

PRESTIGE ON WHEELS:
A QUALITATIVE STUDY OF MIDDLE CLASS LIFE ASPIRATIONS AND
THEIR IMPLICATIONS FOR TRANSPORTATION PLANNING IN BEIJING

by

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Abstract

One day in Beijing provides a jarring snapshot of motorization issues in China. Beijing is considered the most motorized city in China, and the consequent air pollution and congestion are stark. These issues have led to unprecedented investment in its subway system, as well as policies restricting car driving and ownership. However, despite worsening conditions and rising prices, owning a car is perceived as a natural expectation by rising middle class Chinese. Prior studies suggest that this is a values-based perception, influenced by desires for social status and materialistic aspirations. Through in-depth semi-structured interviews, this qualitative study builds on existing survey research on desire to own cars, exploring how deeply held this desire is, and what motivations there are. 25 interviews were conducted with highly educated white collar workers born in the 1980's, representative of China's rising middle class. While all participants desired to own a car, the lack of awareness about the costs, implications, experience of driving, and impacts associated with owning a car was surprising. Participants showed huge tolerance to the cost of purchasing a car, in spite of the extremely low cost of other modes in Beijing, and yet often did not plan on driving regularly. Aspiring car owners were found to be irrational in an economic sense, with desire to own a car highly influenced by peer groups and social expectations. However car owners reinforced the shocking experience of driving in Beijing, and bemoaned the cost of owning a car in the city, although they would not relinquish their cars by choice. Based on these findings some creative suggestions are provided for potential policy interventions.

Key Words

China, Beijing, motorization, transportation planning, values, life aspirations, rising middle class, post-80 generation, car ownership

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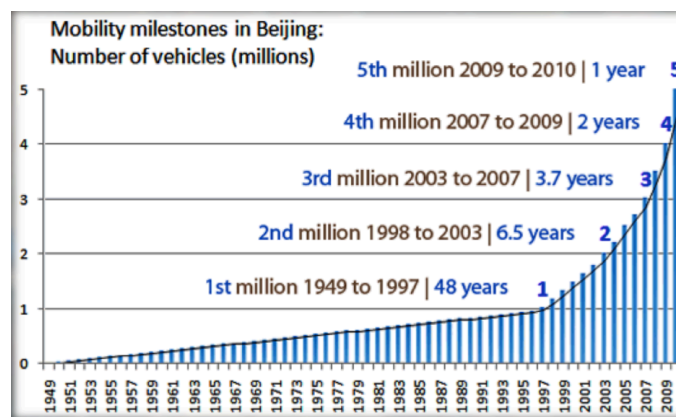
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Introduction

Since Opening and Reform began in 1978, the landscape of China's capital city has been transformed into a fast-paced concrete jungle in a brief few decades. Where only a handful of skyscrapers existed in 1990, currently the skyline of Beijing is a forest of high-rises, punctuated at regular intervals by towering cranes. Not only have Beijing's economy, society, and urban form changed immensely, but change continues at a staggering pace, creating planning issues at an unprecedented scale in an entirely novel urban environment. One aspect of this change that is particularly jarring is the motorization of the capital, in particular the explosive ubiquity of private cars, as seen here (World Bank, 2011):

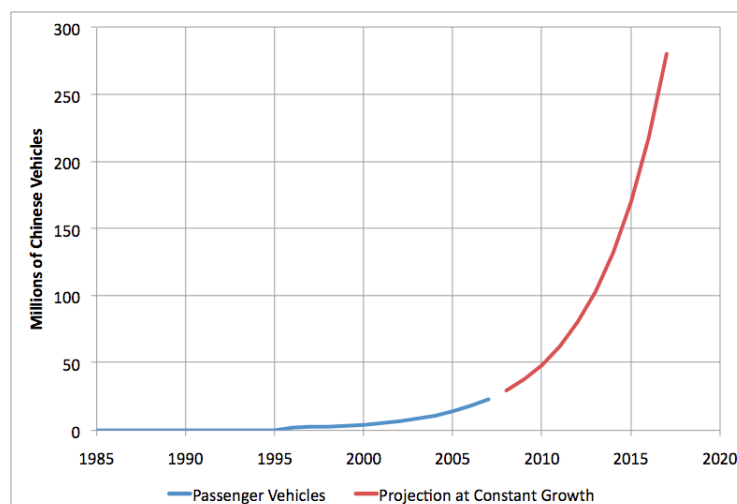
Figure 1. Growth Number of Vehicles in Beijing 1949-2010



Colours edited by Jason Hsieh

Stuart (2010) uses national data to calculate that the compound annual growth rate for car ownership in China from 1997-2007 was 28.3%, and based on this data projects growth to 2020:

Figure 2. Projected Car Ownership in China 2007-2020



Fortunately this is just a projection, but He et al. (2005) point out that growth predictions for car ownership and oil demand have been and continue to be consistently too low as rates have only increased, emphasizing the sheer size of China's demand for cars. Creuzig and He (2008) point out that 10% of China's cars are driven in Beijing alone, by 1% of the population. Most recent counts in 2011 come to over 5 million – an increase of 25% in only two years!¹ As might be expected, the results of this motorization are sorely apparent to planners, drivers, and citizens of all walks of life, starting with crushing traffic:

Beijing 2nd Ring “Parking Lot”



Image: Salon.com, 2008



Image: Flickr user Proggie, 2006

Traffic has steadily worsened in the capital, reaching new lows each year. Zhu et al. (2012) calculate that the average speed of a car is a measly 12km/hour, compared to ~36km/hour for metro travel, including stop time at stations. Furthermore, parking is extremely limited, with official parking spots numbering only 741,090 for 5 million vehicles (Hui, 2012), forcing drivers to park on sidewalks, in bike lanes, and generally anywhere.

Beijing “Sidewalk Parking Lots”



Image: car0575.com, 2011



Image: 365jia.cn.com, 2012

¹ Based on number of vehicles registered with Beijing's traffic police bureau (Xinhua, 2012).

Some Beijing planners point out that cars per square kilometer are still not as high as other metro conurbations, such as Tokyo, indicating that traffic and parking are spatial planning issues rather than the result of saturation (Li, 2012). But it is worth pointing out that where motorization tends to go hand-in-hand with low-density sprawl, in China the biggest, densest cities are also the most motorized. In Beijing, the highest density urban areas also have the most cars, amplifying the impact of vehicles. In any event, conditions in Beijing can only be described as overburdened and worsening. Logjam and standstill traffic are common daily occurrences, with virtually no respite, even in surrounding rural areas, and especially on holidays.

In addition to traffic and parking issues, not to mention road safety and driving frustration, cars also contribute to worsening air quality in visible ways. While many sources contribute to Beijing's noxious air, there is no question that increased cars on the road concentrate heat and exhaust fumes in an already hot and polluted environment. Creuzig and He (2008) even estimate that air pollution and congestion account for 7-15% of Beijing's annual GDP in costs to health and time, among other factors, and since then more than 2 million additional vehicles are on the road. Pollution is a rising concern across China, increasingly causing social unrest and complaints to the government by citizens (Turner, ed., 2006; Sina, 2003), and yet each year it also gets worse in Beijing.

Two days in Beijing: View from Jingshan Park



Image: Marketplace.org, 2012

Policy Restrictions and Disincentives

Of course, while the government supports motorization as part of making the car industry a pillar of China's economy (Lin, 2002), and still does, Beijing is also aware of the issues caused by cars and has taken many steps in response. In the preparation for the Beijing Olympics, cars were restricted from driving on certain days based on the last number of their license plate. After the Olympics this policy remained in effect, although was reduced from odd-even numbers to restriction of two numbers each day. Even so, this is a dramatic intervention, as still car owners are literally not allowed to drive certain days of the week. However, with the rapid growth in number of vehicles on the road, the improvements this policy provided have already been overtaken, and traffic continues to get worse than it was in 2008 (Yin, 2009). Most recently, as demand for cars continues to skyrocket, the Beijing government capped the issuance of car license plates to 20,000 per month assigned by random lottery as of January 2011. Furthermore non-Beijing residents are restricted from entering the car license lottery until they have paid Beijing taxes for five consecutive years (Redmond, 2011). Shortly after the policy's implementation, the estimated waiting period to win a license was around three years, then it quickly increased to five, and as of March 2013 the estimated odds were 1/80, or six years eight months waiting time (Pang et al., 2013). This policy has drastically curtailed growth in car ownership in Beijing, but still allows 240,000 new cars on the road per year. Therefore, while it is restrictive, it only slows down the rate of growth and so does not improve traffic, parking, or pollution in absolute terms.

In addition to car restrictions, the government has ramped up costs for new drivers in both time and money. To obtain a driving license in Beijing, students must now enroll in a driving school for at least one month before they are eligible for taking the driving exam. Driving school in Beijing typically costs just over 5,000 RMB and takes three months of lessons. Furthermore, the government has imposed stricter regulations on exam takers: in January 2013 the pool of exam questions was updated, and 5 onboard cameras were installed in test cars to capture attempted bribes or cheating. As a result, only 20 of 100 exam takers at one Beijing driving school passed the test in January. One driving instructor pointed out that this is partially "because the ...answers are no longer available on the internet" (Shi, 2013).

On the fiscal side, the government has also incrementally increased taxes and fees on cars to disincentivize buying large vehicles and driving in general. In addition to value-added tax, cars have a Vehicle Purchasing Tax of 10% for a standard small vehicle. There is also an annual Vehicle Tax calculated by vehicle and engine size, which amounts to 480 RMB per year for a small vehicle with an engine of less than 2L (Zhang, 2012). Aside from these costs, many of Beijing's major highways are toll roads anywhere from 10 RMB per entry and above, while gasoline is also priced slightly higher in the capital than elsewhere, currently at 7.8 RMB/L for Grade 93 fuel. Parking is also a significant cost in Beijing, as private cars are forced to pay almost anywhere they park within the city. For residential areas, outdoor parking is in the range of 150 RMB/month, while official parking rates downtown are 10 RMB for the first hour, and 15 after that. Taken in isolation, many of these costs are acceptable, but taken together the price of owning and using a car quickly adds up, especially in time spent waiting to get one.

Economics of Car Ownership

Based on these numbers, here are estimated time and monetary costs for a non-driver to become licensed and own their own car in Beijing:²

Licensing:

Driving School: 5,600 RMB for 3 months of lessons for a C1 license (Xinhua, 2013).
License Exam: 150 RMB per attempt (Xinhua, 2005).

Purchase Costs:

On the purchasing side it is worth noting that domestic brands are much more affordable, even down to the 50-60,000 RMB range, while foreign brand cars (domestically produced) are in the 100,000 RMB and above range. Since the introduction of the license lottery in 2011, the number of new domestic brand vehicles has dropped by half to 9.7% of new cars in Beijing (Ying and Ho, 2013). For these calculations the cheapest foreign-brand vehicle price is used, at roughly 85,000 RMB based on current prices (such as the Chevrolet Dongfeng 1.4SE MT), but most are in the 100-120,000 RMB range (see Shanghai VW Crosspolo at 106,000 RMB, and the Buick Excelle at 126,800 RMB).³

Purchase price: 85,000+ RMB
Vehicle Purchasing Tax: 10% (State Council, 2001)
Value-added Tax: 17%
Registration Lottery: ~80 months waiting time (as of March 2012).

Total Purchasing Costs: $85,000 + 8,500 + 14,450 = \sim 107,950+$ RMB.

Ownership Costs:

1. Tax & Insurance:

Vehicle Tax: 480 RMB/year (Zhang, 2012)
Compulsory Insurance: 950 RMB/year (State Council, 2006)
Optional Insurance: up to 5000 RMB/year, more in some cases
Total Insurance: assumed to be 3,000 RMB/year
Vehicle Check Fee: once every two years for 6 years, then annually: 130/RMB

Total: $480+950+3,000+65 = 4,495$ RMB/year.

2. Driving Costs:

² Zhao Zhan (2013), "Estimated Costs of Car Ownership in Shanghai and Beijing", University of British Columbia Travel Behavior and Transport Policy Research Group Report, April 2013.

³ Prices from Beifang Auto Dealership website, http://www.beifang-auto.com/business_web_baifang/Search.aspx?shbid=1208, accessed May 05 2013.

With current petrol prices in Beijing of 7.84 RMB/L for Grade 93 fuel, 20,000km of driving per year will cost approximately 10,850 RMB.⁴

For parking, outside residential parking costs 150 RMB/month while on-street parking in commercial areas costs 10 RMB/hour for the first hour, and 15 RMB/hour after that. Assuming car owners visit downtown twice a month, two hours each time, total parking costs would be 2690 RMB/year (Beijing MCDR, 2011).

Maintenance can be a wildcard, but for minor fixes and the occasional new part, it is assumed an additional 1500 RMB/year for a vehicle travelling 20,000km. Over time these cost could increase significantly, while a well-maintained car may cost less.
Total: $10,850 + 2,690 + 1,500 = 15,040$ RMB/year

Total Ownership Costs = $4,495 + 15,040 = \sim 19,535$ RMB/year

Total Purchase & Ownership Costs over 10 years = 300,000+ RMB

In summary, buying a car will cost in excess of 100,000 RMB, while owning and using a car will cost around 20,000 RMB each year depending on driving habits. The most significant usage cost is gasoline, at about half of all usage costs, but owning a stationary car for a year would still cost over 7,000 RMB in taxes, fees, and parking charges. This does not take into account the huge cost of initial purchase, which if spread out over a ten year lifespan would be a further 10,000 RMB per year, not including interest on loans. In this light, owning a car for ten years would then cost 30,000 RMB per year plus annual interest.

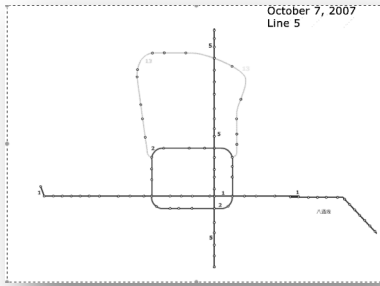
By comparison, the average salary in Beijing as of 2011 was 4,672 RMB a month, or 56,061 RMB a year,⁵ while the benchmark for being ‘middle class’ is often considered around 5-10,000 RMB per month (Wang, 2010). Therefore for an average salaried Beijinger the costs of owning a car comes to 34.8% of annual income, and buying a new car would cost two or more years of income.

Expanding Transit

While car ownership has grown incredibly fast, Beijing has been investing mass transit systems just as fast. Beijing had the earliest metro system in Asia, opening in 1969, but then operated with just two metro lines for over two decades. Since the turn of the Millennium, Beijing MTR has doubled its service network several times in quick succession. Before the Olympics in 2008, three lines were in use:

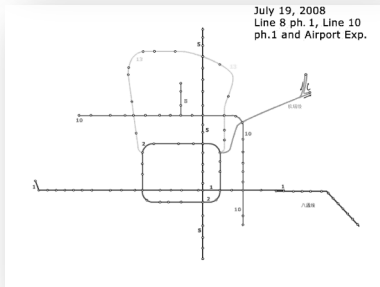
⁴ 2010 data shows that 19,596km is the average distance travelled by private cars in Beijing, while the average government car travels 28,657 km. An et al. (2012), *Transport Demand Management in Beijing*, <http://www.tdm-beijing.org/files/Work-in-Progress-TDM-Beijing-brochure.pdf>

⁵ As reported in the China Daily based on National Bureau of Statistics data. See China Daily (2012), “China’s 2011 average salaries revealed”, *China Daily*, http://www.chinadaily.com.cn/china/2012-07/06/content_15555503.htm, July 06, 2012.



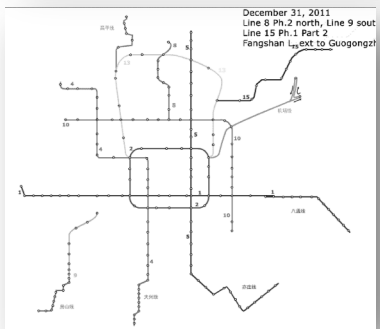
2008, pre-Olympics

These 5 lines covered 130.9km and served around 500 million passengers per year. In 2007 this number increased to 655 million as a 2 RMB flat fare replaced original staged and distance-based fares. In 2008 ridership rapidly grew due to the Olympics, the opening of three new lines, and the continued fare subsidy:



July 19, 2008

With the opening of another 108.2km over three new lines, and with the Olympics in August, ridership skyrocketed by 75% to 1.2 billion in 2008. Even with this many trips, the metro still only accounted for 19.24% of mass transit in the city. But things were just getting started, as in almost every subsequent year Beijing MTR opened at least one new line:



December 31, 2012

By the end of 2012, 11 lines covered 442 km, with average daily ridership of 7.56 million (July 2012), and 2.46 billion passengers in 2012. At this point Beijing's metro became the 2nd longest in the world behind Seoul, and just in front of Shanghai. But there is more:



2015 Plan

In the next few years, Beijing MTR expects to continue expanding the metro system to 708 km, or 0.51 km of track per km² inside 5th Ring Road (Beijing Daily, 2011). Under this plan virtually all people living in the metro area would be within 1km of a metro station. In the next 5 years, Beijing MTR plans to further expand by another 300 km to over 1,050 km by 2020.⁶

As well as having huge coverage, Beijing's transit system is extremely cheap, even cheaper than most Chinese cities. Any trip on the metro system costs a flat rate of 2 RMB (32 cents USD), irrespective of distance travelled, lines changed, or time spent travelling. The only exception is the Airport Express, which costs an additional 25 RMB. Like the metro, buses also cost a flat rate of 0.4 RMB (6 cents USD), with some air-conditioned buses costing 1 RMB, and long-distance buses having

⁶ Images: Wikipedia History of Beijing Subway: http://en.wikipedia.org/wiki/File:History_of_Beijing_Subway

variable rates, usually around 10 RMB per trip. Switching buses or changing mode from metro to bus incurs additional costs, but a return trip of one metro ride and one bus ride each way still only comes to 4.8 RMB, or around 75 cents. Assuming a white collar Beijinger makes this trip every workday, and takes an additional two return metro trips per weekend for outings, this only comes to 2,163 RMB per year, or 3.8% of an average annual salary.

Yet Beijing is still a huge city, both spatially and population-wise, so a typical trip beyond one's neighborhood is likely to take between one and two hours. The mega block structure of Beijing's outer city means that all metro rides begin and end with a 10-15 minute walk, sometimes shorter with a bike. Within the station long lines to scan bags and buy tickets add considerable time, especially during peak hours, and many stations create bottlenecks around buying tickets by design. Once on the platform trains come every 2-3 minutes for workdays, ending between 10 and 11 pm, but during rush hour many buses or trains pass by fully packed with commuters, unable to take any new passengers. On occasion, commuters may need to wait thirty minutes on the platform before they can squeeze on board.

Line 13 Longze Station Typical Rush Hour



Image: ZOL user [koukou01](#)

“In Beijing, every day is *chunyun* (Spring Festival Migration)”



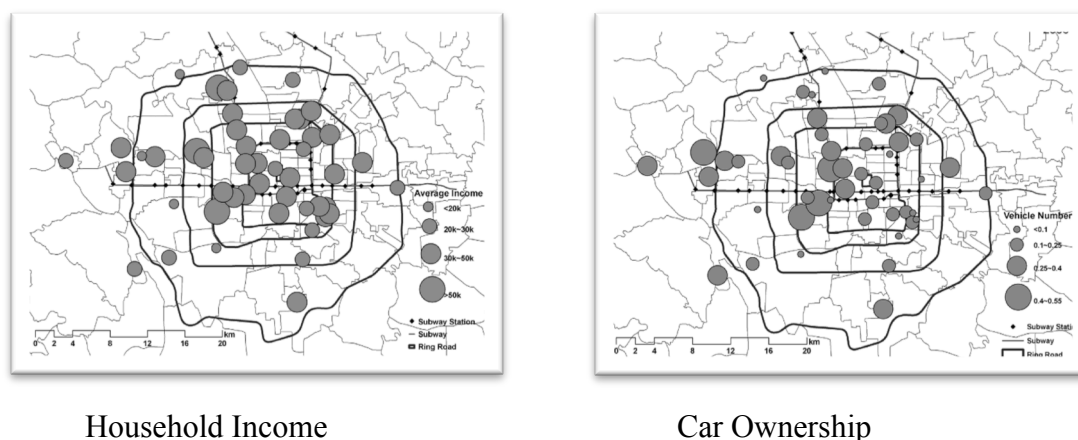
Images: Li Wenshe, [Sina.com](#)

Due to distribution of residential and commercial areas in the city, typical commuter trips often require transferring train line at least once.⁷ More recent lines have convenient transfers, involving one flight of steps and crossing to a new platform, but older lines have intricate, winding corridors that take considerable time. For instance transferring from Line 13 to Line 2 or 4 in Xizhimen Station takes over 7 minutes to walk from one platform to the other during off-peak times, with additional time waiting for a space on board the next train.⁸ At rush hour, brisk walking is reduced to a slow shuffle, and waiting for space on the next train takes a long time. Once on board, people are crammed cheek to jowl, enjoying each other's odors and on occasion wandering hands.⁹ During rush hour each morning and evening, credit must be given to Beijingers for how tightly they pack each train, but on the flipside, young commuters forced to live outside the city and catch the metro each day due to high housing prices are quickly disillusioned with otherwise cheap and convenient transit.

Why Buy?

Even so, excluding purchasing costs, owning a car is still at least ten times the cost of taking transit, and strangely cannot even promise reduced commuting time, as traffic inches along at 12 kmph. That added cost amounts to 18,000 RMB that could be saved per year, or spent on other modes such as taxis, rentals, or hiring a driver for irregular trips. From an economic standpoint, especially when purchasing price is factored in, buying a car only makes sense for the most affluent of households. And yet demand has grown astronomically, representing far more than the most affluent, and the average age of car owners has dropped to 32, representing the influence of the young rising middle class (Zhu et al., 2012). Furthermore, market statistics show that 90% of purchases in Beijing pay far more than they would need to purely for instrumental value: a domestic car costs just over 50,000 RMB while foreign brands are easily over 100,000 RMB. Additionally, studies such as Yang's (2010) show that many car owners do not even rely on their car as a sole mode, but often live within the inner city near transit stations after all:

Figure 3. Spatial Distribution of Household Income and Car Ownership



⁷ Based on interview data, either multiple train or bus transfers common.

⁸ Author experiment, 2012. Line 13 platform to Line 2 platform off-peak record time: 6 minutes 40 seconds. Special thanks to Marissa Kennedy.

⁹ Mentioned often in interviews, see discussion later.

In a strange turn of events, results from these surveys indicated a slightly reduced likelihood to take transit when living close to metro stations for a certain cohort of respondents, suggesting lifestyle factors associated with these people. Specifically, Yang found that ‘young, large, affluent families’ were most likely to own a car while also living within the inner city, where a car in many ways is least needed, and population is most dense. In other words, families are willing to pay more than they need to for a transportation asset that they do not strictly need, while living in areas that are most problematic to park and drive in, and are closest to city amenities to begin with.

This combination of factors – including high price of ownership, restrictions on licenses and driving days, awful traffic and low driving speeds, serious air pollution, and cheap, ubiquitous transit – raises the question of why do young urban Chinese want to buy a car seemingly so badly?

Changing Values

“White Collar Happy Car Life”



MSN online advertisement, 2011

This MSN advertisement captures what Chen and Zengras (2010) describe as a middle class-driven car phenomenon in China today, based on shifting lifestyles and values:

As only a small fraction of households, those with the highest incomes, can afford a private car, most households [in Beijing] remain below the vehicle ownership threshold [income level]. At the same time, actual and expected income growth, lifestyle changes, etc. mean that many households soon expect

to purchase a car – a decision which may carry as much symbolic value related to status, aspirations, and transition to the “modern middle class” ... as purely utilitarian mobility value. In other words, owning a private car can have very strong psychological effects or symbolic meanings associated [with it].

Likewise, Wu et al. (1999) argue that owning a car is considered a symbolic acquisition on the path of modernity, middle class status, and prestige. The extent of this can be glimpsed in young Beijinger Ma Nuo’s infamous quip on national television: “I would rather cry in a BMW than be happy on the back of a bike”. Social commentator Chen Zhigang further exhorts that “Her opinion resonates with youth: they have grown up in a society that is quickly accumulating material wealth. They are snobbish. They worship money, cars and houses, because the highly developing economy has made them do so” (Lin, 2010). Indeed, a viral amateur music video from the Chinese blogosphere comically reinforces this attitude:¹⁰

女人的渴望就是要有车和房
 Having a house and a car is what women long for
 嫁对人是最大的愿望
 Marrying the right person is the biggest wish
 问你有没有车问你有没有房
 Asking you if you have a car, asking you if you have a house
 我妈妈她也问你存折有几张
 My mother will also ask you how much savings you have
 假如你没有车 假如你也没有房
 If you have no car, if you also have no house
 赶紧靠边别把路来挡
 Hurry, move aside, and don’t block my way

This song is a parody of a romantic pop song, “I don’t have a car, house, money or a ring, but I have a heart that will grow old with you,” with unmarried young women warping the original lyrics to their opposite meaning. Instead, the most important thing is that suitors have a car, a house, and money (Shanghai Daily, 2011).

Studies of youth in China reinforce the materialistic shift in post-80 Chinese (Gu and Hung, 2009). As Podoshen et al. (2010) and Luo (2002) summarize: while urban Chinese young people in the 1980’s (children of the Cultural Revolution generation) often searched for life’s meaning, contemporary youth in urban China (the post-1980 generation) are more success-oriented and openly seek the good life. As Li (1998) puts it: “Chinese consumers, who used to perceive consumption was a manifestation of decadent bourgeois influences, are now surrounded by an increasing abundance of consumer goods and services, as well as persuasive commercial messages and activities.” China has undergone a massive shift in values, or what Stanley Rosen (2004) calls ‘The Victory of Materialism’:

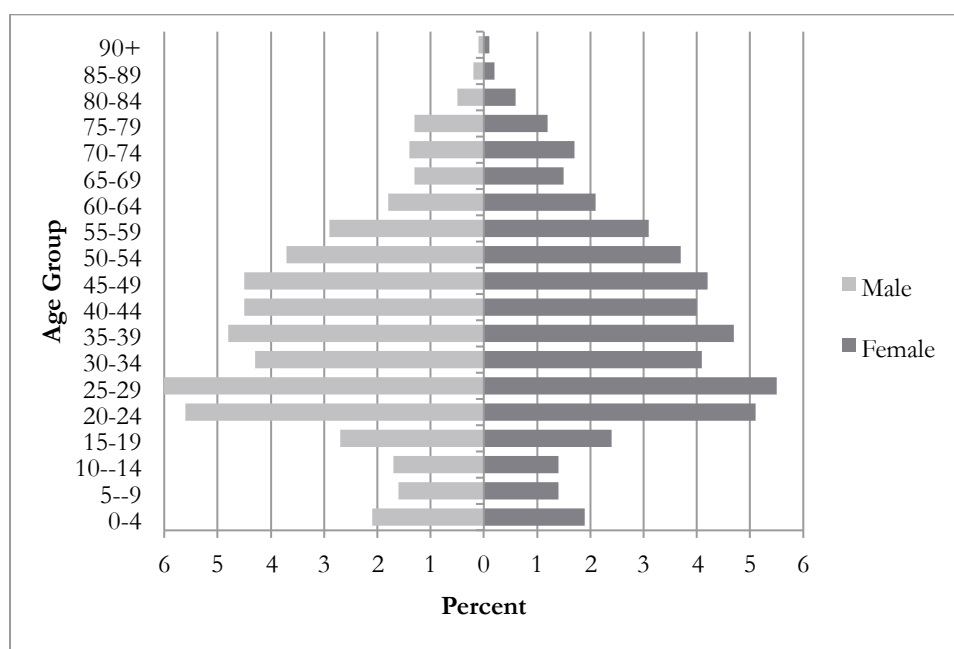
"value", in a material sense, has become a key indicator of

¹⁰ Lyrics translated on ChinaSMACK.com, 03/10/2011. Available at: <http://www.chinasmack.com/2011/videos/no-car-no-house-song-chinese-leftover-women-version.html>

worth... Surveys, academic and media reports, and interviews all concur on the increasing roles that money and a moneyed lifestyle play in urban Chinese aspirations.

Rosen also points out that in 2001, the high income, affluent ‘new China yuppies’ were aged 30-40, and are the role models of China’s current generation. Now, millions of Chinese born in the 1980’s are becoming a middle class with the earning power to decide whether they want to live like their frugal, self-sacrificing predecessors, or like the affluent, individualistic elite portrayed in media. Indeed this is a key demographic in Beijing, representing the largest cohort of the city’s population:

Figure 4. Beijing Population by Age Group and Sex 2009



Data: Beijing Bureau of Statistics, 2009 Population Sample Survey

As seen here, the post-80 generation (those born after 1980, so 22-32 year olds)¹¹ represents a key age group in Beijing’s demographic composition. A full 11.5% of Beijing’s population is aged 25-29, while the 20-29 cohort accounts for 22% of the city. Beijing’s official population is already over 20 million, meaning that there are over 4 million of these young people, many of which are skilled migrant workers in white collar jobs, as well as students. With growing incomes and upward mobility, this group of post-80 workers is referred to in this research as the rising middle class – not because they generally have met the criteria for being middle class (a tricky Western term defined in many different ways in China), but because they have the ability to pursue this consumerist middle class lifestyle if they so desire. The critical issue in China is how many of these young, educated people truly desire such a lifestyle, potentially creating huge

¹¹ In Chinese, ‘post-80 generation’ is a common term for those born in the 1980’s, as each generation has experienced a wildly different socio-political milieu and resulting childhood, although it covers a wide range of people.

economic and environmental repercussions, of which transportation is but one.

With the declining average age of new car owners, and the huge demand for cars, what planners and policy makers are finding is that incremental restrictions and cost disincentives simply are not curbing demand in a significant way – the power of the car as a social symbol may be too great. As Yang and Zegras (2010) argue, these noneconomic factors seem extremely important to how the aspiring Chinese middle class desire cars,¹² but there has been no in-depth research on this to date.

Transportation Research

Yet there is increasing research into affect and social perceptions for their role in peoples' decision-making, including in the field of transportation (Carr, 2008). With congestion, pollution, and concerns around carbon emissions, research on transportation attitudes and driver motivations has increased in recent years, providing a growing body of literature. However as this research is very recent, mostly it is limited to survey-type responses and calls for more in-depth study, and there is no in-depth study directly focused on aspiring drivers.

Goodwin and Lyons (2010) summarize 300 'public attitude' studies conducted in the UK over the last 30 years, and conclude with "what may now perhaps be taken as a prevailing view among transport professionals: ... that attitudes to transport must also be rooted in deeper values and aspirations of how people want to lead their lives". In their broad analysis of hundreds of qualitative studies, Goodwin and Lyons find the lack of study on deeper values and life aspirations to be the key weakness, and therefore the focus of future research.

Linda Steg's investigative survey (2005) of commuters in the Netherlands is an important study for establishing the emotional associations with driving beyond utilitarian use. Through an inductive study, Steg established that driving is often associated with feelings of power, freedom, and arousal. Subsequently she explored the role of these affective motives in explaining car use. This second study found that affective motivations (such as family expectations, social comparison, stress, etc.) explained 28% of variation in car usage. This is a groundbreaking study for providing an empirical basis for the role of emotional associations with decisions to drive. Since Steg's initial studies, similar studies have been conducted, such as by psychologists Lopez-Saez and Lois (2009) in Spain, and transportation researchers Beirão and Cabral (2007) in Portugal. A similar study has even been conducted in China, which will be discussed shortly. However, a shortfall of all these studies is that they focus solely on drivers. Findings are therefore not directly applicable to deterring future drivers. Furthermore, each study uses a survey format to measure affective factors – yet surveys are unable to investigate the depth and strength of given factors, which is an important aspect.

Along these lines, Gardner and Abraham (2006), two psychologists in the UK, use semi-structured interviews and grounded theory to explore why commuters choose to drive. They discover that decisions to drive versus use transit are emotionally coded, with positive

¹² Yang Chen and Christopher Zegras (2010). "The Dynamics of Metropolitan Motorization under Rapid Development: the Beijing Case". <http://intranet.imet.gr/Portals/0/UsefulDocuments/documents/03085.pdf>

associations to cars, and negative associations to transit. As such, the costs of driving are universally underestimated, while the perception of transit is typically much more negative. The drawbacks of driving are rationalized away, while the benefits of transit are not thoroughly considered. One major value that also emerges is the need for control, which underpins many responses about driving. Gardner and Abraham provide a good example of a qualitative, inductive study in transportation issues. However, like Steg's study, they also focus only on drivers, and do not sample non-drivers. One significant finding, though, is that new drivers have stronger positive associations with driving, meaning that once that step has been made, it is hard to undo.

Most recently, in April 2013, *Transportation Research Part A: Policy and Practice* published a special issue exclusively on the psychology of sustainable transportation behavior, reexamining the social side of decision-making. In a study of instrumental, hedonic, and symbolic attitudes and their influence on buying electric vehicles, Schuitema et al. (2013) find that hedonic and symbolic meanings associated with different vehicles significantly change the perception of potential users. Where car buyers identify as environmentally-friendly, and associated an electric vehicle with reinforcing this image, they are likely to look favorably upon its instrumental value. While preliminary, Schuitema et al. provide significant insight as to how values and identity, particularly how they coalesce as ways in which people wish to be seen, affect perception and decision-making. This finding is thoroughly reinforced in the interviews with aspiring drivers in Beijing.

There is also extensive research on public attitudes towards transportation in China, which typically rely on extensive survey methodologies. For instance Wang et al. (2011) surveyed drivers in Beijing on their attitude towards driving restriction policies during and since the Olympics. According to their survey of 412 car owners, they find that "saving time" and "to travel more freely" are the top two reasons for ownership, while on restricted driving days car owners take transit and taxis. Similarly, Yi and Zhang (2010) surveyed drivers in Beijing on their attitudes towards rising fuel prices, finding that once people own cars, car dependency quickly kicks in, meaning that as fuel prices incrementally rise, they simply accept the cost. This confirms other research findings that once people buy cars, they quickly become dependent on them and view associated costs through a very different lens. Once such a significant time and monetary investment has been made in one transportation mode, this is unsurprising. On the values side, back in 1999 Wu et al. surveyed attitudes behind vehicle ownership in Xi'an, finding that 'symbolic utility' was an important factor to car owners. However these studies all rely on survey responses from current car owners – results do not provide insight to the depth and nature of motivations, and do not help understand aspiring drivers. Transportation planning in China must deal with traffic and congestion as in any major city, but what is overlooked and understudied in China is the huge latent demand for cars. It is assumed that more expensive cars and more extensive transit networks will incentivize transit use, but in reality this is increasingly seen not to be the case.

Researchers are now beginning to realize the importance of values and aspirations as they relate to transportation, and Zhu et al. (2012) recently conducted an investigative survey of university students and their aspiration to buy cars. Zhu et al. also sought to capture the rising middle class due to their future purchasing power, and so targeted university students at prestigious institutions. Through surveys, they explored the importance of "instrumental", "symbolic" and

“affective” valuation of cars by young Chinese, and how they relate to aspirations to own a vehicle. They find that psychosocial factors, such as associating cars with freedom, control, and success, are more statistically significant than instrumental factors in respondent likelihood to desire a car. In other words, much like Schuitema et al.’s study, value perceptions are the most significant factor behind desire for cars, with instrumental and economic factors filling dependent roles. Zhu et al. make a significant contribution to understanding car demand in China, but it is also investigative and preliminary. While their surveys used a 5-point Likert scale for responses, in their analysis Zhu et al. grouped respondents into binary ‘want’ and ‘do not want’ groups, removing any nuance or depth behind respondent aspirations. By this measure 65% of university students surveyed said they would buy a car, but there is no way of knowing how determined they are, what most motivates them, or whether this aspiration is at all realistic. The qualitative difference is extremely significant for crafting policy responses, as otherwise major assumptions about motivations and desire must be made.

Studies in Europe and China alike indicate the importance of the ‘symbolic’ and ‘affective’ utility of private vehicles. However most studies focus only on current drivers, which does not help inform policy targeting future drivers. The most recent research, in 2012 and 2013, begins to study aspiring drivers, providing strong preliminary results that motivations and decisions are significantly influenced by values. Yet these studies continue to rely on survey responses alone – more in-depth study of the nature and depth of respondent motivations is still lacking, particularly in China.

Investigating Desire for Cars

In light of the significant impacts of motorization in China, and the significant knowledge gap on changing values and their relation to transportation choices, this research takes a qualitative approach to investigating the following four questions:

Q: How prevalent and deeply held is the desire to own a car amongst the aspiring middle class in Beijing?

Prevalence is largely addressed by existing survey research (see Bennett & Zhao 2013, and Zhu et al. 2012), but there is no sense of how deep-seated desire to own a car is, and how prevalent deep-seated desires are. For instance, when asked directly 65% of students say that they want to own a car, but how many will realistically invest the large amount of time and money necessary to make this happen? This research addresses this question by discussing such questions at length with aspiring car owners.

Q: What role does changing values play on desire to own a car? Specifically extrinsic vs. intrinsic values?

The shift in values across generations has garnered much attention in media and academia alike, but no qualitative study has been done on whether highly extrinsic, “materialistic”, values can be associated with stronger desire to own a car, or with the symbolic utility associated with cars. Certainly many people assume that this is the case, and so this research seeks to investigate

whether such a relationship can be seen. ‘Values’ is of course a very broad concept, and psychologist Rokeach (1973, p. 5) defines a value as:

[A]n enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence...[and] has a transcendental quality to it, guiding actions, attitudes, judgments, and comparisons across specific objects and situations and beyond immediate goals to more ultimate goals.

Rokeach’s definition captures in particular how values coalesce into behavior – the ‘transcendental quality’ of values to guide actions to ‘more ultimate goals’. There is additionally extensive literature on materialism and measuring materialistic values. This research draws on Richards and Dawson’s (1992) widely used Materialistic Values Scale, which distinguishes between extrinsically motivated people, and intrinsically motivated people. Intrinsic motivations include self-improvement, helping others, developing relationships, and other internal values with little or no material representation. By contrast, extrinsically motivated people, or materialists, have three characterizations (Richins, 2004):

- 1) Acquisition Centrality: Materialists place possessions and their acquisition at the center of their lives.
- 2) Acquisition as the Pursuit of Happiness: They view possessions as central to their happiness and wellbeing in life (as opposed to relationships, experiences, or achievements).
- 3) Possession-defined Success: Own and others judged by the number and quality of their possessions, or consuming lifestyles.

The focus of this research is not measuring materialism or other values in young Chinese, and so the two broad categorizations of extrinsic and intrinsic values are used. Of course the more extrinsic values are, the more materialistic, while more traditional Chinese family values tend to be more intrinsic.

Q: How important is the symbolic value of car ownership?

Many researchers point to how people and media have “sexualised the car as a ‘magical object’ that appeals to the desire for power, speed and excitement” (Waitt & Harada, 2012), giving it a symbolic quality. Furthermore, in China today the car is hugely symbolic of modernity, success, affluence, and power, as seen in media and pop culture. Yet how does this prestige-factor affect desire for cars at the individual level? Do aspiring middle class Chinese truly lust after vehicles for the social prestige? Surprisingly, no in-depth qualitative study has explored this question.

It is important to note that where the English term prestige is used, the commonly used Chinese term *mianzi*, or face, is slightly different in meaning.¹³ On the one hand, *mianzi* is the same as prestige in being social status as the result of some achievement or accouterment – a car or brand name watch would be an example. Yet on the other hand, *mianzi* also relates to conforming to a certain social standard within one’s peer group: if one does not have a car or iPhone, there is a

¹³ 面子, miànzi [pronounced “mian-za”] (n.): Outside, face, feelings. *Collins Chinese-English Dictionary*.

sense of shame in being behind the times. In both cases *mianzi* represents the symbolic value of ownership, but it can be either positive or negative, unlike prestige.

Q: What are the implications for planning responses? What can planners do?

Currently transportation planning focuses on efficiency, price controls and incentives, and the rationality of citizens in choosing between modes. Certainly in many areas this approach is successful, but as noneconomic factors potentially skew the decisions of users in China, what further or alternative steps might planners entertain? After gaining rich insights from aspiring car owners, this paper concludes with thoughts on responses to Beijing's transportation dilemma.

Methodology

As an investigative qualitative study, data was collected through in-depth semi-structured interviews conducted in Mandarin. Translations are by the interviewing author (Campbell).

Target Demographic

As a study of China's rising middle class, interviews focused on white collar workers in Beijing born in the 1980's. At time of research the oldest post-80 children were 32, while the youngest were only 22. As such, the more specific target demographic is in the middle range of 25-28 years old, where white collar workers are just able to, or are on the cusp of being able to, buy a car. Many definitions of China's middle class use income as a key threshold, with 5,000 RMB per month as the lower limit – but to realistically own a car about 10,000 RMB per month is needed. Three income categories are used in this research as a result: less than 5,000 RMB, more than 5,000 RMB, and more than 10,000 RMB per month. Few participants have incomes higher than 10,000 RMB a month, and this is noted where it is the case.

Selection and Procedure

Interviews took place in three stages: pilot interviews, local interviews, and telephone interviews. Initial pilot interviews were arranged through judgment sampling of white collar Beijingers known to the authors, and conducted by phone call to Beijing in March 2012. Marshall (1996) notes that judgment sampling is a process where the researcher “selects the most productive sample to answer the research question... based on the researcher's practical knowledge of the research area, the available literature and evidence from the study itself. This is a more intellectual strategy than the simple demographic stratification of epidemiological studies, though age, gender and social class might be important variables.” Indeed, careful attention was paid to age, gender, and social class in selecting appropriate interviewees.

The second and largest phase of interviews took place in Beijing in late 2012, using further judgment sampling with chain-referral of new possible participants. Earlier participants or colleagues would contact appropriate friends and coworkers on behalf of the researchers and explain the study to them. If interested, potential interviewees were sent a letter of introduction and consent, after which they would provide their contact information to the authors – most often a QQ instant-messaging number. After some initial chatting, a time and location would be selected for an interview. Getting busy white collar workers to honor this interview appointment was particularly difficult, often ending up in last minute on-location cancellation, demanding constant patience and perseverance.

Interviews lasted from 45 to 90 minutes, on average going for just over an hour. Many took place at the interviewee's workplace, while others would be in public places such as coffee shops and restaurants. The interviews were semi-structured, with eight broad topics to stimulate discussion; however, interviewees were encouraged to speak their mind and talk freely as much as possible, with the interviewer asking follow-up questions and gently exploring why the interviewee felt or

thought a particular way. Interviewees would be encouraged to speak as much as they liked without being prompted, as this revealed more about the participant with the least amount of interviewer interference. When interviews degenerated to question-response dialogue, the topic would be changed – a major reason there are several similar topics prepared. The broad topics covered were:

1. Satisfaction: Interviewees are asked what aspects of their life they are satisfied with, and which they are not. They typically talk about their work situations, and are prompted to also talk about their overall lifestyle, living situation, etc. Richins and Dawson hypothesize that materialistic people will be less satisfied, as they are constantly working towards having more (23).
2. Success: What is a successful person, what is success to you at work, or in life in general? Through answering this question, a sense of the interviewee's priorities and motivations could be established. Often the most important information is what is not mentioned, or what is brought up first and most frequently, such as family and relationships versus career achievement and financial stability. Career achievement can be complicated and requires further questioning also, as for some it is symbolic and external in motivation, while for others the personal development and self-actualization is most important.
3. Goals: What are they actively striving towards (in the next 2-3 years)? Where do they spend time/money now? It is easy for many to talk about lofty goals and their hypothetical future, but where they are currently investing their time and resources is a key indicator of what is important to people.
4. Ideals: Dream job & lifestyle in ten years – is owning a business or having children most important? Where do people ideally want to live? By removing pragmatic concerns this question sought to further gauge the values of each interviewee, e.g. assuming wild career success, would interviewees wish to build a corporate empire or turn to philanthropy.
5. Value: Where does your value come from? This aspect was not initially included, but came up frequently in initial interviews. Specifically, people felt that they could 'realize their self-value through working hard', or 'through starting my own company', which was an unexpected response. Therefore later interviewees were also asked where they feel their own value comes from.
6. Decisions: What factors go into making important decisions, i.e. finding a house, transportation, work, spending large amounts of money, etc. This question was another way of examining what most motivated each interviewee, be it pragmatism, being near friends, economics, or social image.
7. Happiness: Do you feel happy now? Where does happiness come from for you? This is similar to the question about life satisfaction, but speaks more broadly to the participant's life, rather than specific circumstances.

8. Transportation: How do you get around Beijing, what are the best/worst things about mobility in the city? Could you envision a car-free future for yourself? Would you rent a car rather than buy, or take taxis? What policies are you aware of in Beijing/elsewhere? Are they reasonable, what could be done better?

An additional important topic is the personal history and family background of the interviewee, which in earlier interviews typically featured at the end of the allotted time. However given the significance of the information, in later interviews this discussion took place first, which helped better guide discussion.

Another topic that would be woven throughout interview discussions is the question of prestige, or *mianzi*. In concept, *mianzi* can be different from prestige in that it relates to conforming to an expected social standard: if one does not have a car or iPhone, there is a sense of shame in being behind the times. On the other hand, *mianzi* can also be the same as prestige in being social status as the result of certain achievements or accoutrements. Specifically, interviewees would be asked about pressures they or their families might feel, or whether the instrumental value alone of owning a house or car justifies the costs involved. Candid discussion of *mianzi* problems require extensive talking around the question, approaching core issues obliquely until the interviewee feels comfortable speaking about it, if at all. Most importantly, sufficient context must be built up to provide insight to responses, as so much of *mianzi* hinges on the peer group and values of a given interviewee. Until the interviewee feels comfortable talking about general subjects, talking about *mianzi* rarely happens directly.

Key in the interview process is establishing the baseline attitude of participants relative to existing surveys and findings on aspirations in China (see Bennett and Zhao, forthcoming; Zhu et al., 2012), and then further exploring exactly how: 1) deeply held these feelings are, 2) how they are motivated, or by what, and 3) the relationship between instrumental and social-symbolic factors in decision-making. This exploration was pursued through an iterative questioning process, as captured in the similar-yet-different topics above. By talking about general concepts of success, satisfaction, and personal goals, the role of car ownership could be incrementally revealed and discussed in a more candid way. Where participants were directly asked about cars, responses tended to be more guarded and vague. For instance, discussing car ownership in relation to raising a family and achieving personal goals of family harmony and happiness provided much greater insight to where the interviewee's priorities lie, and how closely held their desire for a car is. By contrast, talking directly about the pros and cons of owning a car would consistently generate the same conversation about freedom, convenience, and safety, with little insight to the interviewee's own values and motivations.

Where possible interviews were recorded and transcribed, although in some cases conditions did not allow for recording, or the interviewee was uncomfortable with being recorded. In all cases extensive notes would be taken, including verbatim quotes and impressions of the interviewee's tone and possible extenuating factors. Going back through these transcripts and notes was key for building a richer picture of themes and understanding of each interview.

Interview Analysis

Two major factors inform analysis of interview data: firstly, extensive quantitative survey studies have strongly proven the dominating desire to own a car in China today, particularly among young, educated people (see Bennett and Zhao; Zhu et al. 2012). Secondly, values have been shown to be an important factor behind decision-making, rather than pure instrumental reasoning (see Yang 2010; Wu et al. 1999). Yet no in-depth qualitative studies have been conducted. Specifically, willingness to purchase expensive cars at high relative cost – relative to annual income, costs of taking transit, and the costs of other modes of transportation (such as taxis, renting, or even biking) – seems incommensurate to the instrumental value of cars, that is their speed, cost efficiency, and frustration factors versus those of other modes.

As these broader patterns of perception and desire have been identified, the question therefore is to what extent the rising middle class is actually fixated on buying cars, and why exactly. To this end interviews are assessed using a grounded theory approach of thematic analysis. Grounded theory is a process of identifying themes and assigning conceptual labels to them, then examining relationships across themes through an iterative process progressing from individual detail to overarching themes. As new themes are identified, transcripts are read and reread, analyzing the commonality of themes across interviews.

Participant Characteristics

A total of 25 participants were interviewed, covering a variety of backgrounds, jobs, ages, and aspirations. All interviewees expressed the desire to buy a car if or when possible, while some own cars already, and many can drive or are studying for their license. Basic characteristics by men and women include:

Men

A total of 11 men were interviewed, aged between 24 and 32, with a mean of 26, all working or studying in Beijing, but with only one local Beijinger from the rural outskirts of the city. Participants represented an array of professions, with a large number in administrative jobs (n=4), as well as management (n=2). Others included one student and one professional researcher, one journalist, one programmer, and one sales representative. Four of the men are already married, one plans to get married soon, one has a girlfriend, and the remaining 5 men were single at time of interviewing. Of the married men, two of their wives were also interviewed.

Most of the men came from non-local urban backgrounds, with several coming from southwest Hubei Province (n=4), or the Northeast (n=3), and only one coming from the coastal southeast. 3 of the men come from explicitly rural families, who still live in villages and farm the land, which created noticeable pressures for two of them.

In terms of income and socio-economics, the average income in Beijing as of 2011 was just over 4,000 RMB a month,¹⁴ while the benchmark for being ‘middle class’ is often considered around 5-10,000 RMB per month (Wang, 2010). Relative to these numbers, while many interviewees spoke only generally about their incomes, it is clear that only five surpass Beijing’s average income, while one is close to earning the 10,000 RMB benchmark, and one has surpassed it. As will be discussed later, this is largely a function of age, as many participants are fairly new in the workforce, while the oldest participant is the most experienced and highest earner. Overall, it is fair to say that earning power in this sample is fairly low, but representative of many post-80 white collar workers in Beijing. As will be discussed later, many of their expectations (in many cases explicitly) are founded upon the premise that as their age and experience grows, so too will their earning power. In many ways the rising middle class in China sees itself as nothing but potential.

Of the 11 men, 3 are licensed to drive, while two already own cars – the rural Beijinger, and the 32-year-old manager. Others were not yet learning to drive, although many had informally driven in their hometowns for fun.

Lastly, four men were interviewed by phone at their homes, four were interviewed at their place of work, and three were interviewed at public establishments. Of note is that while the interviews at work were conducted in person, those by phone to their homes typically made them feel more secure and talk more. When interviewed at work there were more distractions, concerns, and usually a more reserved tone. Of the three interviewed in public spaces, one was particularly uncomfortable, being a rather shy person, while two seemed perfectly comfortable being candid in a restaurant or coffee shop.

Women

A total of 14 women were interviewed, aged between 22 and 28, with a mean of 26, also all working and studying in Beijing, with three local Beijingers. Three of the women work in sales, and 5 work in administration, while the rest are a medley of individuals in: management, interior design, banking, interpreting, and law. Four of the women interviewed were married, at least legally, two plan to get married soon, two have boyfriends, and 5 were single at time of interviewing.

Many of the women come from successful families: four have officials for parents, two have doctors for parents, and four have successful business owners for parents. The remaining women’s parents are factory or other urban workers, while one girl’s parents still live in their village farming the land. Thus most of the women are from an urban background, with two coming from explicitly rural families. However one of these rural families is in the outskirts of Beijing and work for the government, so are rural in environment only.

In terms of socio-economics, again just under half of the women interviewed earn above the average Beijing income of 4,000 RMB/month, although in this research only individual income is calculated where household income would be higher. Again age is a factor as younger women have only recently started in the workforce, but another factor is the kind of work most of the

¹⁴ As reported in the China Daily 2012, based on 2011 numbers from the National Bureau of Statistics.

women are doing: administration. In sales and marketing income is often earned through commission, but in administration employees are salaried and do not receive as many raises over time. One distinction is that one of the administrative women works at one of China's major state-owned oil companies, which presents a very different lifestyle and economic reality: higher expectations, greater stability, and many benefits.

Of the 5 women earning above 4,000 RMB, two of them earn beyond the 10,000 RMB/month 'middle class' benchmark, despite being young and single. In the case of one this is the result of income from rich parents, not strict work, so 'earn' is a term used loosely. In the case of the other, she is a 26-year-old sales manager who does extremely well at work, receiving many bonuses and commissions, and her income has grown extremely rapidly in the last three years.

One of the women already owns a car, although is not yet able to drive it, while three other women are recently qualified to drive in Beijing. One woman lived in the US, where she owned a car and drove every day, but does neither in Beijing. The two other drivers are interestingly the youngest, lowest-paid participants who both started driving school in 2012, one of whom had finished at time of interviewing. Driving school in Beijing is both time intensive, inflexible, and expensive, so this is a considerable investment that will be discussed later.

Lastly, seven of the women were interviewed at work, either in person or by phone, while three were phoned at home, and three were interviewed in public places. Those interviewed at work in person were able to feel comfortable and secure for the most part, but those interviewed by phone to work often were distracted or a little more reserved.

Results

While each of the interviews was unique, every single participant made clear that he or she would buy a car if possible, with varying degrees of emotional investment and practical considerations. In addition to this blanket phenomenon, several other themes emerged as trends. Rather than dissecting the aspirations, characteristics, and responses of each interview, these overarching themes will be presented and discussed. Interviewees are referred to by assigned random surnames, and are differentiated by sex and age; translations are by the interviewing author (Campbell).

Degrees of Desire

While all interviewees expressed the desire to buy a car if possible, this does not convey much information, and has already been thoroughly captured by extensive survey research in China, particularly of the younger generation (see Bennett and Zhao 2013; Zhu et al., 2012). Through the interview process, the degree of desire, nature of motivation, and pragmatism at play provide richer insights to desire for cars. Analyzing the interview data, four basic categories of desire emerged: those who “need” a car (n=7); those who want a car (n=6); those who are “not pursuing” a car, but would like one (n=7); and lastly those that are Not Interested, a very small category (n=2, a married couple). Additionally, three participants already own cars, and provide some scathing insights to the reality of driving and car ownership in Beijing. These categories will be discussed in turn, followed by some grounding comments by existing owners.

i. “Need” a Car

One third of the interviewees (n=8) were entirely adamant about acquiring a car. None could imagine a future for themselves without owning a car, and all were actively trying to get closer to owning one. Interestingly, five of the eight were determined women, four of whom want to start and run their own businesses and be entirely in control of their lives. These women all have strong ideas about what they want, with freedom, control, and convenience featuring heavily:

"I don't want to be limited by anything...Transportation is another kind of limitation, having a car gives me freedom and convenience...I need a car."

(Ms. Zhang, 27, sales manager)

"A car is important for doing more things in a day... it gives you freedom and convenience... I don't want to have any restrictions on my lifestyle."

(Ms. Li, 27, office assistant)

"The most important thing is convenience... Everybody has a car, of course I'm going to buy a car!"

(Ms. Wang, 25, sales assistant)

“It’s much more convenient to have a car [than take transit or taxis]. Especially at those times when you really can’t get a taxi; sometimes at rush hour you can wait a really long time for a taxi, or when there are heavy rains you can’t get a taxi. On snow days it is really inconvenient because you can’t get a taxi and transit is too crowded.”

(Ms. Xiao, 25, office assistant)

This last comment by Xiao was particularly interesting, as it is indeed true that when there are heavy rains in Beijing (usually in July and August), transit and traffic come to a complete standstill. Traffic because underpasses completely flood, even trapping people in their cars and suffocating them, as happened in 2012, and transit because so many people rush to transit to escape the weather that it is virtually impossible to get on board. Yet is surprising that the offensiveness of waiting for extra-crowded transit was a stronger factor to her judgment over the danger of driving in flood conditions. Many cars were damaged or destroyed, and several lives were actually lost (Reuters Beijing, 2012).



Beijing Rains 2012, Image: www.guardian.co.uk



Beijing Longze Station “Rain-induced Early Rush Hour”, Image: ZOL user koukou01

The fifth woman was more pragmatic in her aspirations to own a car, but equally adamant, if not more so.

“In my hometown [in Northeast China] it is hard to find a family without a car... I tend to get motion sickness when I’m driven around, but I still will definitely get a car.

[...]

I shouldn’t say that all people have a car, what I mean is all the people in my *quanzi* (peer group) have cars. They are mostly well-off families, but they are circle.

[...]

Car rentals seem like a really hot business right now, if we needed to save money then renting a car would be a good solution. Although I don’t know anyone that has rented a car.”

RC: Do you think you would rent a car in the future?

“No. [...] In fact, I just don’t believe that in the future I will not have my own car.”
(Ms. Yu, 24, bank clerk)

This dialogue unfolded over a significant period of time, meandering back and forth before finally concluding with her candid statement of belief. Across all of these women their attitude can be summarized as ‘simply not believing they will not have a car in the future’, making discussion of costs, price comparison, alternative modes, and other possible complicating factors virtually moot. In each case they can make polite discussion, but at the end of the day they do not believe that the topic applies to them personally, and having a car is inevitable. In the case of Ms. Yu, she even admits that she gets motion sickness in cars, and yet this does not affect her desire for a car in the slightest. She does say that she does not plan to drive herself much, but having a car is “essential” (必需的 *bixu de*) for a family. Other interviewees in this group also categorize cars as essential products (必需品 *bixupin*), whereas those in other groups refute this statement, even though they want a car themselves.

The sixth woman speaks less about her hometown and peer group as she more interested in having a baby soon, and is also adamant that having a car is necessary to raising children:

“It’s not safe to take children on transit, it’s too crowded and unsafe... We definitely need a car to raise children in Beijing.”

“Mostly we would drive on weekends or to go shopping, maybe in the mornings my husband and I would drive to the metro, or drop the other off to go to work. But mostly we would use the car for other trips.”

(Ms. Liu, 27, administrator, hoping to get pregnant soon)

Liu captures two important themes that recurred in many interviews, but regarding which she and her husband were most adamant: that transit is ‘not safe’, and that a car would primarily be used for non-commuting trips. She pointed out that the car might be used on occasion to get to the metro faster, but in general they did not expect to use the car every day. This aspiration that the car will only be used infrequently is slightly baffling, when cars cost so much to buy in the

first place. Reasons for this are not entirely clear, and when asked, Liu pointed out that metro service to work for her and her husband is quite convenient and cheap. In this light, buying a car is an expensive investment for a backup mode, especially when there are rentals and taxis available for much lower cost. When asked about this, both Liu and her husband pointed out that taxis are unreliable:

“Taxis are untrustworthy... and they are unreliable – if you need to get somewhere in an emergency, like the hospital, and you can't find a taxi, what can you do?”

RC: What if you keep the numbers of certain drivers that you work with?

“No. Having a car is better, it's more reliable and convenient”
(Mr. Feng, 27, university researcher, Liu's husband)

The issue of perceived reliability, of taxis, rentals, and second hand cars, was a strong underlying theme across interviews, and only one couple regularly took taxis.

On the safety side, transit was generally described as unsafe, and unfit for children. No specific reason was given other than how crowded transit can be, but does not seem ‘unsafe’ per se. One other possible reason that was alluded to, but not explicitly talked about, was the ‘quality’ of people on transit. In Chinese, ‘quality’ refers to the manners, educational level, and behavior of a person, and in this instance middle class interviewees disparaged the quality of transit ridership. Other interviewees also mentioned this:

“If I could say one thing about the metro system, it is *suzhi* (quality) of the people... The quality of the guards, the staff, and the passengers. People are not polite, push, spit, and are dirty, so if the quality of the people was improved it would make a big difference.”
(Guo, 26, sports administrator)

“Quality of people on transit can be a problem, especially for girls, as they can feel uncomfortable or have people be inappropriate on the metro or bus.”
(Ms. Qian, 24, accounting student)

Manners and appropriateness are certainly a problem across transit systems worldwide, indeed of any public space, that must be negotiated. In China's defense, the sheer number of people on transit every day means that a few will have bad manners no matter what, and there are striking cultural divides within China, regionally and across rural-urban areas. Perhaps because Chinese are aware of these differences, the fact that only three interviewees mentioned or alluded to issues of public space and personal discomfort is quite remarkable. Every single interviewee bemoaned how *ji*, crowded or to push, transit is, but issues of inappropriateness or worse are few.

The seventh ‘need a car’ member is a man from the Northeast who feels quashed in the workplace, stressed in the city, and insufficiently in control of his life:

“There is a lot of pressure in Beijing, you look at other people and feel badly about yourself... I feel like I am trapped in a box, and have no freedom.”

“Having a car is always better than not, people recognize that you have *mianzi*, and it’s much more convenient...To get a girlfriend I definitely need a car...Having a car is very important for *mianzi*.”

(Mr. Wang, 24, sales assistant)

Getting a car is a deeply symbolic investment that will give him a sense of freedom, control, and status, and will certainly help him find a girlfriend. In fact, unable to buy a car due to finances and policy restrictions, instead he rented a car to drive it around and feel in control.

Unfortunately for Wang, his colleagues (two were interviewed) perceived this as a move of desperation and were not impressed by his ‘playing car’. Driving and having access to a car clearly did not have the same symbolic value as being able to buy and own a car.

Lastly, much like Wang, Lei is single and unsatisfied with his life in Beijing, but unlike Wang he does not associate the car with magical properties to remedy this situation. Instead he is much more methodical about his acquisition of a car, and focuses on its usefulness and how he will get one:

“I will definitely get a car, the most important thing is convenience.”

“Next year I will study for my license, and if the registration policies get any stricter I will just buy someone else’s registration [on the black market].”

“I don’t feel any pressure to buy a car, and I don’t really care about *mianzi*.”

“I want to have authority, I want to have freedom of control over myself, I really don’t suit lower level work.”

(Mr. Lei, 27, manager at a logistics company)

Yet it is important to note that Lei lives in walking distance from his place of work, making the convenience and instrumental value of a car questionable. On the other hand, as a manager at his company, he has access to a company car once he is qualified to drive. While he disparages *mianzi* as a motivation for getting a car, several social factors certainly implicitly influence his desire for a car: firstly, a 27-year-old from rural Hubei, he is quite concerned about finding a wife; and secondly, he lives in southern Beijing, which is very far from his friends and community on the north side of the city, making him feel isolated. His drive to drive was surprising, as his demeanor and attitude was much more subdued than the other interviewees in this group; however, given his single-minded desire to own a car, even working out how to acquire a license plate illegally as a non-local, is compelling. Along with Ms. Zhang, Lei is the highest earning member of this group, and so has a good economic basis for investing in a car. Unlike the other members of this group, he is from a rural village where virtually no one owns a car already – although this was not an influential factor to him based on this interview.

Overall, it is interesting how highly represented women are in the number of people adamantly set on buying a car. Of these, some see raising a family as the primary motivation for having car,

but their rationale is strongly affected by value judgments rather than instrumental considerations. Hometown peer groups were particularly significant for establishing a sense of expectation: ‘everybody has a car!’ For the other women, freedom and control were stated as the primary reasons, as highly independent, entrepreneurial women. The male interviewee is primarily motivated by desire for social status and *mianzi* more than instrumental factors, practically imbuing the car with magical powers.

While the women make it sound like they are primarily interested in cars for their instrumental value, there are two issues with this narrative. Firstly, when confronted about the high cost of cars, these six women had virtually no concept of the costs of owning a car beyond initial purchase, and only one has any driving experience to speak of. Their adamancy in this sense is largely based on fantasy, emphasizing how values-based desire to own a car in China is. In each case there was at least a general sense that cars were expensive to buy, but little to no knowledge of costs or restrictions beyond that.

This is a consistent theme throughout interviews, take for example the following excerpt from Mr. Guo, another participant:

“I would need about 80-100,000 RMB to buy a car I think.”

RC: How much do you think you would need to maintain a car?

“To maintain it? I feel like around 1-2,000 RMB a year.”
(Mr. Guo, 26)

Guo’s figures for purchase are quite accurate, but do not include taxes and fees; however, his concept of ownership costs is vastly deflated: owners easily spend 1,500-2,000 RMB per month, not year. Even if he never drove his car, it would cost around 7,000 RMB per year to own. Admittedly, many of these interviewees argue that in the future they plan to have higher income, but given that they have much more control over whether they buy a car or not than over how much income they can earn, it is still surprising they do not have a more realistic sense of the costs. This also shows that even though current car owners have seen added taxes, climbing costs of fuel, worsening traffic, and restrictions on driving days in the last four years, the cumulative impact is not enough to percolate down to non-owners.

Secondly, these women were completely uninterested in possible alternative uses of the money they would spend on a car. If a car costs just over 100,000 RMB to buy, this money could be used to cover annual transit costs for over ten years. Meanwhile, over that ten-year period the car would cost at least another 200,000 RMB in fuel and maintenance costs. In fact, using only the money needed for owning a car (20,000 RMB a year), a combination of transit, long-distance trains, taxis, and even car rental could be afforded with money left over, and saving the 100,000+ RMB of buying a car altogether. When questioned on this cost comparison, each of these women maintained that a car was ‘worth it’ regardless, and that they were not interested. Given that only one of these interviewees earns over 10,000 RMB a month, the flippancy of responses was surprising. What is clear is that each person justified the huge cost in other ways: the control over one’s transportation, a sense of safety for one’s child, fitting in with one’s peers, and gaining

social status. While this may lead to economically ‘irrational’ thinking, from a social perspective such values can be understood, and certainly they are real.

Beijing’s driving and car ownership policies will most dramatically affect this echelon of invested buyers. Xiao even mentioned that to avoid new restrictions on non-resident buyers (in addition to the registration lottery), she had looked into buying a non-local car outside Beijing, but decided it was too inconvenient. Given how attached this group is to car ownership, transportation planners will be unable to dramatically reach or change the mindset of these people, especially in the immediate future. Improved transit and cost incentives are insufficient measures to affect their judgment, as their beliefs around cars are indeed deep-seated. If 25% of China’s rising middle class feels as strongly about cars as these people do, much more creative and extreme policy interventions will be necessary.

ii. Want a Car

A fifth of the interviewees (n=5), two men and three women, were adamant in their desire for a car, and in some cases were taking discrete steps towards acquiring one, yet lacked the sense of immediacy and emotional investment apparent in the former group. Compared to the former group they also share a variety of motivations, of differing timescales. Yang, an interior designer originally from a village in Inner Mongolia, demonstrated an indicative train of conversation in her interview:

“If you have your own company and do your own business, you absolutely have to have a car – it is a tool that allows you get places faster and do more things in a day...”

RC: Does a car give you mianzi, or does not having a car make you lose mianzi?

“Cars do give you *mianzi*...I would say a car for me would be about 50-50 convenience and *mianzi*.”

“If I am able to I absolutely definitely will buy a car. If my income is good enough, I would buy a BMW or something, haha!”

“But you can still be successful as a person without a car, for me the main thing is helping my family [back in the village]. I want to have my own career so that I can help them.”

(Ms. Yang, 25, interior designer)

As Podoshen et al. (2010) explore in their article, here is an example of the melding of traditional family values and contemporary materialistic values, seen more in the city. In many ways Yang is still very rural in her outlook and attitude, and has a strong accent from her hometown, but on the other she is very contemporary and urban, doing interior design, constantly on her smart phone, and looking trendy and made-up. She sees cars as an important symbolic and instrumental asset, without having any strong working knowledge of the specifics of costs and driving in the city, but it does not seem likely that she would go to the black market or nonlocal dealers to

acquire one like the former group. One of the other women in this group, also from a more rural part of China, maintained almost the exact same narrative as Yang, but was more forceful in her assumption that getting a car is an expectation for people – likely because her uncle is a very successful local businessman with high expendable income. Interestingly, neither mentioned raising a family and needing a car for children, but were more business-oriented, much like the former women.

By contrast, the third woman in this group, Qian, is the daughter of officials from a city in Hubei, and looks to marry her hometown boyfriend, whose parents are also officials, and who also lives in Beijing. Relative to most Chinese, this is already a fairly high-status couple, known as “2nd generation officials”, and while Qian has the resources from her parents to invest in a car now, she feels strongly about not using her parent’s finances. Instead she hopes to rise quickly in her career at a bank, have children in her 30’s, and buy a car then to make having a family more convenient. However, in the meantime she used her free time as a student in Beijing to study for her driver’s license already. As she put it:

“I do plan to get a car, but first I want to have a stable job and also a family. I need a stable job as my friends that are getting cars now told me that ‘you may have enough money to buy a car, but you might not have enough to maintain it’, as owning a car is very expensive too.”

RC: Do you know how much it costs to own and maintain a car?

“No I don’t know any specific numbers, I just know that it’s very expensive, so you have to have a steady, well-paying job first.”

(Ms. Qian, 24)

This was an insightful moment, as across the interviewees only three had a sense that owning a car would actually be a major, regular cost. Other people tended to assume that the upfront cost was the major hurdle, which will be further discussed later. Also of interest is that Qian’s friends were already getting cars while still in university:

RC: So your 24-year-old student friends are already buying cars?

“Just a few of them, but ...so people talk about it a lot... And they are using their parent’s money to buy them.”

(Ms. Qian, 24)

In this vein, the One Child Policy is an unexpected enabling factor for early car buying:

“You know we are all single children, and so if I really want something like a car, between my parents and my boyfriend’s parents they would definitely pour their money into it and we could get it. Single children can have large resources like this. But I don’t want my parents to use their money, I want them to retire and have a better life, so I won’t do that.”

(Ms. Qian, 24)

While Qian does not want to go down this path, the fact that her peers are already creating hype around cars is significant. This further sheds insight on the car buying mentality, where young university students already feel like they have to keep up with the curve and get a car. Other interviewees echo this sentiment clearly:

“Back home [in Southern China] most of my high school friends already have houses and cars...”

(Ms. Xiao, ‘Need a Car’, 25)

“Everybody has a car, of course I’m going to buy a car!”

(Ms. Wang, “Need a Car”, 24)

“It is unusual for families back home not to have a car... By everybody I mean all the people in my peer group.”

(Ms. Yu, ‘Need a Car’, 24)

“In my village [outside Beijing’s 5th Ring], it’s no longer whether your family has a car or not, but what brand your car is. Everybody is getting cars these days”

(Mr. Xu, Car Owner, 25, office assistant and driver)

Because of the hype around cars, combined with the ingrained social expectation of having a car, interviewees speak as if the decision has already been made for them – it requires virtually no thought. Within this context, it is unsurprising that very few of the interviewees have thought critically about owning a car. Along these lines, Qian, an open-minded participant apparently unmotivated by the *mianzi* associated with cars, had in spite of this “never thought about” non-car options, but did quickly respond to some other ideas:

RC: If you just need a car for weekend trips or irregular shopping trips, and you already have your license, why don’t you just rent a car? Why wait until you’re 35 to buy one when you could rent every now and then and avoid the hassle of buying?

“Oh, I had never thought of that, I don’t know anyone who has actually rented a car. I know there are advertisements everywhere for it, so I know you can, I had just never thought of it in my own head. That’s a good idea, it makes a lot of sense...”

RC: And do you ever bike around Beijing? I have friends that can bike from Haidian to Sanlitun faster than the metro if you include walking time, if you get a proper road bike.

“Oh. Or even buying an electric bike is much cheaper than a car, and you don’t even get stuck in traffic on an electric bike. I should do that, it would save a lot more money and be more convenient.”

(Ms. Qian, 24)

This was an insightful discovery for Qian, and many foreigners living in Beijing, who are wary of the depressing traffic conditions and road rage-inducing driving styles, often expound on the

wonders of biking and motorcycles.¹⁵ But even for Qian the rubber meets the road when children are entered into the equation:

RC: When you have kids you could just put them on the back too...

“I think for children a car is still better.”
(Ms. Qian, 24)

Even for the most pragmatic, open-minded, least socially-influenced women, family is a potent factor behind wanting a car. This is a recurring theme for rising middle class women, who are concerned about taking their children on transit, even if they currently take transit themselves. Given that transit in Beijing has many children and young people on board, it is not entirely clear why women feel so strongly about this. None of the interviewees provided any more specific responses when asked further.

Looking at the men in the ‘want a car but can wait’ group, Feng is the soft-spoken, university researcher husband of Ms. Liu (from the ‘Need a Car’ group, hoping to have a baby soon), while Jia is another son of officials from a city in Hubei, now working in Beijing for a computer company. Both men have steady partners (one married, one soon-to-be), and both say virtually the same thing:

“If it was just me, I would live a bit closer and walk to work each day, but I have a wife and [future] child to take care of, so I definitely need to get a car... It’s not safe to take children on transit, we need to have a car... Having a car is much more convenient. What if we need to get to the hospital or something, and you can’t catch a taxi? Taxis are unreliable.”

(Mr. Feng, 26, university researcher)

RC: So it sounds like whether you buy a car or not in the future largely depends on what your future wife wants?

“Yes that’s right... In my current situation I wouldn’t buy a car, but if I needed to go out regularly for work, or my wife and family needed a car to go out and do things, it would be really inconvenient not to have a car. If my wife needed a car, I would definitely buy one.”

(Mr. Jia, 25, programmer)

In both cases these men make it seem like they are not emotionally invested in the car as a symbolic purchase for themselves, but as a necessary purchase for their families. Both Feng and Jia did maintain that cars are not an essential product in their view, but that they would do whatever their spouses need.

Overall the men in this group are quite pragmatic, with an idea of the costs and regulations involved in getting a car, and an idea of when they would likely be able to get one. Yet none

¹⁵ Speaking from 12 informal interviews conducted by the author with expatriates in Beijing as part of a Quality of Life study for the Chinese Academy of Urban Planning and Design, October 2012.

seem emotionally tied to cars and their symbolic value the same way those in the former group were. It is unlikely that *mianzi* does not affect them at all, but is just one more pull factor making car ownership attractive. Though one of the issues raised earlier remains unaddressed: how is the inordinately high cost of getting a car justified versus other modes, such as renting or taking taxis? Given the extent and rapidly growing nature of Beijing's metro system, a car is highly uneconomical in cost comparison, and this is compounded by the fact that all three men only anticipate using their car for irregular trips, not so much daily commutes. Again these participants had no clear answer, only that taxis are unreliable and expensive, and renting was not an option they had considered or trusted. Compared to the metro, taxis are indeed expensive, but compared to cars they are quite cheap, while the main obstacle to renting cars is that people perceive that nobody is doing it.

Considering the women in this group, they are equally optimistic about getting a car as the other interviewees so far, and admit that *mianzi* is a factor, but they are still not deeply tied to having a car over other life priorities. Other modes are perfectly reasonable in the meantime, and new factors would need to come into play to justify buying a car, such as starting one's own business or having a family – two themes that continue to recur. Of course, given the opportunity to buy one, such as by winning the license lottery unexpectedly early, these people would certainly buy a car.

Overall, based on their attitude and desire, without further policy intervention these two groups will both have cars within the 5-10 years. This shows that the 65% desire for cars in university students found by Zhu et al. is indeed indicative of strong desire for cars. Through these interviews it is clear that both groups justify the already high price of car ownership through a combination of instrumental and symbolic factors based on their own values perception, showing that:

- 1) Perception of the efficiency of driving is inflated, and the implicit symbolic value of cars is high.
- 2) Neither group has a keen sense of the true costs of car ownership, so taxes, fees, and other monetary disincentives do not yet influence future car buyers.
- 3) Traffic, parking, pollution, and driving restrictions also do not negatively affect the car's image, as owning the car is the primary goal, not driving it. Having a car parked outside adds value to the owner's self-image, and being able to drive adds to a sense of freedom and control. Even if they take transit after buying a car, it is because they choose to, not because they have no other choice. This is partly to do with the rapid decline of biking as a socially favored mode, which is explored at length by Qiuning Wang (2012).
- 4) Children are key for women, and women are key for men: incremental cost increases are vastly overshadowed by these two interests.
- 5) Car ownership is widely, but not universally, ingrained as an expectation in the middle class, rather than viewed as a decision to be made. This is due to peer group conformity and the social hype around cars.

iii. Not Pursuing a Car

This third group represents those who can see having a car as a good thing, but are not going out of their way to get one, or even feel it is more a fantasy than a reality. It is a large group, with seven interviewees, and is again an even mix of women and men, at three and four respectively. The women represent a variety of backgrounds and interests, and are not at all personally sold on the idea of a car, and even oppose cars in their current lifestyle. But in every case these values give way to perceived social and family realities in their long-term vision. Two of the women, both 26, are both born and raised Beijingers, and both are perfectly happy with transit:

“My parents raised me to be frugal, so to save money I will always take the bus for just 4 *mao* [6 cents] and take the extra time... Beijing has good public transit.”

(Ms. Yan, 26, wants to be a Buddhist nun, works for a sustainability company)

“I like taking transit, it’s really good. I live over by Chaoyang Park and I often come to Beixinqiao in the afternoon, I can just catch the bus or take the metro... When I came back from studying abroad my parents urged me to get a car as returning students get a tax break on new cars, but I didn’t want to get one, so we didn’t. I like taking transit, I think it’s fun...”

(Ms. Qin, freelance interpreter, studied abroad in the US for two years)

Being local Beijingers may help give these two a more positive outlook on transit, as they have better knowledge of its routes, system, and timing, and have seen transit develop rapidly over the years. Also Qin is a freelance professional, so keeps irregular hours – avoiding the crushing tides of people at rush hour each morning and evening certainly improves experience of transit.

When asked about *mianzi*, both made interesting remarks but remained detached:

“It’s pretty common for guys to have cars these days, they need them to boost their confidence – I can accept that... Anyway these days they don’t compare whether you have a car or not, it’s what brand your car is.

[...]

It’s true a lot of families will buy their son/daughter a car for their wedding for *mianzi*, not because they need it or even can afford it. When I get married I don’t expect my parents to buy me a car, I don’t really care for it, but it would be good if they bought us a house.”

(Ms. Yan, 26)

“Not having a car doesn’t really affect my *mianzi*. If people ask me “Why don’t you have a car?” I just say, “Have you studied abroad and lived in the US?!” That usually does the trick.”

(Ms. Qin, 26)

In both cases *mianzi* is seen more as making up for a shortcoming than as being ‘better than’ others. The major concern is not around gaining prestige but in avoiding shame. For those who

wish to be well-perceived by others, it is certainly necessary to have a car. This shame factor is specially hard to research though, as participants do not easily disclose their fears of being shamed, and shame is also often implicit in decisions rather than explicitly addressed. The ‘*mianzi* problem’ does exist as a phrase in Chinese, and can be seen in many car advertisements though:



(Left) “Looking for *mianzi*? Xinhuakuan has many popular cars for you”, Image from: auto.msn.com.cn

(Below) “Buying a car is buying *mianzi*. Selling 250k RMB Business Cars”, Image from: auto.hc.360.com



Another case where the *mianzi* problem came up explicitly was the third woman in this group: Ping, 28, from Shandong, who works in a law firm in Beijing, and hopes to become a lawyer helping marginalized groups. She personally has similar feelings about cars and *mianzi* as both Yan and Qin, but as a slightly older professional woman, she also recognizes that there are professional expectations:

“I feel a bit conflicted, as right now I bike, walk, and take transit... and being environmentally friendly is important to me... but if I become a lawyer people will not respect you if you turn up on a bike or the bus. There is definitely a *mianzi* problem if I become a lawyer [even if I don’t care personally]... Taking taxis is ok, but if you take taxis every day you will probably want to just buy a car.”

(Ms. Ping, 28, works in a law firm)

These three women are typified by having zero interest in cars in the short term, but upon reflection each realized that in the future they in fact expect to have a car. For Ping there are professional considerations of being a lawyer, but for all three having children is key:

“If I am a successful lawyer I think there is a 70% likelihood I would buy a car... When I take having children into consideration, it becomes very likely that I would want a car.”
(Ms. Ping, 28)

“Oh, for raising a family I might need a car, having a car would be good. It’s so much more convenient, especially for driving my parents when they get old...if I found a boyfriend with a car, I think actually I would like that: he could drive my kids and parents around, it would be much more convenient.”
(Ms. Yan, 26)

“When I think about having a family in the future, I think having a car would be best for driving kids around, its much more convenient.”
(Ms. Qin, 26)

This realization was stark for each participant, as in each case they currently have strong anti-car lifestyles and values. In all three cases, these women are actually actively shunning a car-centric lifestyle, with Yan’s strong environmental and frugal values, Ping’s environmental values and preference for an active lifestyle, and Qin’s experience of the car lifestyle in Monterrey, CA, which she decidedly does not want to bring back to China. In spite of this, all three recognize that underneath it all they still feel it is better, or important, to get a car later in life for raising a family and for professional prestige. Even with cheap and extensive transit, where cars are extremely expensive, cannot be driven on certain days, traffic is horrible, parking is stressful and expensive, and pollution is rampant, cars are still seen as necessary and inevitable by middle class women, even those with strong anti-car values.

There are four men in the ‘Not Pursuing a Car’ group, all of who articulated that there is pressure in society, or from women, to get a car, but maintained that it simply is not practical in their case, and/or they are not personally invested in getting one:

“Women like men with cars... I could get a wife if I had a car, it’s just not practical for me.”
(Mr. Wang, 25, journalist investigating corruption across China)

“My girlfriend really wants me to buy a car, but I just ride around with her on the back of my bike. It would be good to get a car, I would like to get one, but they are so expensive to own...I know she would like me to get one, and having one would be good, but not having one doesn’t bother me really, and I’m not going to actively pursue it.”
(Mr. Li, 26, church administrator)

“My parents put pressure on me to buy a car, because they think that my future girlfriend’s parents will expect that, but I tell them that any girls I would see would not care about me having a car – but they are concerned for me finding a wife, and that’s what they think.”
(Mr. Xiang, 24, programmer)

“I totally accept that having a car makes it easier to get a girlfriend, that is definitely a fact and I accept it, but I don’t care. If I can’t find a girlfriend because I don’t have a car, well, then I don’t find a girlfriend.”

(Mr. Guo, 26, sports administrator, studied abroad in the UK)

These four men would all like to have a car, or even ‘plan’ to get a car in the next 5 years as Guo does, but there is absolutely no emotional attachment to the idea:

“Having a car is definitely not required in Beijing... Maybe I hope to buy a car one day, but for lots of reasons maybe it never happens, that won’t affect my sense of achievement or success... I can understand why people would think that [you need a car and a house to get a wife], but I don’t agree with that way of thinking. Maybe it has something to do with a sense of security, or traditional values of providing, but I wouldn’t marry a girl who demands [a car and a house] from me... Whatever conditions I live in, my children will live in. If I take transit or catch the train, my children will take transit and catch the train.”

(Mr. Guo, 26)

Interestingly, Guo also studied abroad, getting his Master’s in the UK, and much like Qin, has absolutely no interest in the car-centric lifestyle. Both would happily get cars if convenient, for convenience’s sake, but it is a relatively low priority in their lives. And as both have studied abroad and speak English, *mianzi* is not a problem for them in Chinese society. Like Guo, Xiang, Li, and Wang accept that women (or their parents) would like them to get cars, but they again maintain other priorities far above getting a car, due to the high costs and bad traffic. Xiang even exclaimed that:

“Beijing traffic is already beyond bad, it is apocalyptic, on the point of collapse. I take the metro, which is very crowded, but as I go past I see cars getting slower and slower on the roads.”

(Mr. Xiang, 24)

Overall, the seven participants in this group see the instrumental benefits of having a car in the future, but are not emotionally invested in this future, and have other priorities in the short-term. Interestingly, while only two of the twelve people in the earlier groups identified as having any kind of beliefs, four of the seven in this group identified as Buddhist or Christian.

Under the Beijing lottery system, these people are just as likely to get a car in the future as the above groups, not counting black market purchases. However, under the Shanghai auction system, no one in this group would go out of their way to pay the huge auction price for a license.

iv. Not Interested in a Car

Of all the interviewees, only two, a married couple, were expressly uninterested in buying a car unless economic and policy conditions dramatically changed. Mr. Kun and Ms. Rong, married

for three years in Beijing, were the only people to actually calculate the costs of owning a car (or house) in Beijing over time:

“My wife put a lot of pressure on me to buy a car after we got married a few years ago. She kept mentioning it and saying it would be good to get a car. So in 2008 I sat her down and calculated the costs of actually buying and owning a car, using some fairly low estimates on prices and things, and we looked at it and realized how ridiculous it was. So she doesn’t bother me about wanting a car anymore, even though she thought she really wanted one... Same thing with owning a house, we can rent a better house for less money over time.”

(Mr. Kun, 26, administrator, commutes 5 hours by train each day)

“For transportation, having more choices is better, not investing in just one: we can take the metro, take taxis, or even rent a car, it’s not that much trouble... If we owned a car, parking would be a nightmare, there are so many other troublesome things about having a car.

[...]

Other people basically just get cars for *mianzi*, they don’t want to lose face – I think it’s pretty silly.”

(Ms. Rong, 28, administrator, hoping to get pregnant soon)

“And the roads are so complicated in Beijing! You have to know miles ahead of time if you want to turn off, get in the right lane, and then spin around in some direction before you can get off the highway, and there are no signs until it’s way too late.”

(Mr. Kun, 26)

“We take the metro, on the roads there are more and more private vehicles, and traffic just gets more jammed... Registration lottery is a good thing.”

(Ms. Rong, 28)

While hearing Kun’s figures and cost comparison of car ownership versus other modes (metro, bus, taxi, electric bike, all of which they use), it was still a shock to discover that he commutes each day from the end of Line 15 all the way in the northeast of the city’s outskirts, to Wudaokou on the northwestern side, for a total of 150 minutes each way, a total of 5 hours a day. This was by far the longest commute of any of the interviewees, and yet Kun was by far the most adamant about how ludicrously expensive cars are.

Kun and his wife had worked out how much money saved by not buying a car, and budgeted this accordingly to other things such as taking taxis every weekend. By knowing how much money they were saving by taking taxis, rather than focusing on the cost of each fare, they do so without guilt or a sense of burden – making them the only interviewees aside from Ping who did not feel taxis are ‘too expensive’. They also feel comfortable using this money to go on trips or buy other things, such as an electric tricycle for buying groceries and driving around their neighborhood. Not having to worry about saving the huge amount of money necessary to buy a car (and house), Kun and Rong feel satisfied and even liberated by their budget. It was still surprising to find out that Mr. Kun commutes 5 hours by metro each day though.

It is worth noting that other interviewees often did know generally how much cars cost to buy, and occasionally had an idea of ownership costs, but Kun and Rong were the only ones to calculate these figures specifically, and over time.

v. Have a Car Already

In addition to those interviewees who have yet to buy cars, there were three participants who already have cars: two men and one woman. Mei, an administrative assistant at major Chinese state-owned oil company SinoPec, had only just bought her car after unexpectedly winning the registration lottery:

“When I got my number, I HAD to buy my car, I HAD to! ...Now I have so much debt...and I can’t even drive, my car is waiting for me at the dealer.”
(Ms. Mei, 26)

While Mei obviously cannot speak to actually owning and driving a car in Beijing yet, she does represent the quintessential, successful middle class Beijinger. After receiving her Master’s she spent a brief time working abroad, and returned to land herself a secure, high-paying, high-benefit job one of China’s state-owned oil companies. Since then she has found a husband, bought a house, fully mortgaged out, and then unexpectedly won the license lottery for her car. The only success she has not yet achieved at her stage of life is to have a baby, but she hopes to do so soon. Meanwhile the only hiccup in her plans was winning the lottery just after buying her house, meaning she had to scrounge up another 120,000 RMB from nowhere or lose the opportunity for a car. By taking loans at new banks and borrowing money from relatives, she was able to do this, but feels heavy financial pressure as a result. Her experience is indicative of the perverse effect of a lottery system, where those not necessarily able or ready to buy a car can suddenly be ‘forced’ to do so or forfeit their chance.

The two male car owners provide two different, equally interesting snapshots: Mr. Xu is a local Beijinger from a village outside 5th Ring expecting his first child, and Mr. Liu is a successful business manager – both have been driving for years.

Xu self-identifies as a car enthusiast, pointing out that cars are a key part of his life, but he also points out that added instrumental importance of having a car in rural China:

“For me I have loved cars since I was young, and getting a car was a personal need.
[...]
Also where I am from [outside Beijing] there are no emergency services and the ambulance won’t even come, so you need to have a car to take care of things. Having a car is important for that.”
(Mr. Xu, 25)

This is a practical consideration, but it does not necessarily explain why every single household must have a car. For emergency or irregular trips, investing in a car is still a significant burden. But Xu points out that cars are also important for *mianzi*, especially in business circles:

“Some families [in my town outside Beijing], maybe 10-20%, will pay big money for a ‘nice’ car for the *mianzi* so they can do business. These days people don’t say “do you have a car or not”, they say “what brand is your car, how much was it”? If you have a ‘nice car’, maybe more than 100k, you have face and will get more business...”
(Mr. Xu, 25)

This perspective echoes Ping’s acknowledgement of professional expectations, and is further reinforced by successful businessman Mr. Liu:

“Having money, a house, and car does not at all mean that you are successful, but they are necessary conditions for success...”

“When you’re in business and you are making deals, or you need to meet with someone, you just have to have a car. In some circles, you just have to have a car. There is not an option.”

(Mr. Liu, 32, business manager)

Liu’s narrative of the business world is compelling as he explained it, as in China much hinges on how one is perceived by one’s peers. Just as other interviewees conveyed the sense that having a car is not a choice, Liu outright exhorted that it is not a choice, and repeated this several times.

Interviewing car owners was also useful for providing qualitative perspective on the experience of driving in Beijing. Both men praised the freedom and control of driving in general, but were highly disparaging of driving in Beijing:

“I love driving... Anywhere outside 5th Ring Road I will drive to, but inside the 5th Ring I will drive to Line 4 and take the metro. Driving in the city is too slow and stressful... Unless I’m driving for work, then I’m on the clock and I don’t mind as I’m being paid... Once I was stuck in a traffic jam that took me six hours to get across the city... so I won’t drive in Beijing.”

(Mr. Xu, 25)

“I have had a car since 2008, and it was a lot of fun learning to drive and then driving for about a year. But after that it gets really tiring because of the bad traffic, and you realize that cars are really expensive... It costs me about 1000-1500 RMB a month for my car, it really goes through gas... And traffic is getting worse. It can take me 20 minutes to get from home to work, but these days it easily takes at least one hour, and often more. If I take transit it’s about one hour too, so sometimes I just take the metro. Sitting in traffic is terrible, and when you know it can take 20 minutes when the road is clear, it gets very frustrating.

[...]

But no, I could never imagine living without a car. Once you have a car, you can’t not have a car.”

(Mr. Liu, 32)

These men unequivocally expounded on how awful driving in Beijing really is, and how expensive cars are. The cost was less of an issue for Mr. Xu, as he lives in rural Beijing where parking is free, and he does not have to pay for toll roads where he typically drives. But for Mr. Liu the pleasure of driving quickly wore off, while the realization of how expensive cars are increasingly dawned on him. Even so, he is frank that he now could never imagine life without a car, and driving around Beijing at night is indeed very fast and satisfying. What is also interesting is that both men choose to take transit for certain trips, but neither would relinquish his car, or could see living without it. Even though Xu and Liu excoriate the experience of driving in Beijing, they are still big fans of their cars.

This shows that even though prices, pollution, parking, and traffic have all reached virtually unbearable levels, it is still not enough to actually change the minds of drivers about their cars. Part of this is the symbolic value of the car: both Xu and Liu are frank about this value, although for Xu it is personal while for Liu it is social and professional. Interestingly, neither Xu nor Liu talked about the cost or cramped conditions of transit, only that it was better than driving. For Xu the metro is always better than driving in the city, while for Liu it is sometimes better than driving during peak traffic periods.

Discussion

In this section key overarching trends from these 25 rich interviews are explored, two important lessons in the failure of rationality as a model and the normalcy of contradiction are established, and possible responses for Beijing planners are posed.

Ineffective Incentives and Unexpected Factors

Qualitative investigation of the values and motivations behind desire to own a car amongst the rising middle class reveals key insights. Overall, a variety of often contradictory and disconnected thought processes combined many social and economic factors to create a strong desire for private cars. Of particular note is that Beijing's existing policies virtually did not feature at all, while several other factors, such as traffic, costs, and pollution, featured as unexpected reasons for getting a car. These factors primarily come from the Need a Car, Want a Car, and Have a Car groups, but recurred with slightly more variance in the Not Pursuing group.

Role of Current Policies

Registration Lottery was seen as unfair on nonlocals, and was also shown to be a perverse incentive for people to buy cars. Qian, Mei, and Yu pointed out that as the lottery can take years, and also costs nothing to enter, many people sign up as an investment, or even "just for fun". When they win unexpectedly, there is a strong impetus to buy a car, even if they are not ready to or even that interested. Furthermore, the lottery incentivizes people to get their licenses as early as possible, which in Beijing is a significant time and monetary investment. Once this step has been taken, it seems wasteful or odd not to further pursue getting a car, even if outside Beijing – "in for a penny, in for a pound" as they say. Lastly, while car license plates are capped at 20,000 per month, there is no absolute cap on the number of vehicles, so people's expectation that they can get a car is not challenged, only delayed. This is a major shortcoming of Beijing's policy, which will be discussed shortly.

Fuel taxes and parking charges were not perceived as an issue, as all felt their future economic ability could withstand these costs, and unless viewed over time they seem relatively insignificant. The cost of ownership in general was seen as insignificant next to the cost of purchasing a car, effectively obscuring usage costs in the eyes of future buyers. Essentially, aspiring car owners did not at all think of cars as an investment over time (that they would have to keep paying), but focused only on the momentous occasion of being able to buy one.

Cheap and accessible transit was not a reason not to buy a car, although it was seen as a good reason not to drive. Future owners in fact planned to still use transit, and current owners do. In fact the lack of capacity in transit, leading to cramped conditions and frustrating commutes, was often cited as a reason for wanting a car. Interviewees showed a huge tolerance to cost for 'convenience', by which they often meant comfort: additional personal space, the ability to bring more things, and having air conditioning in a sealed environment. Convenience also meant the

guaranteed availability of cars over other modes, although given Beijing's restrictive driving policies this is not strictly true. Meanwhile 'inconvenience' often referred to the rush hour frustration of buses and trains passing by so full they cannot take new passengers. Even as these were given as reasons for buying a car, interviewees maintained that they would still take transit.

Unexpected Factors behind Desire for Cars

While these policies for the most part were not factors behind motivation to buy a car, just as cheap transit unexpectedly became a factor behind desire to buy a car, there were several other unexpected factors. Typically it is assumed that bad traffic, cheap and effective transit, air pollution, and restrictive policies are all reasons not to buy a car, especially when the cost is high. Instead, all of these factors were perceived as reasons to buy a car:

Traffic was heavily criticized by drivers, and is a reason for some not to drive, but for non-owners it was cited as a reason to buy a car. Specifically, young Beijingers felt that traffic will be slow in any case, so it is better to have more control, personal space, air conditioning, and be able to bring more things with you by having a car. When it was pointed out that on the bus one could read, play games, or talk on the phone during that time, whereas car drivers can only drive, interviewees agreed but maintained their position. When it was pointed out that the metro and biking is faster for commuting in certain parts of the city, interviewees often also agreed, but maintained that having a car is better, with no particular rationale.

Pollution was seen in much the same way as traffic: it is unfortunate and terrible (and exacerbated by buying more cars), but it is better to be in one's own air-conditioned space than a bus. Pollution was presented more as an issue of heat and discomfort than a health issue, and one where individuals have no agency to do anything. To a certain degree this is a fair assumption in a city of over 20 million people, but on the other hand buying a car was not the expected solution to this problem. What this does illustrate is the dispersed sense of social responsibility, as individual actions are not held at all accountable to the cumulative impacts of these actions at a broader scale. No interviewee assigned themselves any agency or responsibility regarding social issues, with the exception of Ping's desire to aid marginalized people in her legal work.

Economic costs were also conveyed in an unexpected way: while cars are clearly far and above the most expensive mode, taxis and rentals were identified as 'expensive'. Buying a car was seen as an initial investment that was 'worth it', while rentals were seen as exorbitant at 100-200 RMB per day. When it was pointed out that owning a car (just ownership costs) would be more than this over time, factoring for when the car is not being used, interviewees agreed but maintained their position. Likewise with taxis, when it was pointed out that for the cost of buying a car one could take taxis for ten years and have money left over, interviewees often agreed, but then disagreed and said taxis are unreliable, which again is fair to a certain degree in such a large city.¹⁶ Yet overall, interviewees described costs for cars versus other modes as apples and oranges: for transit, taxis, and rentals, people compare costs and maximize utility in quintessentially rational ways, but cars are oranges, and do not factor into this equation.

¹⁶ Beijing taxis have bad reputations, especially post-Olympics, for only taking local Beijingers, not driving during inclement weather, only driving to certain parts of the city, and for various scams and impoliteness.

Weather was another important factor behind desire to buy a car, which is somewhat unexpected. Rain and snow were the two major issues, as Beijing can have snow-heavy winters, which leads to particularly long waits for transit (due to the increased number of people), and a dearth of taxis. Likewise in rainstorms taxis take shelter while transit is completely flooded by people, and sometimes water. Yet in both instances the risk of driving one's own car is serious, which interviewees occasionally agreed with, then maintained that having a car is better.

Safety was another factor, although less unexpected. Women in particular ranked the perceived safety of cars as a high priority, sometimes in terms of raising children, but not always. Cars were considered the safest mode next to bus, metro, biking, and walking. Ironically, biking and walking are considered less safe because there are so many cars, which increasingly take the liberty of driving down sidewalks. Driving in bike lanes has always been normal, but driving down sidewalks is a recent phenomenon as a result of crushing traffic. It was never fully specified why transit is unsafe, but women suggested that this had more to do with feeling uncomfortable and the risk of pickpockets or being groped (though this was only mentioned once explicitly).

Mianzi of course was a factor for many, but it was unexpectedly a double-edged sword. Specifically, while for some (particularly those in business or who feel socially quashed) having a car is a way of acquiring status and respect, for many (particularly those from well-off family backgrounds or in professional circles) having a car is deemed a necessary accoutrement, without which one feels shame. In this way *mianzi* is socially symbolic in both the positive and negative, making it a more potent motivation than prestige alone.

Children were an unexpectedly important factor, even for interviewees themselves. Specifically, female interviewees with strong anti-car values and non-driving lifestyles (who like biking, walking, and transit) encountered a brick wall of perceived necessity when thinking ahead to having children. This generated conflict and surprise for some women, as they had not connected these values before. The remaining women were without conflict, and clear that having a car is important for having children.

For men, women were viewed as an important motivation for wanting a car, as most men agreed that they had experienced or seen pressure to buy a car from girlfriends or parents (worried about them getting a girlfriend). Some men lamented this reality, while others acknowledged it and moved on. Those with better family backgrounds were less fazed, as getting a car was seen as more economically feasible rather than endeavor, while men with religious beliefs also were less fazed, as they did not feel that having a car was a priority for them. Men from outside Beijing, from more humble backgrounds, and without religious beliefs far and away felt the most pressure (Wang and Wang), because they did not feel they had anything else to offer women.

Beijing's built form was also mentioned as a factor for wanting a car, although this was expected due to the capital's mega block layout (often a kilometer long), and enclosed neighborhood design. Namely, as a pedestrian in Beijing there are often only circuitous routes into neighborhoods and building compounds, with extremely wide roads and high walls in between. For pedestrians there is often a lack of connection and human-scale accessibility, making cars

seem much more attractive.

In summary, interviewees presented a muddled and highly subjective narrative for why cars are so necessary – this teaches key lessons for how planners need to respond on such socially-charged issues. Section II explores these lessons from an economic and sociological perspective.

New Normal: Rationality & Contradiction

While virtually all post-80 white collar workers interviewed wished to have a car if possible, and around half have deep-seated desire for a car, rational economic thinking was almost nonexistent across all but two interviews. Instead, car ownership was often an ingrained expectation or belief, informed primarily by values and social comparison, which affected perception of factors. Secondly, in their justifications for wanting a car, interviewees were frequently contradictory, and happily so, complicating the role of factors motivating car ownership.

Failure of Rationality

While all interviewees were articulate, thoughtful, and highly educated urbanites, from a strict economic understanding of rationality, they (with the exception of Kun and Rong) were essentially irrational. As economist Herb Simon defines it: “the rational man of economics is a maximizer, who will settle for nothing less than the best [at least cost].”¹⁷ Along these lines, when taking into consideration:

- How often one plans to drive
- How much income one has and hopes to have
- How much cars cost to buy and own
- What other transportation modes are available
- How much cars cost versus other modes to maintain
- The average speed of cars versus other modes
- Environmental factors (traffic, pollution, etc.)
- Policy factors (restrictions on driving, road tolls, restricted roads)

Kun and Rong pointed out that it makes very little sense to buy a car over taking taxis, renting, owning an electric bike, and taking the metro. Even current car owners Xu and Liu admit that owning a car is a financial burden with limited usefulness in Beijing. Yet just as Xu and Liu then passionately affirmed their cars, so too did the majority of interviewees fly in the face of maximizing instrumental utility at least cost.

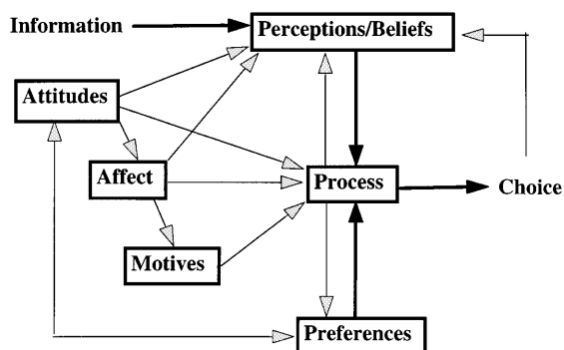
In his challenging article “Rationality for Economists?”, MacFadden (1999) maintains that failures of rationality are not at all unusual, but instead should be considered the norm in many

¹⁷ Quoted in MacFadden, Daniel (1999), “Rationality for Economists?” *Journal of Risk and Uncertainty*, 19:1, 74.

situations. As he puts it:

“Choice behavior can be characterized by a decision process, which is informed by perceptions and beliefs based on available information, and influenced by affect, attitudes, motives, and preferences.”

Figure 5. The Decision Process According to MacFadden



In other words, there are a plethora of “human motivational processes that actually determine value” independent of economic factors. Unfortunately this process is horribly complex and inconvenient to model and analyze. Of key note is that attitudes and affect are major factors behind motivation and perception, before decisions are made. Furthermore, easily available information (such as how awesome cars are) “looms too large”, while “beliefs are distorted because attention to new information is selective.” MacFadden concludes that “perception-rationality fails, and that the failures are systematic, persistent, pervasive, and large in magnitude.” He also points out that this knowledge is commonplace and regularly exploited by the marketing industry – academics lag behind marketing experts in understanding, let alone exploiting, the way people actually perceive and use information.

In every way these conclusions are reinforced by the rising middle class Beijingers interviewed by the authors, again with the single exception of Kun and Rong. Specifically, just as psychologists find people “often approach decisions as problem-solving tasks, seeking exemplars that suggest simple choice rules and reduce cognitive effort,” so too these interviewees ascribe to the solution provided for them by their peer group and middle class society: buy a car. Any variation from this heuristic requires much more effort, as an individual must justify to themselves and others, and potentially suffer the shame of being ‘behind’ their peers. Therefore, referring back to the factors above, they respond according to this heuristic rather than as rational economic individuals:

Table 1. Need a Car and Want a Car Interviewee Responses

Sample Factors	Response	Relevance to Decision
How often one plans to drive	Infrequently	Irrelevant: owning car key
How much income one has now	Low	Irrelevant: will earn more
How much cars cost to buy	High	Pool family money, or wait
How much cars cost to own	Low	Irrelevant
What other transportation modes are available	Transit	Too crowded
How much cars cost versus other modes	Not mentioned	
The average speed of cars versus other modes	Not mentioned	
Traffic	Bad	Better to be in own car
Pollution	Bad	Better to have air conditioning
Policy factors (restrictions on driving, road tolls, restricted roads)	Not mentioned	
Complexity of navigation	Not mentioned	

Assuming Kun and Rong do represent ‘rational economic actors’ by contrast, they respond:

Table 2. Not Interested in Cars Interviewee Responses

Sample Factors	Response	Relevance to Decision
How often one plans to drive	Infrequently	Not worth high cost
How much income one has now	Relatively Low	Better to spend money elsewhere
How much cars cost to buy	Very high	Not worth it
How much cars cost to own	Very high	Better to spend money elsewhere
What other transportation modes are available	Transit, Bike, e-Bike, Taxis	Diversity of options better and cheaper
How much cars cost versus other modes	Way too much	Not worth it
The average speed of cars versus other modes	Slow during day	Metro and e-Bike better
Traffic	Bad	Fewer cars better
Pollution	Bad	Fewer cars better
Policy factors (restrictions on driving, road tolls, restricted roads)	Not mentioned	
Complexity of navigation	Driving stressful	Not worth high cost

As seen here, Kun and Rong take many more factors, which are not exactly obscure or unapparent factors, into account and perceive them differently, coming to radically different conclusions than the other 23 interviewees. Admittedly five other interviewees, Ping, Yan, Qin, Li, and Xiang, were also critical of cars, showing a mix of the two above tables, but they ultimately decide that they will or would buy a car. The former responses also apply to current car owners, even though they strongly criticize traffic and the price of cars – but their opinions and conclusions remain the same.

Therefore, while policies often advocate cost incentives, improving alternatives, or even raising citizen awareness, in all of these cases the Chinese rising middle class is effectively inured by the image of the car, with few exceptions. This is the result of entrenched values-based perception of cars as necessary products, not even for driving, but merely to have.¹⁸ Providing superior instrumental utility at lower cost (such as with the metro, or through carshares and rental programs) will have limited impacts on the majority of middle class Chinese, who just want their own vehicle. For the others, there is concern around crowding on transit and distrust of intermediaries such as taxi drivers and rental companies. Planners and policy makers can more easily negotiate these issues than desire for cars, although that is not to say it would be easy.

For those with ingrained beliefs around cars, there are essentially two possible responses: highly restricting the ability to get a car, such as in Singapore and Shanghai, or turning around this values perception and creating new social narratives, but this is unlikely. Therefore hard policy responses to transportation issues can only continue to focus on restrictive measures for the time being, in addition to usage control.

Prevalence of Contradiction

One reason new narratives and new values-perceptions will not be able to sufficiently curtail car demand is because many people simply entertain contradictory values. Contradiction was a frequent characteristic of dialogue with interviewees, further reinforcing MacFadden's account of the ubiquitous failure of rationality as a model, and showing that even those with strong anti-car values ultimately still planned to get a car. For example Qin and Yan were both strong supporters of Beijing's transit system, one for its convenience, people-watching, and ubiquity, the other for its ubiquity, cost, and due to strong environmentalist values. Yet when asked about life 5-10 years from now, both quickly abandoned their position in favor of buying a car in order to raise children. Ping, a socially-minded lawyer, also found herself in this contradictory position, and felt the most conflicted of the interviewees, but still concluded that she would in fact buy a car, even if she disagrees with cars and the car-centric lifestyle. Even highly educated individuals maintain completely contradictory values and opinions, which poses a serious problem for planners, economists, and policy makers who might wish to cultivate a sense of environmental or social responsibility in the future middle class.

¹⁸ There is extensive research on ownership as important for economic signaling in professional and personal relationships, for instance see Sundie et al. (2011), "Peacocks, Porsches, and Thorstein Veblen: Conspicuous consumption as a sexual signaling system", *Journal of Personality and Social Psychology*, Vol. 100(4), Apr 2011, pp.664-680.

Yet influential sociologist Ann Swidler provides a nuanced theory of culture (1986), which stipulates such contradictions are normal and to be expected, even though they do not make sense. Much like MacFadden, she points out that existing theories of societies are overly simplistic and deterministic. According to her theory, cultures provide an array of values and approaches as a ‘cultural toolkit’ for creating strategies, rather than acting as one monolithic values system:

Although internally diverse and often contradictory, [cultures]...provide the ritual traditions that regulate ordinary patterns of authority and cooperation, and they so define common sense that alternative ways of organizing action seem unimaginable, or at least implausible. Settled cultures constrain action over time because of the high costs of cultural retooling to adopt new patterns of action.

In other words, cultures represent a diverse array of ways of thinking and doing, from which individuals diversely equip themselves with strategies, leading to often-contradictory results. Where cars are concerned, the rising middle class is surrounded by cultural narratives from their peer group, media, and older generations, which informs how they are able to perceive and choose to act. The lens that cultural values provide in this sense precludes critical thought unless there is a reason for critical thought to be engaged as a new strategy. This view of culture and values is strongly reinforced by the way interviewees cobble together their views of cars, and are unable to respond to alternative information in ways that actually changes their mind. Swidler asserts that the contradictions they evidence are in fact normal and expected, even if they do not make sense.

In other words, the inconsistent and contradictory justifications and arguments for wanting a car are entirely normal and there is no impetus to make them consistent. Transportation policies need to move away from assuming citizens are indeed rationally critical users which make decisions based on economic costs and benefits. This is clearly not the case with China’s rising middle class, so creative approaches are needed to work with society rather than against it. In the meantime, given the extent of how awful traffic, air quality, parking, and the economic costs of cars is, no advocacy on this front will change peoples’ minds – they will merely continue to nurse their contradictions, and keep buying cars.

Recommendations

Beijing is trapped in a transportation planning dilemma. Traffic and pollution are at record levels,¹⁹ while the metro system is the cheapest for quality in the world, yet these dual incentives fail to tempt the rising middle class away from cars. In fact, based on these interviews, the largest number of people is fervently set on getting a car in the near future. Furthermore, as the capital city with deep symbolic influence, what Beijing decides to do has ramifications for the whole of China – just recently Guangzhou largely copied Beijing’s policies as an amalgamation with Shanghai’s.

It is apparent that having a car is an ingrained expectation that overrides interest in objective information or incentives, and which will not be easily changed. It is certainly not a desire that can be swayed in the time it will take for the rising middle class to buy cars. Currently the only effective response is to cap monthly issuance of new license plates at 20,000, but this is itself part of the dilemma: existing conditions are so bad already, but this cap still allows absolute increase in traffic and pollution. In this sense current policies are at best slowing down Beijing’s problems. In addition, this policy does not suggest a cap in total number of vehicles in Beijing, so over time Beijing would allow hypothetically an unlimited number of vehicles on its roads. Unfortunately, just looking at the capital’s streets today, this is far from possible, yet it reinforces the belief of aspiring car owners that their expectation can be realized at some point in the future, and is therefore reasonable. There are three issues that this raises which need to be addressed: scalar inevitability of car ownership, the equity or inequity thereof, and allocation of privileges:

Scalar Inevitability

Extrapolating Beijing’s current conditions into the future, traffic, pollution, and safety continue to get worse, as more cars are added to roads. This raises the issue of scalar inevitability: how much is too much? In a city as dense and highly populated as Beijing, it is physically not possible for all people to own a car, so then how many people can own a car? Arguably this limit has been reached or even exceeded already, given the spatial layout and traffic mechanisms that currently exist. While capping new cars at 20,000 per month was a bold policy with deeply symbolic significance, it unfortunately does not help Beijing’s roadways or air quality in the slightest. Ultimately Beijing will have to cap the total number of vehicles in the city, much like Singapore does already – what this might look like and how it would be beneficial will be discussed shortly.²⁰

¹⁹ Such as January 2013’s “Airpocalypse” – Kaiman, Jonathan (2013), “Chinese struggle through ‘airpocalypse’ smog”, *The Observer*, February 16, 2013 <http://www.guardian.co.uk/world/2013/feb/16/chinese-struggle-through-airpocalypse-smog>

²⁰ Singapore was the first nation to strictly control vehicle numbers, and closely monitors the number of vehicles on the road – although this number may be growing slightly (around 10,000 more vehicles registered than de-registered in 2011), see LTA Academy, *Journeys*, May 2012, http://ltaacademy.gov.sg/doc/JOURNEYS_May%202012r2.pdf

Equity

Capping total number of vehicles sounds ominous, and many argue this would be inequitable. Car ownership is often discussed as an equity issue, and Beijing's lottery policy is clearly an attempt to make car ownership "fair"; however, the issue of equity should not be distracted by cars, but should focus on mobility in general. Having a car is not a right, and it is sorely apparent that the more people have fossil fuel burning cars, the faster environmental quality declines, among other serious impacts.²¹ It is also apparent that the more people have cars, the worse traffic gets, and not just for other cars, but also for transit, bikes, and pedestrians. More cars perversely incentivize more cars, which exacerbates all of these issues – as can be seen in Beijing and elsewhere. Reframing equity in terms of mobility puts the focus on enabling people to travel in convenient, affordable, but also socially responsible ways. On this front Beijing is doing an admirable job, investing in transit and also inter-city trains, although it has allowed active modes to be woefully neglected. When reframed in terms of mobility, it is quickly clear that the bigger equity issue (that which affects more people more harshly) is allowing too many cars.

Allocation of Privilege

If car ownership is not an equity issue, it is a privilege, and the question then becomes how to allocate these privileges. As a strictly economic question, typically willingness to pay is used as a method of allocation, such as in Singapore and Shanghai (although Shanghai does not have a total cap). On the one hand, cars would become astronomically expensive, as the latent demand for cars far outstrips what supply there could be. This would destroy the expectations of more middle class people, and solidify the car as a purely luxury item. Given that this has been the role of the car in China until the turn of the millennium, which is why so much social prestige is attached to owning one, such a change would only add to its power. As seen in Shanghai, higher cost of entry is surprisingly popular once enacted, as those who are 'in' presumably feel good about themselves, while those who are 'out' recognize how absurdly expensive cars are (see Chen and Zhao, 2012). Meanwhile, capping the number of cars would be hugely beneficial for improving transit services, as buses will no longer be trapped in logjam so frequently. Making buses more efficient and reliable would additionally reduce pressure on the metro in certain areas, while reducing cars would add an insignificant number of passengers, seeing as many drivers already commute by metro.

However, there are other ways of allocating privileges, which could be worth exploring. Rather than using willingness to pay, willingness to serve the community, or willingness to internalize externalities, or willingness to share might all be possible approaches.

Willingness to serve the community is a requirement based on hours invested in civil pursuits, such as serving the homeless and disadvantaged. Candidates could be required to compete for car ownership through community service hours, or could be required to maintain a certain level of community activism to avoid forfeiting their license plate. License plates could be freely traded between people, as the requirement is not monetary but based on services. This has the additional

²¹ Such as national dependence on oil imports and accelerated sprawl, among other impacts.

advantage of removing the privileged stigma around car ownership, and so long as corruption is avoided, would also potentially have greatly beneficial outcomes for a society struggling with increasing inequality.

Willingness to internalize externalities is an umbrella term for ways to justify owning a car beyond just paying more. A major externality of cars is tailpipe emissions, so candidates would need to cultivate a certain number of trees sustainably – not just plant and forget, or buy off-sets from existing forests. Another externality is traffic, so the privilege to drive may be constrained within certain boundaries in order to least affect transit and active modes. Beijing drivers are already restricted from driving at certain times, so licenses could be acquired for scheduled driving times. Parking space is a further externality, and Beijing already considered requiring proof of a parking space to be provided in order to buy a car, but abandoned this policy due to the lack of official parking spaces. If total number of vehicles were capped, this policy would be useful to re-introduce. Likewise with road maintenance, as the total number of local drivers would be known, a portion of road maintenance costs could be delegated to them each year as a regular upkeep cost.

Willingness to share is an acknowledgement that resources, especially private vehicles, often sit unused. To remedy this, candidates for license plates could be part of an official carpool network, where neighbors can connect with car owners for commuting or regular trips.

Looking ahead, Beijing needs to consider what a practical number of vehicles for the inner city can be, and how to allocate the privilege of ownership and driving. Various ways of determining allocation should be discussed for this future vision, although their implementation would need to be gradually staged and adjusted. In the meantime, Beijing needs concrete strategies to begin dealing with its traffic, pollution, and road safety issues – citizens are simply more focused on getting their own cars and will not self-organize to provide any solutions.

Location Pricing

In the meantime, Beijing already suffers from terrible congestion and needs more direct controls for drivers. Rather than charging blanket congestion fees, such as within the 5th Ring, 4th Ring, and so on, and charging high parking prices, the certain districts in Beijing could independently charge and enforce location costs. All cars entering the CBD would pay a CBD charge; all cars driving through Wudaokou would pay a WDK charge, even on the same day. For lower socio-economic car owners who use their cars for transporting goods and people, this would not be an issue as they could remain on major roads; however those affluent car owners who often live within the city would be further disincentivized from driving to these highly congested popular areas.

Crowdsourcing

Another immediate issue that Beijing needs to address is unruly road behavior, such as blocking buses, driving in transit lanes, stopping or parking in the street, driving or parking on sidewalks,

and other uncivilized driving strategies. It is understandably not possible for Beijing' authorities to be present on every street corner during rush hour to scold misbehaving drivers – but fortunately there are other ways in the information age, particularly for the most affected users: pedestrians.

Already many traffic tickets in Beijing are issued by automatic cameras, with fines electronically added to licenses. If citizens were able to augment this camera-ticketing process by sending in photos or video of illegal car behavior, potentially from their smartphones as they walk by, this network would be greatly enhanced. How this would practically be implemented would need to be fine-tuned, but the groundwork for electronically crowdsourcing traffic policing exists.

Framing Choices

Planners should recast the language of car ownership as a decision of having different choices at different costs rather than a binary of having a car versus not. Non-owners have access to a broader variety of modes at different costs, all cheaper than owning a car, whereas car owners may take transit, but are trapped by the path dependency of their massive investment from switching to other modes long-term. The accessibility and convenience of renting, e-bikes, and active modes as a diverse and economic bundle of strategies should be particularly emphasized. Lastly though, in the short-term Beijing needs to draw car owners away from driving, but in the long-term having a large fleet of private vehicles taking up valuable urban space is an issue that will need to be confronted. Already neighborhoods and streets are crowded with parked vehicles.

Kingdom of Bicycles

In terms of general transportation, traffic, pollution and energy, public health, and equity, the optimal solution for all people is to bring back biking to the Kingdom of Bicycles, and make it more alluring for young people and families of all walks of life. The basic infrastructure, road widths, and geographical flatness already make Beijing a great city for biking, but it is sorely apparent that this mode type is increasingly neglected, as more cars can be seen parking and even driving down bike lanes, as well as sidewalks.

Biking within one's neighborhood and to metro stations is extremely convenient, and if a robust bikeshare or even day-rental system was established in core areas, such as around Line 2, and parts of Lines 5, and 10, people could cover vast distances of the city relatively easily. A more robust system for penalizing cars parked in bike lanes, or even dedicating certain roads as bike highways as seen in Vancouver, would improve the safety and ease of biking. The irony is that this infrastructure largely already exists in Beijing, but has been overrun by cars.

While many planners and rising middle class people show no interest in biking,²² others seem perfectly happy with the idea, especially with improved safety and environment. Ping, Zhang, and Qian all saw the value of biking, but felt that roads were unsafe. The good news is that other Chinese cities already have very successful biking programs. Hangzhou, a major city in southern

²² Such as Wang, Yan, Liu and Liu, and others; for interview with a Beijing planner see Wang and Zhao (2012).

coastal China, now has the biggest bikeshare program in the world, which claims a total 30% mode share of all trips. Most interestingly, researchers found that 22% of bikeshare users own private cars, compared to 11% of people in Hangzhou in general (An et al., 2012). This indicates that even though such a strong car culture (at least in expectation) exists, biking is still a very possible short- and long-term transportation strategy.

Moving Forward: Next Steps

In conclusion, desire for cars manifests itself in China differently from elsewhere, particularly Western cities, in how symbolic and socially coded ownership is. For rising middle class Chinese, owning a car is an important achievement that transcends conventional economic maximization of utility. This finding emerged from extensive quantitative research, such as Zhu et al. (2012) and Bennett and Zhao (forthcoming), and is further investigated and reinforced through these qualitative interviews. Based on these findings, managing China's motorization is not going to happen from the demand side in the near future.

As Beijing, indeed all of China, deals with rapid motorization and its ill effects, much more research is needed on context-specific interventions that work with changing Chinese society, rather than importing foreign models. There are many complications with implementing policies in China, from the sheer scale of cities and their populations, to lax enforcement or other administrative issues, to name a few. Future work should focus on crafting strategies specifically to China's unique predicament, factoring in the findings of this and other studies. In particular, recognizing that car demand will continue to grow as incomes rise, the question of how many cars Chinese cities can feasibly allow within their limits is a major issue requiring extensive further research.

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Appendix

Interviewee Characteristics

Women

Moniker	Age	Job	Home	Marital	RMB/month	Parents
Zhang	26	Mgmt	Hebei	Single	10k+	Business
Li	26	Sales	rural Beijing	Single	5k+	Gov Official
Wang	25	Sales	Hebei	Engaged	<5k	Unclear
Liu	26	Admin	Hubei	Married	<5k	Gov/Doctor
Ping	28	Law	Shandong	Married	<5k	Unclear
Qin	26	Interpreter	Beijing	Engaged	5k+ fam	Business
Mei	26	Admin	Liaoning	Married	5k+	Gov Official
Rong	28	Admin	Jilin	Married	<5k	Doctor
Yan	26	Admin	Beijing	Single	<5k	Factory labor
Xiao	24	Admin	Zhejiang	Boyfriend	<5k + fam	Business
Tong	21	Admin/sales	Anhui	Single	<5k + fam	Business
Yang	25	Design	Neimenggu	Boyfriend	<5k	Farmer
Qian	25	Bank	Hubei	Boyfriend	<5k	Gov Official
Yu	24	IT/Student	Liaoning	Single	<5k + fam	Business

fam = family financial support

Men

Moniker	Age	Job	Home	Marital	RMB/month	Parents
Feng	26	Researcher	Hubei	Married	>5k	Teacher
Wang	26	Journalist	Hubei	Single	<5k	Farmer
Wang	24	Sales	Jilin	Single	<5k	Unclear
Liu	32	Mgmt	Jilin	Married	10k+	Unclear
Lei	25	Mgmt	Hubei	Single	5k+	Farmer
Xiang	24	IT	Jiangsu	Single	<5k	Teacher
Kun	28	Admin	Hubei	Married	<5k	Teacher
Xu	26	Admin/doctor	rural Beijing	Married	<5k + fam	Gov Official
Guo	26	Admin	Liaoning	Single	<5k	Doc/Military
Jia	25	IT	Hubei	Girlfriend	<5k + fam	Gov Official
Li	26	Admin	Hubei	Girlfriend	<5k	Farmer

fam = family financial support