

Chapter 7 of The Geography of Urban Transportation deals largely with the concept of disaggregate travel flows, in which many modes of transportation are viewed as part of a larger system. This is in contrast to previous ideals of purely car-centered cities, as was the norm though much of the mid-century United States. By the 1970s, it became obvious that urban highways were not the ultimate solution to urban transport, and that multiple forms of transport would need to be developed in unison to support the nation's growing cities.

This shift in urban planning ideology also involved a change in ideas of land use beyond the traditional CBD-suburbs-exurban-rural framework; each of these land use patterns has significant differences within them, particularly in regards to access to non-car transport systems. Theoretically, providing access to cheaper and easier forms of transport could induce demand for more goods and services; someone is more likely to visit a restaurant or bar if they can walk there, for example. Land use can be measured using the "D variables" of *diversity* of land use within a neighborhood, *design* of streets, and *density* of housing and businesses, while *distance* to transit, *destination* access and public safety concerns were later added. This chapter also focused on how to use survey results to determine how these factors affect modes of transport, using both survey and electronic data to piece together a correlatory effect. Because it is impossible to conduct controlled experiments, research into this is done through observing changes in existing cities.

I wonder about the history of car-centered design in tropical Asian countries, where motorcycles and scooters are much more common than cars, and present somewhat different challenges. While motorcycles have taken over the roads in many countries, especially Thailand, Vietnam, Indonesia and Malaysia, they are relatively unpopular in other parts of tropical Asia, especially the Philippines and Bangladesh, although these are well above the world average.¹ While several excellent studies have been done about the disaggregate ownership of cars and motorcycles², I feel that the effects on pedestrians and public transport must be just as great. I propose that increased motorcycle usage decreases the number of pedestrians and bicyclists in an area for the following reasons:

1. Parked motorcycles take up quite a bit of space, and this detracts from the space that could be used for sidewalks, bicycle lanes, or commercial use. The street that I live on in Taipei, Jinjiang Rd. near Guting station, has no sidewalk, but affords parking for approximately 30 motorcycles and 6 cars on my block. With buildings between 6 and 15 stories tall along the street, these 36 private motor vehicles represent a tiny minority of those who live on that block. Bangkok and Chiang Mai have mitigated this problem better than Taipei with widespread use of parking garages and stricter enforcement of parking regulations, and Japan has even managed to ban most on-street parking.³

¹<https://www.pewresearch.org/fact-tank/2015/04/16/car-bike-or-motorcycle-depends-on-where-you-live/>

²https://www.jstage.jst.go.jp/article/easts/7/0/7_0_528/_pdf

³<https://www.japantimes.co.jp/community/2017/06/04/how-tos/parking-car-can-drive-crazy/>

2. In addition to the space used by motorcycles, their smaller size and maneuverability means that they are more likely to flaunt traffic regulations. Anecdotally, it is rare to see a car driving the wrong way on a one-way street, but it is a common occurrence for motorcyclists. This makes walking in the city more hazardous, and decreases the level of pedestrianship. While much of Taipei has implemented a form of a 'superblock' system with wide main streets and narrow, one-way local roads, this progressive urban planning is rendered moot by a lack of enforcement. This road conditions result in over 30,000 ⁴ injuries in Taipei every year, a number that is believed to be underreported.⁵ Again anecdotally, illegal parking and major traffic violations are largely committed by owners of luxury cars in Taiwan, but scooter drivers from across the economic spectrum park and drive where they please. Millions of "ghost scooters" remain unregistered⁶ in Taiwan, making it infeasible for law enforcement to do their jobs.
3. Air and noise pollution from scooters disincentivize people from walking. This is pretty straightforward; scooters lack catalytic converters and have small mufflers, and therefore put push out tons of pollutants and street noise. This is improving, however, as the government phases out two-stroke engines⁷ and electric scooters become more popular.

These factors create a form of feedback loop; poor street conditions mean that more people choose to take motorcycles or order motorcycle-delivered food and packages rather than personally visit restaurants and shops.

Taipei does well on each of the "D variables": many neighborhoods are mixed commercial-residential, the street design makes pedestrianship easy and direct, Taipei is an incredibly dense city, distance to metro stations is rarely far (except for parts of Wanhua and Neihu), and most destinations are similarly convenient. Taken under the framework of this chapter, Taipei is a paradise of urban design, but the outside factor of high scooter usage holds these victories back.

⁴<https://www-ws.gov.taipei/Download.ashx?u=LzAwMS9VcGxvYWQvMzIxL3JibGZpbGUvMTk3OTQvMzMyODQwOC9kNWZkNzRhMi04NWYyLTQzM2UtOTQ5NS0wODM5YmMwZjZmMTcucGRm&n=eTMzLnBkZg%3d%3d&icon=.pdf>

⁵<https://international.thenewslens.com/article/87718>

⁶<http://www.taipeitimes.com/News/taiwan/archives/2007/05/19/2003361521>

⁷<http://www.taipeitimes.com/News/editorials/archives/2018/07/24/2003697251>