Barriers Rises", Bangkok Post 12 June 2018. https://www.bangkokpost.com/business/1483213/heat-on-vietnam-car-barriers-rises. Non-tariff barriers have been identified "as causing the most problems to free trade": see "ASEAN – an Emerging Global Automotive Hub in the Making", EU-ASEAN Business Council (2015).
[9] Under the EU-VN FTA, tariffs on auto assembly components drop from 32% to zero by 2025.
[10] Urban planner Danielle Labbe points out that "transportation planning experts generally agree that a city with a moderate density of 30 persons per hectare needs about 25 percent of its surface devoted to road space to support car traffic. Hanoi not only has three times that density, but its roads represent less than 20 percent of its surface". Labbe, Danielle. "Urban Transition in Hanoi". ISEAS Trends in Southeast Asia Issue 2 (2021) pg 10.
[11] Labbe also points out that in Vietnam "there has long been a need to integrate the mission of the institutions responsible for land-use development with other transport and infrastructure plans". Ibid pg. 12.
[12] Glenn Van Zutphen, "Singapore's Race for Mobility Solutions", (2015), https://www.mobility.siemens.com/global/en/portfolio/road/stories/singapores-race-for-mobility-solutions.html
[13] Technology and planning solutions include the development of green and AI technologies for autonomous, connected, electric and shared vehicles, and of well linked multi-modal public transport networks, traffic engineering, electronic road pricing and routing algorithms to reduce personal car traffic.
[14] Singapore-MIT Alliance for Research and Technology, *Future Urban Mobility Research Cluster*, https://smart.mit.edu/research/fm/about-fm
[15] "BMW Group and NTU set up first joint research lab in Southeast Asia", 23 April 2013, https://www.bmw-sg.com/local-news/bmw-group-and-ntu-set-up-first-joint-research-lab-in-southeast-asia/2013/04/23/
[16] Arve Hansen, "Transport in Transition: Doi Moi and the Consumption of Cars and Motorbikes in Hanoi", *Journal of Consumer Culture* 17 No. 2. (2017): pp 378-396.
[17] Between 2013 and 2019, the author interviewed current and potential motorcycle and automobile users as well as auto sales, manufacturing and marketing representatives in Ho Chi Minh City, Da Nang, and Ha Noi. See Ivan V. Small, "Anticipating the Automobile", *Consumer Culture Theory* 19 (2018): 145-161.
[18] Prime Minister Decision No 1211/QD-TTg 2014 "On the Approval on the Master Plan on Vietnam Automobile Development to 2020 with a Vision to 2030".

[19] Erik Harms, *Luxury and Rubble*, (Berkeley: Univ of California Press, 2016).
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[24] Pham Minh Hai, "Ho Chi Minh City Sustainable Urban Transport Index", UNESCAP, 2018, https://www.unescap.org/sites/default/files/SUTI%20%20Mobility%20Assessment%20Report%20%20-%20Ho%20Chi%20Minh%20City.pdf
[25] Singapore Ministry of Foreign Affairs and Centre for Liveable Cities, "ASEAN Smart Cities Network", 2019; Urban Land Institute Asia Pacific and Centre for Liveable Cities, "Urban Mobility: 10 Cities Leading the Way in Asia Pacific", 2017.
[26] Enterprise Singapore, Urban Solutions, https://www.enterprisesg.gov.sg/industries/type/urban-solutions/industry-profile
[27] A research platform founded in 2010 to foster research collaborations between Singapore and the Technical University of Munich.
[28] In 2013 and 2021, the author interviewed mobility lab researchers and auto corporate executives in Singapore about their designs for the city and region. See Ivan V. Small, "Affecting Mobility: Consuming Driving and Driving Consumption in Southeast Asian Emerging Markets", *Journal of Consumer Culture* 18 No. 3. (2018): 377-396.
[29] Danielle Labbe and Clement Musil, "Periurban Land Redevelopment in Vietnam Under Market Socialism", *Urban Studies* 51 No. 6. (2014): pp. 1146-1161.
[30] In 2017, air pollution in Ho Chi Minh City was more than double the levels recommended by the World Health Organization. Hanoi was rated the seventh most polluted capital in the world by IQ AirVisual in 2019.
[31] Ben Shepherd and Anita Prakash, *Global Value Chains and Investment: Changing Dynamics In Asia,* Economic Research Institute for ASEAN and East Asia Research Project Report 2021 No. 01, https://www.eria.org/publications/global-value-chains-and-investment-changing-dynamics-in-asia/
[32] Do Mai Lan and Hoang Oanh, "Vietnam's Tentative Approach to Regional Infrastructure Initiatives", Perspective No. 71, 2021, https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2021-71

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