Chapter 5
Transportation and Built Environment: Bus-Sense for Global South Based on a Case for Bringing Back Life in Bus Transport

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Abstract Cities in India are growing at unprecedented rate. The migration from the rural areas is creating pressure on the built environment and its systems. Cities are complex built environment which survive solely on many complex systems which keep it working. It's similar to our body, organs, and systems. One of these systems is the urban transport system. The Indian government is doing its best to build flyovers, more roads, and metro rail systems, promoting smart infrastructure and creating policies. Urban transport is one of the highest capital intense investments. The developing world is visibly concerned of the financial rate of return and economic rate of return to ensure these infrastructure investments are not a burden on the country and the citizens. However, the current paradigm of measuring the livability index and quality of life is gaining more attention. Parameters for evaluating the quality of built environment are becoming center of discussions across forums.

The author brings attention to the impact on the quality of life for an individual who uses the good old, low tech yet agile bus transport for his daily commute while metro is being built in the city. Daily commute is the largest component of the trips in cities. Bus systems existed in many cities years and many decades before the focus shifted to building metro rail systems. These bus systems are quite flexible, and their dexterity allows it to perfectly respond to the organic nature of the urban development and is less capital intense. This article presents observations based on the daily commute of a person over a year. More than the quantitative data from the persons notes, the qualitative aspects are important. Reduced stress and opportunity to positively utilize this commute time is helping the author make his proposition. The author proposes that high capacity rail systems are inevitable for future, but the existing bus systems should not be neglected. In fact, to realize the vision of a multimodal integrated transport for the cities, attention and investments are required to establish good governance and robust systems, harness capacity of information technology, and design better user experience for these bus systems.

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Abbreviations

BRTS	Bus rapid transit system
MTR	Mass Transit Railway (MTR; Chinese: 港鐵; Cantonese Yale: Góngtit) is a **major** public transport network serving Hong Kong
NMT	Non-motorised Transport
PMPML	Pune Mahanagar Parivahan Mahamandal Limited
RATP	Régie Autonome des Transports Parisiens, is a state-owned public transport operator and maintainer headquartered in Paris, France
SMRT	Singapore Mass Rapid Transit
SPV	Special purpose vehicle
TOD	Transit oriented development

Built Environments and Its Lifelines

The human race evolved from foragers to an agricultural civilization and the thus sowed the seeds of urbanization. Homo sapiens have since come a long way. Frugally built huts, just for taking shelter and protection, have evolved into megacities of built spaces with complex structures and unimaginable network of systems. These systems of the built environments have now become essential to the survival of urban settlements. Increasingly getting smarter, faster, and adaptive, their performance drives the quality of life in these cities. Urban mobility is one of such crucial systems, the others being the electrical grid, communication, water supply, etc. Cities came first and the mobility evolved later. However, the future is turning into a reversal of the roles. Cities are being designed with mobility systems at the core.

Transit-oriented development (TOD) is now the latest buzz word across all the cities in India. Indian cities are growing at an alarming rate. Being one of the most populated countries in the world, Indians might find it difficult to handle this growth trajectory by the existing paradigms of planning, urban systems, and governance of the Indian cities. *In fact, the urban population in India is projected to reach 875 million by 2050 and comprises 58% of the total population of the country. Therefore, our cities need to be prepared to accommodate the large increase that is expected in their population, in order to survive, let alone thrive* (Institute of Urban Transport (India) 2014).

Urban transport in Indian cities needs a lot of work. The work on improving the mobility is happening across the Indian cities, and diverse approaches are seen with array of solutions to improve the living standards in a city. Government is playing a larger role and bringing in investment in infrastructure. The Indian government with

an ambitious program is promoting the building of expensive rail-based mass transport systems (the Metros), and the Smart City Missions of all cities have sustainable mobility as one of the key focus areas. While the metro is definitely a good system considering the quantum of people to be moved efficiently, it is only a part of the solution. The existing bus system in many cities which have been serving the city much before this shift of focus happened is unfortunately losing out and being neglected. They are neither getting due attention for investments nor being looked at as a viable solution.

The bus systems currently work with an outdated management style and service methodology and not being able to keep up with the growing pressures of the expanding and congesting cities. They on their own are not able to initiate reforms. There are many like-minded people and organizations holding the torch and making themselves heard at multiple forums, advocating the building of sustainable cities through adapting NMT, making walkable cities and promoting the use of urban transport and revive the bus systems. It is a proven fact that the bus system would be very effective while using up only a fraction of the investment of a metro system. Several cities are seeing development of BRTS, but it is time to see these bus systems with new reformed structures and organized framework of service delivery.

Author of this article promotes designing and building these transport systems, keeping the experience of the customers/passengers at the core. It is important to know how people travel, but it is more important to know **who travels and why**. This leads to many more revelations to understand the users and design a system that responds to them. The real potential of the bus system in the city is going unnoticed. Pune is a classic case.

Pune is only one of the many Indian cities which are facing acute congestion, very low speed of moving vehicle, and unsafe roads. Like India, many other cities in Africa, Latin America, and the developing countries in Asia are facing similar situations. These countries are now being identified as Global South. Cities like Lima, Cairo, Accra, and Dhaka and cities in Pakistan are facing similar problems. In a presentation O'Neill (2010, p. 19) in his role as Lead Infrastructure Specialist at the World Bank has precisely pointed out the key shortcomings in resource at the institutions managing these transport systems. These are quite evident in the case of bus system and generally the urban transport in Pune. He quotes.

"Lack of essential technical skills in urban transport planning, management and operations. Lack of experience with market-driven rather than supply driven instruments/tools. Fragmented institutional arrangement without effective coordination. No or poor regulation of public transport services. Little money/funding, but drained quickly by expensive 'glamour' projects with no or little left for other more cost-effective improvements. There is no quick fix for urban transport problems, but sustainable development options are available. The urban transport issues cannot be just solved by Mega projects but need structural and institutional intervention across each touch point of urban mobility. Be it walkable streets, promote NMT, strengthen the bus system to support the High capacity rapid transit corridor and integrate across the 3 pillars: Information, Physical access and Fare collection."

Pune, Maharashtra, India

Pune is the second largest city in state of Maharashtra after Mumbai. It is the *ninth most populous city in India* according to the census of 2011 (Government of India, Census 2011). *Pune is ranked the number one city in India in the ease of living ranking index* (Times of India 2018).

This article is not just for those advocating better design, operations, and promotions of such bus systems but also for those who use buses for their daily commute. The impact created by each bus passenger gets ignored for the lack of collective representation of their conscious or causal usage.

Delhi Metro: The Torch Bearer

The Metros in India started with a paradigm shift to establish strong structure of planning, designing, building, and operating a metro system. This resulted in setting a well-defined process to deliver a complete system. The metro corporations set up as SPVs enjoy autonomy in their actions and having no predecessors in India were given a status of planning authorities. A good project management structure was laid down by Delhi Metro which has helped them to create their own island and reduce dependency on city infrastructure or administration. This has given them headway and attract investments. Delhi Metro paved the way and set the ball rolling. There are more than 15 cities in India which have been sanctioned with a metro rail project, 8–9 are already under construction. India is spending a lot of money. It may be effective but still begs the question should all the spending be done only on rail-based transport? It is an open secret that the Metros would perpetually seek subsidies from the government and have to work hard to barely meet their operational expenditures, leave alone the return on investment. *Taking note of substantial social, economic, and environmental gains of metro projects, the metro rail policy approved in 2017, stipulated a shift from the present "Financial Internal Rate of Return of 8%" to "Economic Internal Rate of Return of 14%" for approving metro projects, in line with global practices* (Ministry of Urban Development 2017). The larger question still remains, while we spend so much money, how efficient is it given the Metros' limited reach and inability to single-handedly solve the problem. The same policy is also stipulating the urban transport networks becoming more integrated and multimodal.

The Smart cities Mission of Government of India has arrived at a structure to measure livability standards of a city. This means that the focus is shifting to the quality of life than calculating the Economic Internal rate of Return. A document on livability standards in a city prescribes a total of 79 Indicators (57 Core Indicators and 22 Supporting Indicators). While the Core Indicators are considered an essential measure of liveability of cities, the Supporting Indicators supplement the Core

Indicators by adding value to them. Weights will be assigned to Category Indexes during the calculation of the City Liveability Index, depending upon the pillar of comprehensive development. "Physical" pillar has been given the highest weightage, followed by "institutional" and "social" pillar. The weights also recognize the extent to which City Governments can actively make improvements in the indicators. It is a clear indicator that "economic" pillar cannot be influenced by the actions of City Governments alone and has been assigned the lowest weight. No wonder that this document gives a weightage of 12 for the transport and mobility which is 30% more than the next category of power supply (Ministry of Urban Development, Government of India 2017).

This article presents Pune's bus system as a case study and wishes to underscore that it is high time PMPML (*Pune Mahanagar Parivahan Mahamandal Limited*) gets the required attention from the government. PMPML if revamped at the institutional level integrated seamlessly as a part of multimodal network can work wonders for Pune. This is also true for bus systems across other Indian cities. Strengthening the existing bus transport makes a good proposition at a lower investment, and many Indian cities can benefit.

This is the author's attempt to demonstrate the definitive impacts on quality of life by using a Bus for your daily commute.

A City with More Vehicles Than People

How sensible is using the Bus for daily commute? In the context of Pune, this article highlights an unpleasant truth. Pune is a city where the vehicles have outnumbered the population. While the population stands at approximately 3.5 million (35 lakh), the number of registered vehicles for the area is now 3.62 million (36.2 lakh) under the Regional Traffic Office MH-12 (Business-standard 2018).

We don't need an expert to decode the future of congestion and the desperate need for modal shift from personal transport to public transport.

The author is recounting the experience of a regular citizen and helping to corroborate it with indicative data (Table 5.1). All this data is based on the information collected from the person whose journey has been described. The data and figures have not been decisively authenticated with any sources as these are from the traveller's personal notes and it does not negate the possibility of having some discrepancies. The aim of this article is not to present a quantitative analysis but a more qualitative one to demonstrate the benefits of using a public transport. It is an attempt to bring back the attention of the government on the bus systems so that they get their due credit, receive investment for development, and positively impact the livability index.

Table 5.1 Comparative chart

Days travelled	127						
Distance travelled	5588 km						
	Commuting time (everyday)	Total spend	Amount spend per person	Diesel/petrol consumed per person (Lit)	Cost of diesel/petrol per person	Stress level	Quality of travel time
Bus (shared by 25 people)	**135 min**	Rs. 8370 (ticket purchase of 1 person)	1.5 Rs/km	74	4440	Negligible barring uncertainty which is due to service inefficiencies	11.8 days made productive
Car (shared by 4 people)	100 min	Rs. 46,566 (fuel + car ownership)	2.08 Rs/km	77.5	4650	Very high for driver. He gets company, but there are many preconditions to arrive at effective pool rides	8.82 days lost by driver. Co-passenger gets good comfort, but this condition is heavily dependent on many preconditions
Ride sharing (shared by 3 people)	120 min	Rs. 19,050 (ride fare for 1 person)	3.4 Rs/km	103.5	6210	Very less but uncertainty of time due to unplanned pickups and drops	10.58 days comfortable ride. The key value proposition for Uber and Ola
Two wheeler	80 min	Rs. 6916 (fuel + bike ownership)	1.23 Rs/km	62.08	4656	Very high and very high risk	7.05 days spent riding on a small seat stressful ergonomic posture and risk

References

1. Average cost of fuels in duration of making these observations petrol Rs. 75 per lit. Diesel Rs.60 per lit
   https://www.iocl.com/Product_PreviousPrice/DieselPreviousPrice.aspx
   https://www.iocl.com/Product_PreviousPrice/PetrolPreviousPrice.aspx
2. Bus's fuel efficiency is of 3 km/lit and 25 people share bus at any given point of time. The bus ownership cost is ignored as it is a capital expenditure shared across entire city
3. Cost of car 8.0 L, average life 10 years. Cost of ownership per day Rs. 220, fuel efficiency 18 km/lit
4. Cost of bike 60 K, average life 10 years. Cost of ownership per day Rs. 17.8, fuel efficiency 90 km/lit
5. Lowest offer rates for ride share by Ola and Uber for 22 km on my route – Rs. 75 one way. This is bare minimum

The figures given here are based on the personal experiences and methods of data collection and observations made during the time of study by the traveller. There may be some discrepancies/assumptions in the data the author is open to discuss on any queries. The important aspect is the qualitative use of time during commute

135 Minutes for 127 Days

Story of 127 Days of Commuting for Work by Bus in the City of Pune, Maharashtra, India

Our traveller is a very well-placed senior manager in a multinational Indian company with a stable job. He is a well-travelled, educated, and respected professional in his domain of work. A family man in his mid-forties, he distributes his time between his official commitments and family responsibilities. He owns an apartment, a car, and a two-wheeler but is an avid cyclist. He is a conscious citizen who strives to lead a lifestyle to maintain a low carbon footprint. Such a lifestyle is a mental tussle between the societal pressure of acquiring the next gadget on the market and the latest car versus slowing down the pace of life in a more meaningful manner. This story is about his experience of using the bus for his daily commute as a conscious well-thought-out decision by keeping his car at home. He does not drive to work, instead relies on the city buses managed and operated by PMPML (*Pune Mahanagar Parivahan Mahamandal Limited*).

This is his experience and a unique travelogue of commuting by bus for 127 days out of 483 days between 14 February 2016 and 12 June 2017. Other days include holidays, business tours out of Pune, and some days when he commutes with his car. On some days, while he used the bus but did not buy a daily pass, he instead purchased tickets on shorter rides for going to meetings at other places than office. These commutes have not been documented by him as they were minimal. The cover image of the article shows his archival of the 127 daily bus passes (Fig. 5.1).
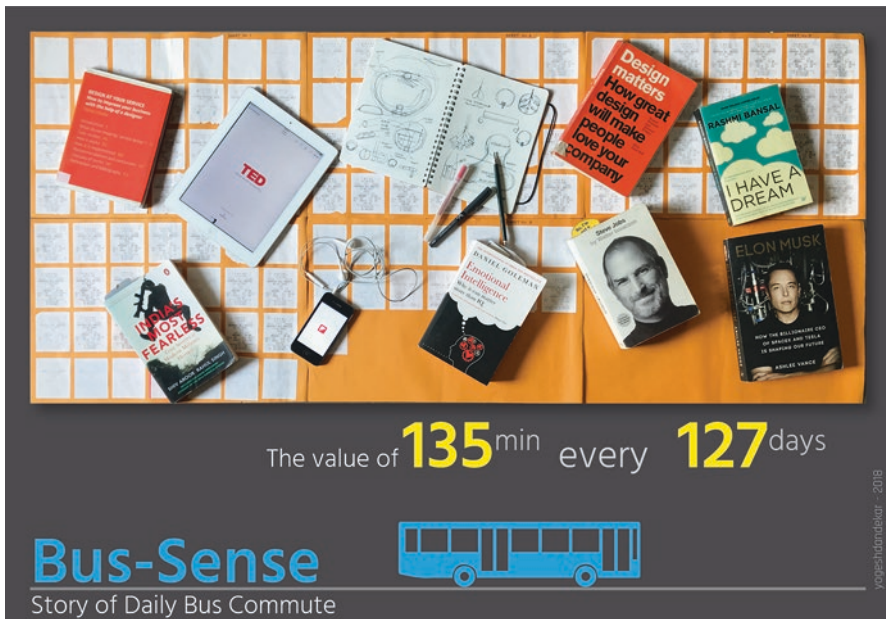

Fig. 5.1 Story-of-bus commute

The Beginning of the Trip

The Decision to Use a Bus for Commute

At 8:05 am, he leaves home for his office which is 22 km away and starts his day at 9:00 am at office. If he starts at 8:05 am by car, it takes about 35–45 min in the city traffic. Using a bus takes an hour. He feels that it is ridiculous to use a two-wheeler for commuting this distance daily, even though it does make perfect economic sense and may help him complete many chores and access many places on the way and back from office. He thinks the stress of riding a two-wheeler on busy roads is not worth the benefits of running errands on daily commute. Pune is known for extensive use of two-wheelers which are proven to be a high-risk mode of transport (Institute of Urban Transport (India) 2014, p. 12). Using a car for a single person is no doubt expensive, stressful, and impractical, even though it feels safe and his company may have helped him purchase a car and may even have compensated for the fuel expenses. He chooses not to ride a two-wheeler or drive for other reasons too. In fact, he doesn't use a two-wheeler at all. All small errands within a radius of 4–5 km from home are completed on cycle. Weekend travel with the family is either mostly by car or at times by bus.

The bus stop nearest to his home is less than a minute's walk. It was also one of the crucial reasons for selecting his apartment – staying close to a bus route. It makes perfect sense to stay within a kilometer of a bus stop or a mass rapid transit access point. We are talking of a transport oriented life style (TOLS) here. Many people don't realize that they are within this range from a mass transit corridor. They have never even noticed the nearest bus stop or thought of taking the bus for their daily commute. People in Pune are almost habituated to use a two-wheeler in order to avoid walking. The use of two-wheelers is so deep rooted in the social psyche that, for every family, it becomes an obligation to buy a two-wheeler for every teenager in the house as he starts going to junior college. Parents being unaware of the advantages of the urban transport and its accessibility are turning their blind eye towards it. The unpopular unattractive image of bus system is also adding to the reduced usage and neglect by the younger generation. There are many social and perceptional barriers for using urban bus transport in Pune, and they are brushed away under the excuse of inconvenience, uncertainty, inefficiency, and unpunctuality.

Agreed, that using the PMPML service could be an inconvenient and unpleasant experience as a user. The systems' management is equally responsible for its neglect in not taking decisive steps in making it user-friendly. But shouldn't using the public transport be a priority for every citizen if it is going to create a better city? This topic if discussed further will delve into people's values behind making choices. Across all age groups and genders, and in fact across countries, there is an increased awareness of staying healthy and concentrate on one's fitness. Getting up early in the morning for exercise needs you to change your lifestyle and undergo inconvenience or discomfort. Since exercise is important for a healthy lifestyle, people are ready to face these discomforts. But how many do it without a warning?

Increasing use of urban transport seems like a sensible decision for a better city life – reducing carbon emission, congestion, and pollution. But, how many are ready to face the inconvenience and discomfort for the larger good of the city and think beyond self? The more the users, the better business sense it will make to improve the service. The conscious decision by our friend is commendable considering that he is putting city's interest before his own convenience. A deeper understanding of such a behavior is required to help design and plan the urban transport inspiring a modal shift from one's personal vehicle to the urban transport. It is not an unidimensional problem with a single solution. It needs multiple solutions from diverse directions to culminate into a single goal. How can people in a city be thinking of shared urban transport whenever there is a need for travelling within the city?

The average waiting time in the morning for the bus is about 10–15 min. It is that time of the day when the buses on his route change their frequency from 20 min to 10 min for the peak hour. A bus network needs to be understood well. The planning and routes definitely have a structure and designed to respond to the way city behaves all through the day.

For him, bus travel works best as he buys a daily all-route pass. It was Rs. 50/– ($ 0.72) during the promotional period but was later increased to Rs. 70/– ($ 1.0) The advantage is that one has to pay only once for all the bus rides within the city limits for the entire day. His regular one-way ticket is Rs. 40/– ($ 0.58), and, thus, the daily pass makes perfect sense, saving him Rs. 10/– ($ 0.15) daily. The daily pass brings in another great advantage. It makes it possible to hop on and hop off buses on the way at interchanges, thus cutting down waiting times. It helps him to move faster in smaller steps to his destination. To him, cost advantage is less important than the ability to move faster. Carrying an all-route pass, it is possible to get things done across other places by taking detours. This also works efficiently and seamlessly. He is waiting for the time when we would be able to carry a wallet card and pay electronically for tickets like many cities across world. Till that happens in Pune, the good old thermal paper daily passes are good enough to get the work done. He has stored these daily bus passes of the 127 journeys to prepare this documentation. These 127 passes which otherwise would have met their fate in a trash bin are helping him to substantiate his findings and help reveal the softer and deeper advantages of the bus system. Although he travels only 44 km, the pass has the potential to help one travel anywhere in the city. If one travels a minimum of 30–35 km daily, pass cost is recovered.

The Interchange

Direct Bus Is a Myth in Todays Connected and Sprawled Urban Cities

The bus services started as point-to-point service in the old days. They connected pockets of development with prominent areas in the cities like market place, railway stations, bus stands, and government offices. En route they connected many places,

but the starting and ending points of the buses remained prominent points to remember the buses. People visualized the buses as a point-to-point connection rather than lines along the route. If we ask people for their reason to avoid using the bus, the most common answer was – "We don't have a direct bus." The communication and representation of the bus system is not able to change this image and understanding of the bus system.

There is no direct bus to his office, and hence, his story fascinates many in Pune who consider his venturing into a bus, daily, as a great achievement.

A "direct bus" is a myth leading to reduced usage of bus transport. People will use the bus only if there is a direct service and with a decent frequency. They are not to be blamed, because a change in bus means delay, increased uncertainty, and increase in expense. Compounded by this perception are the absolutely cluttered and disorganized interchanges. Neither have people understood the concept of interchange nor is it considered important by bus operators and development authorities. Interchanges can in fact be converted into big revenue drivers, and this aspect has never been considered in Pune. In Pune, providing infrastructure for bus transport is the responsibility of the city administration – the municipal corporation. Their actions demonstrate the lack of understanding about how a bus service should be operated. They believe that marking some space on the footpaths and installing a contraption of steel with loud advertising represent the bus stop. Mostly, the design is left to the fabricators and agencies who are more interested in the advertisement revenue rather than the convenience of the bus passengers. Ideally, bus stops are the entry points into a highly effective and versatile mobility system for everyone across the city. They have the power to connect the city which no other shared system does. But, instead of welcoming the passengers, they discourage them. They are more for selling shampoos, biscuits, undergarments, cell phones, real estate, loans, jewelry, and even cars and two-wheelers, rather than representing the bus system. A transport network as is evident in its name is a network of lines and routes connecting points across the city and intersecting on the way. These intersections are the points which work as interchanges for people to switch routes and change directions. Metros do give considerable emphasis on these interchanges because they have very few and probably have an advantage of quantum of people passing through.

Our friend has to change his bus at the municipal corporation bus stand which is one of the biggest in Pune city. It is completely chaotic for a first-time visitor or those who wish to find a new connecting bus other than their regular daily commute. The corporation bus stand probably has many times the footfall of Pune Airport but receives the least attention for making it a better and more efficient place.

The plight of most bus stops in a city is more or less the same: an absolutely unsafe pedestrian environment, no segregation of spaces for buses and the regular traffic, undeniably illegible signs with no information on network, and no touch point for guidance on the next bus. The reason this place works is due to all the hard work of the PMPML staff. Drivers avoid the crisscrossing pedestrians and traffic to keep things moving, bus conductors herd passengers to the right bus, and controllers keep time, tracking the bus trips and doubling up as

personified timetables to help passengers know the correct stop, bus route number, and its time. They are the real backbone of the bus service, and their efforts are truly admirable.

The Last Mile

The Journey Ends But the Day Starts Fresh

The bus stop near the office is on the BRT line that makes the last 4.5 km of his total journey. The travel time for this stretch, particularly in the evening, reduced from 40 min to 20 min when buses started using the dedicated lane. Whenever he drives to office, he envies those travelling by buses that zoom past him even as he waits many extra minutes for the traffic signal to turn green, only to be stuck again at the next signal. When the tables are turned and he is on the bus, he is thrilled and feels privileged to be able to breeze through the traffic.

Although he completely understands why the general road users oppose the BRT, it is actually a boon for this part of Pune. It would have been more effective if the bus network effectively connected the areas beyond 1 km on both sides of the BRT route. The feeder buses should ideally work as ring routes, picking up passengers right from the BRT stops. Currently, there are no feeder services. His office is a 600-m walk from the BRTS stop. Getting off at the BRTS stop and using the underpass is a very safe walk, to and from the office. This walk is largely a good experience barring the littered and sometimes dark subway and the hurdles of numerous two-wheelers and *chaiwalas* (street tea sellers) with a throng of customers and littering on the footpath. It is truly painful to see many people jumping the BRT barricades and endangering their lives on road just to avoid the subway. They should take a moment to consider why the government is spending money on subways. The integrated seamless transport and developments favoring the urban transport also have to make more walkable streets. This is another key component in the promotion of urban transport. The first barrier in reaching the nearest mass transit entry point is the obstacle-laden footpath, which discourages a person from walking on the streets and kills the idea at the very beginning. The unpaved footpath, street vendors, parked vehicles, and encroachments make it difficult to walk. Something substantial has to be done for reclaiming footpath from encroachments and designing them better.

He definitely vouches for the fact that – while commuting by bus is tiresome considering how crowded they are and how he has to walk more and it is hard at time to get a seat, it definitely is more physical stress to start ones day. But the mind is not stressed.

While the journey in the morning takes about 60 min, the return journey takes anywhere between 75 and 90 min. The stress of driving through the traffic snarls combined with the tiresome day at work adds to the road rage and chaos. But in the bus, it's very comfortable. Although returning from work does take 15–30 min more, one is disconnected and shielded from the road rage and stress of driving.

Additionally, one can probably finish a few pages of a book or read about the latest technology and catch up with the latest news of the day.

A total of 135 min on an average are spent everyday in commuting to office by the bus. The qualitative merits of this time spent in the travel add a positive dimension to the story of his commute.

While one may argue that he is probably spending less time with his family as he prefers not to compromise on productive time in the office hours, he starts earlier and reaches later than others who commute in their cars or bikes. These are the 135 min of his day that he would have otherwise spent holding the steering wheel or balancing his bike breathlessly working brakes, accelerator, and clutch with a dollops of honking. It can be argued that prima facie, bike riders would spend less money and time, but it is a very high-risk proposition. They should probably pay more for their insurance premium. The advantages of spending less money on bus commutes might well look like a side effect, if the real qualitative value of the time spent in the two modes is compared.

While his daily commute is not very unique, many do so everyday. He probably represents lakhs of people who have chosen bus transport as their primary mode for daily commute over a personal mode of transport. Some would have opted out of compulsion, and others are waiting to own a personal vehicle. But there are a few who use it as a conscious decision and must be commended for their choice. Whatever the reason may be, they all would have similar stories to tell. It would make sense to document such stories in support of the bus system and in the larger good of Pune city to create an efficient network as an economically viable solution.

Table 5.1 in this article gives a comparative analysis on data gathered during his commute to work. The data compares the use of bus, carpooling (rather rare due to practical considerations), shared mobility, and two-wheelers.

Insights and Observations

Observations and insights around commuting by bus can be a great starting point for a bus system to promote its usage and gain public confidence. Peoples' support is critical in making a stronger case for government to take notice and act decisively to improve the public bus service.

As one can see, although there is definitely a cost advantage in using the bus, it isn't a great one if we compare quantitative data (Table 5.1). The figures that one gets in the bus travel are most steady and impact all commuters alike. In fact, as the number of users grows, the figures improve, whereas, in other modes, to increase the numbers, vehicles have to be added, leading to congestion and pollution. While bus travel is not remarkably cheap or very cost-effective, fuel consumption per person is less even when we consider only 25 passengers sharing the ride. In fact, this number is higher during peak hours. The more crowded the bus, the better the efficiency of the service and its environmental benefits.

Quality of Commute Time

The Me Time Which Everyone Craves for in Today's Fast-Paced World

The most important point to be considered here is the remarkable qualitative impact travelling on a bus as against a personal vehicle can have on an individual's time. The point where bus usage beats the other travel modes hands down is in the stress-free travel and opportunities it opens up for an individual to utilize this time of commute. In fact, it has a lasting effect on a person's health as it opens up possibilities to stimulate the brain while keeping it free of stress, not to mention the added advantage of keeping one away from inhaling toxic fumes at traffic signals if one uses a two-wheeler.

Barring the problems of uncertainty which are created due to the inefficient design of network and management of the bus system, there is a bright side for each passenger, and it has the ability to become brighter if the efficiency of the system improves.

Buses are a great way to observe and know the city. The advertising can thus be distributed along the roads instead of cluttering the junctions. The vehicle drivers barely see the advertisements; bus commuters definitely do. One can connect with new people from diverse walks of life everyday and exchange views on news, sports, business, and culture over simple conversations. Those who do not relish this can take to their own worlds of books and music, read online articles, listen to podcasts, stream videos, and play games. While in a bus, one can sketch, draw, and meet many interesting people from all walks of life from carpenters and construction workers to college students and teachers and coders in tech companies to restaurant owners.

One can also write a blog or publish articles while riding a bus. This article too has taken shape during one such commute. During the commute time, one gets time to prepare for the day ahead with a stress-free mind. One can also take business calls and practically start office work while commuting. This is the best time to catch up on social media enabling one to avoid getting distracted by it later through the office hours. Yes, 45 min of family time may be lost, but this "me time" on the bus frees up your entire attention for the family. The daily dose of TED Talks, listening to various podcasts, reading and documenting important information on Flipboard, catching up on the news, or even chatting with friends on WhatsApp is indeed putting time on the bus to good use. At the end of the day, there is greater satisfaction on being able to contribute by reducing congestion on the roads, using less fuel, meeting new people, reading something new, growing knowledge, and most importantly staying stress-free.

It is also evident from the data in Table 5.1 why shared mobility is popular and is attracting investments. It has been evolving and getting packaged as a great experi-

ence. But, it still is expensive and affordable to only a few. While it may give you quality time, more and more shared vehicles of smaller sizes will lead to congestion and make travelling more miserable.

It is a great opportunity for urban transport to learn from the service model of these ride-sharing services. The blueprint of the service design framework employed by these ride-sharing services is a great starting point for bus operators to enhance their systems to respond better to people's needs and requirements.

This article has been written with a dual objective. It has many useful inputs for team operating bus services to promote their services and also utilize the opportunity to improve the service conditions. It is also aimed at making citizens more aware on the advantages of using public transport for daily commute. Of course, there is a lot needed to build and operate an efficient bus service. If one is able to convince passenger on how bus travel helps them well beyond simply taking them from point A to B, they will begin to trust the bus service as they would be able to see themselves in it. Most marketing cutting across all brands does this effectively. Every consumer is finding a self-nourishing value in the products and services that they choose to buy and use. They connect them with their own identities, thereby owning them and becoming their promoters. Urban transport systems like the Underground in London, RATP in Paris, SMRT in Singapore, and MTR in Hong Kong have played a crucial role in creating a unique identity for their respective cities. These cities are identified by their mobility systems.

Every bus ticket purchased should help a person to get carbon credits. If the bus systems improve bus efficiency and the system is designed to increase ridership, they are bound to make greater impact in improving the quality of life in the cities and pave the way for a sustainable future. The bus system in Pune should be well integrated with the upcoming metro and support the transit-oriented development planned for the future.

Authorities need to take a stand on making the mobility system a critical and integral part of the city's identity. Citizens should make a wiser choice. People opting for urban transport will make the authorities take notice. This problem has to be solved from both ends simultaneously.

Like various global examples, Pune can definitely achieve a great integrated seamless urban transport. Urban transport as the most favored choice would no longer surprise people; instead they will take to proactively advocating it. Residents of Pune will invite guests to their city and proudly hand over a common mobility card and an integrated map to experience a clean, open, walkable, safe, enjoyable, and fun-filled city.

The author is working closely with the PMPML team to make the bus services commuter-friendly. PMPML is also modernizing its fleet of buses with intelligent fleet management system and electric buses. Figure 5.2 shows one of the electric buses procured in 2019.

Fig. 5.2 PMPML electric bus

Bibliography

Business-standard (2018, April 5). www.business-standard.com. Retrieved from https://www.business-standard.com/article/news-ians/vehicles-figure-in-pune-overtakes-human-population-118040500811_1.html

Government of India, Census (2011) Retrieved from https://www.census2011.co.in/city.php

Institute of Urban Transport (India) (2014) Review of urban transport in India. Institute of Urban Transport (India) and Center for Study of Science, Technology & Policy, Delhi

Ministry of Urban Development (2017) Metro rail policy 2017. Ministry of Urban Development, New Delhi

Ministry of Urban Development, Government of India (2017) Liveability standards in cities. Smart cities Mission

O'Neill P (2010) Urban transport in developing cities challenges, strategies and examples. Lead infrastructure specialist. World Bank, Washington, DC

Times of India (2018, August 14) timesofindia.indiatimes.com. Retrieved from https://timesofindia.indiatimes.com/city/pune/pune-ranked-no-1-city-in-country-in-ease-of-living-rankings/articleshow/65394696.cms