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Rethinking Transport Systems for Equity

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Abstract: ***The neutrality of transportation systems is often presumed, yet gender plays a pivotal role in shaping how individuals interact with these systems. The common assumption that transportation is "unbiased and universal" fails to acknowledge the significant differences in mobility patterns, accessibility, and usage between men and women. Women's transportation needs and experiences differ substantially from men's, influenced by social roles, economic status, and the varied purposes for which they travel. These gendered disparities necessitate a comprehensive approach to transport planning that incorporates gender considerations, ensuring that systems are designed to meet the diverse needs of all users.***

Globally, the increasing number of women participating in the workforce and education sectors has heightened the demand for gender-sensitive transportation solutions. As women often travel longer distances from home to work or educational institutions, the impact of transportation on their daily lives is profound. It is essential to rethink transport systems from a gender perspective, addressing how women engage with and experience these systems.

"You have to call it out, you have to say it matters, you have to start taking action, and then you have to track it," - Lilli Matson, Director of Transport Strategy, Transport for London

Keywords: Gender disparity, women-centric planning, transport equity, mobility strategy

Keywords: Gender-biased; women centric; transport panning; mobility planning

I. INTRODUCTION

This paper talks about women & transport and the wrong approach of transport professionals and system that focus only on the aspects such as effectiveness, cost benefit, linkages and maintenance. Whole planning revolves around what all services to be provided, how it will improve the connectivity and how people can get an access to services and goods. But is it all enough for a successful system or infrastructure planning? However, the fact of gender never been integrated whenever we thought of planning mobility.

II. GENDER DIFFERENCE

Women and men have different mobility needs and patterns, yet transport policies for most countries remain unrelentingly gender-blind. For a better understanding of mobility-based concept of gender-difference, literature review has been carried out under several broad themes:

A. Travel Pattern

As Women needs to maintain a balance between their roles in terms of a household, marital relationships and work place, their daily traveling pattern is very complex than that of men due to their gender specific jobs and duties. If they are mothers, then they need to travel with their kids to school and hospitals or for buying vegetables, fruits and groceries from nearby markets. Thus, their everyday routine consolidates "to and fro" from one area to another for various different purposes. Because of their such gender specific jobs and roles, they are an active participant of "trip chaining" as if they are dropping kids to school while going to their work place or buying groceries while coming back to home or taking older wards to hospitals which makes them an indirect traveller to various places during non-peak hours as well. On the other hand, if we talk about men, they are more of a direct traveller from home to their work place during peak rush hours only.

Rural areas scenario is such that women are traveling for collecting water or fuel or for various basic amenities required for a family survival, which is very hectic and also consumes a lot of time. Often, situations are such that women can face restricted mobility where proper administrations are missing with the only goal for women to indulge in their daily routine and accomplish all their gender specific jobs. For instance, if water is not available in lower income group communities, then women needs to travel a long distance just to collect water as an essential need of her family.

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B. Travel Pattern

Accessibility to different modes of transport varies from men and women, men are considered as the economically strong individual with in a society who can easily own or learn how to drive but due to some cultural believes at some places women are not even considered equipped for driving cars or traveling alone, Social setting of our families is such that men are considered as a controller of a family which allows him to travel long distances to fulfil only and only one criteria that is the economic wellbeing of his family and also allows him to afford any kind of public as well as private transport but women's social roles are care giving and to take care of basic needs of a family makes her a symbol of economically weaker individual, not letting them afford any kind of private transport or expensive public transport system.

Rural areas scenario is such that women prefer to walk from one place to another due to the fact of unavailability of public transport or non-affordability of transport facilities etc. Due to the dependency of rural communities on agriculture, sometimes children or women have to be a part of freight transport. So, women in such areas are more vigorously dependent on slow, NMT (Non-motorised vehicles) or inter connected methods of transport (Some of the examples: cycle rickshaw, horse drawn carts etc.) This is as similar to women being dependent on public transport for commutation in urban areas.

C. Time use and Time Poverty

"Time use" refers to how people are involving themselves in various activities in time and "Time Poverty" refers to the phenomenon who have high paid income but considered as poor in terms of time as they don't have any leisure time left in their lives. As mentioned above, women due to her various gender specific roles juggling and shuffling in between various tasks in her daily routine which makes them time poor and arises a fact that they can't afford to sacrifice long hours in traveling. Often, Women's mobility to be considered simultaneously with all the other tasks she is completing while traveling to the work place or coming back from the work place. If we compare, the opportunity and accessibility of a transport system affects differently to both men and women as for instance, if man's work place is far away, the whole family tends to shift with him near to that area and if women is working far away and traveling time is very high which doesn't allow her to meet the domestic needs of the family, she might be forced to leave her job and need to focus on household duties which is her basic role in the society. Women are only left with one choice that is to take up the lower paid jobs in the vicinity of their house. So, Improved and better transport facilities not only will help women managing their time to facilitate their dual roles but also to enhance the accessibility and social interaction.

D. Access to Resources for travel

As mentioned earlier about the men's role as a controller of the family and women who are assigned to take care of non-financial aspects within a family; they can't afford public transport services. Ironically, women make a lot of trips with in a day as explained above for various gender specific roles, charging an equal amount of fare from men and women can be stated as a disadvantage for women. In fact, women are less likely to have resources like your own car, bike, or even a bicycle that makes them more dependent on public transport system only.

E. Mobility and Safety

Based on the social settings of many families, women are not allowed to travel alone. Most of the time, she is accompanied with a kid or a male with her and even women are not allowed to travel in a crowded buses or local trains alongside male strangers but a male doesn't face any such restrictions on the basis of social and cultural believes.

"Mind the Gap": The most common issue faced by a woman while traveling is sexual and other forms of harassment. As per one study, "99% of women in Egypt who was surveyed experienced some form of harassment in public transport, 80% of women in Mumbai faced sexual harassment in public transport" Work force in transport sector generally comprises of male therefore it is considered as the male dominating sector due to which women feels less safe while traveling (Asian Development Bank, 2013).

F. Are Rural & Urban Gender Discrimination same?

1) *Rural Context:* Generally, women remain on foot as the rural spaces are smaller comparatively to urban areas and women travel farms, communities and house hold industries which is near to their own house. Major concern should be that women are traveling to such areas on foot while carrying heavy loads on their shoulders such as loading with water storage matkas, fire logs for cooking etc. So, in order to improve women's mobility in rural areas, one should focus on time- and load-reducing measures and infrastructure such as pathways, neighbouring paths, roads, foot bridges and intermediate means of transport, and various others.

2) *Urban Context:* Urban area scenario is such that women are not completely dependent on walking in order to commute from one space to another but yes, a woman walks more than a man in urban areas. Women are dependent on public transport for traveling and fulfilling their day to day important tasks. Women who are involved in service and manufacturing sector jobs, tend to spend more time in traveling and consequences are that they don't have enough time to give to their families respectively. In some cases, women also travel with their kids and older wards just to drop them to school and hospitals respectively while traveling to their work places. So, in urban areas the factors of considerations should be how to reduce the travel time by scheduling, how to make public transport affordable & reliable and how to make public transport safe for women both physically and personally (Thynell, Marie, 2015).
3) *We have hardly seen any woman driving truck!! Have you ever given a thought to it?*

We don't find much women in transport related professions especially if we talk about driving and maintenance department. As per the study carried out for Europe, Women transport drivers shared only 10 % share among all the driver. Still, we comment and assume that the women should have a good relation as a customer. Is it a matter of working hours? But it is an issue in other occupations as well. It's our administration which don't allow women to work in such professions as women are not allowed to apply for many transports related jobs and opportunities. Hiring tests of various places shows that job hiring of transport supports male drivers in profession and even transport functioning based on the aptitude that only male can serve.

III. BALANCING THE LOAD: RECOMMENDATIONS

A. *Designing For Women*

Focus should be on a network which is very well connected and obstruction free. Networks should be such that will make a woman feel safe while walking and comfortable enough with wide widths where women can easily maintain their intimate spaces around them while walking. Lanes which are highly accessible by women should be enhanced by active frontages and activities happening all the time or especially the range time of women access. Cycling lanes for women should be promoted with easy access to cycles by providing cycle stands at each and every transit or bus stops. Intermediated modes of traveling should be incorporated such as drop off or pick up stops which are lively with negotiable or affordable rates. Transit stops should also have adequate facilities like public toilets and should be very lively and lit places where women don't feel unsafe while waiting for a bus alone. Training programmes should be organised for both driver and conductors to teach them how to make a transport system easier and comfortable for women especially public transport.

B. *Planning Approaches*

While planning an area or a city, focus should be given on "mixed use land use zoning" which makes it easier to travel from school, hospital, markets, commercial centres, workplaces as all will be near to residential areas. "Transit oriented development" also known as "Station area planning" helps in reducing travel time of women by integrating services like groceries, health, child care and awareness centres with transit stops. Network of roads should be planned in a complex way densely but not scattered which makes it easier for women to travel by cycles and also create direct and short linkages in between people. Parking space should be reduced by making valuable changes in bye-laws of parking as parking area serves as a barrier in development of land for other various lively activities which can promote employment or cultural or traditional activities for women.

C. *Concept of Inclusivity*

Frequent transport facilities should be provided not only during peak hours but also while non peak hours as women tends to travel a lot during such hours so as to complete their daily gender specific tasks. Overcrowding should be avoided both at transit stops as well as in any mode of transport. Flexible stoppages during night times should be encouraged which will make the system a lot more comfortable for women as they don't have to travel alone while the roads are not so busy. Stops allocation for bus to be such that it can serve flexibility in the context of "trip chaining" which allows women to stop bus and make the trip more productive by completing daily routing gender specific tasks and jobs. Some considerations should be given on how to reduce the "waiting time" of a particular transport mode so that women can get out of the fact of "time poverty". Design of any mode of public or private transport should be designed in a way that it is comfortable to every user whether a person with a wheel chair, a fit man or a woman with shorter leg spans. Transit modes should be well equipped with cameras to ensure the safety of passengers travelling especially women. Also, while designing bikes or cycles, one should focus on the way women will travel in future through such modes for example, cycles should be designed to carry appropriate weight of kids or vegetables etc.

Some steps should be taken in order to promote "inter modality" which can give another dimension to the concept of "trip chaining" by integrating fares, travel times, connection networks and service locations.

D. Raising Funds & Awareness

All the measures which are mentioned in above recommendations should be well funded and the funds are the key factor which can make things possible in real world. Awareness for cycling should be spread among women through various cycle campaigns, bike programmes or for instance by providing car-off days to promote less traffic spaces for cycling. Awareness among users are not only enough but awareness should also be spread among the agencies and departments associated with transport so as to focus on gender related issues in transport planning. This can also be incorporated by making it a part of curriculum of transport planning, designing and engineering related branches. Awareness and proactive campaigns are the only way to achieve this change (ITDP, 2018).

IV. CONCLUSION: BRIDGING THE GAP

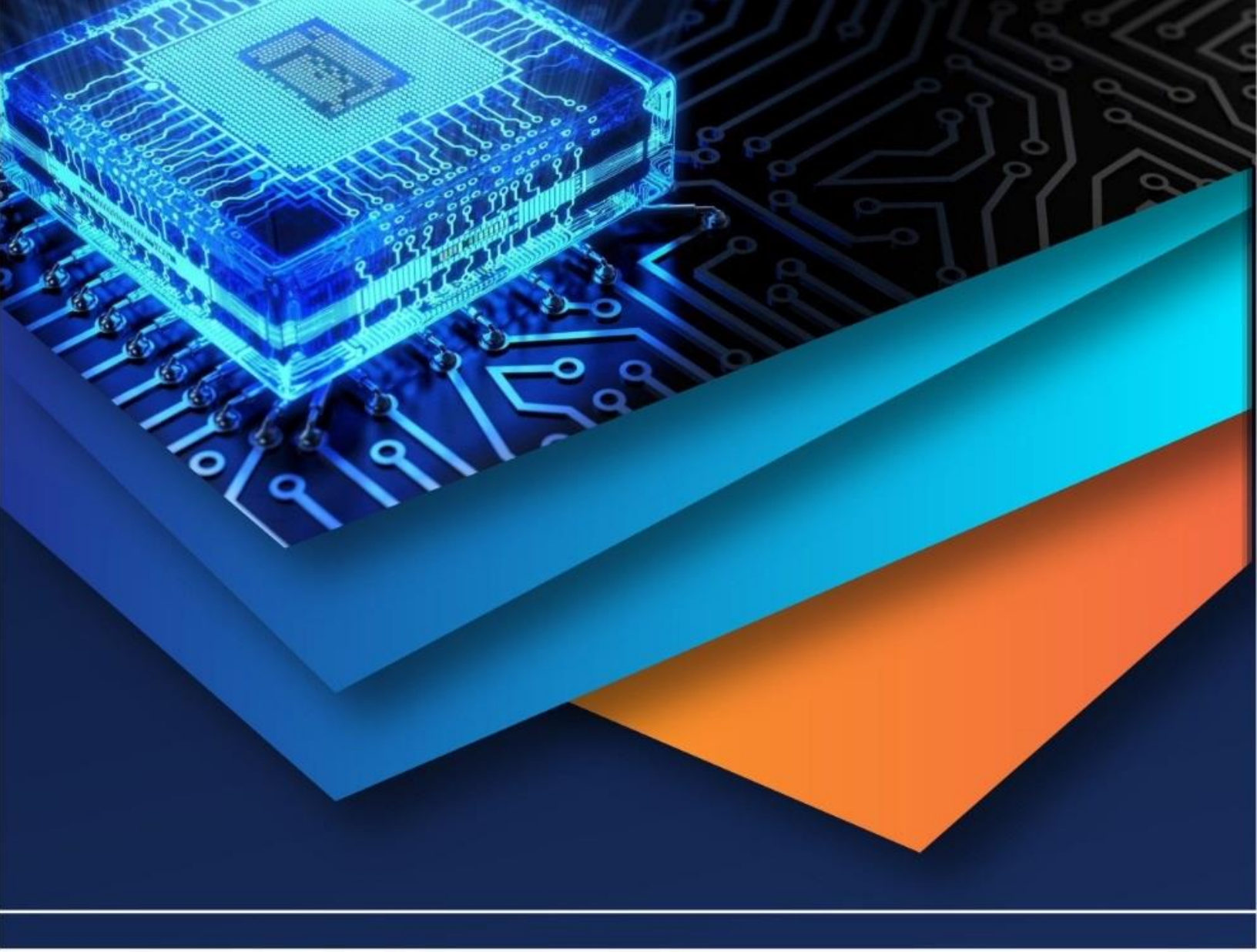
This paper concludes the difference between male and female travel patterns and their involvement in public transit system for commutation by highlighting specially women's haphazard network of traveling with numerous no, of stops. Although women are considered as the principle actor in usage of public transport system, but the system focuses very little on women needs and on the concept of inclusivity. One of the reason for such a little attention given to women or can say the gender biasedness of transport system is the varying statistics of male and female in term of magnitude. In order to make the system as universal, the focus should be given on safety measures, availability and designing techniques which can be adapt by women. Focus can also be given on age factor which serves as the second most important consideration making a system universal and inclusive. It is important to realise the importance of transport sector as it is transport only which makes things available to us, which allows people being socially active, which can allow people being facilitated by various types of social infrastructure. For such an important infrastructure, biasedness can neither be promoted not be supported. It should be universal and inclusive. Higher authorities can be play a role of active participator in making this sector gender neutral by developing a framework with defined targets, analysing the existing situation and also by involving various volunteers and participators in promoting women friendly system. A women need based transport system will not only help sharing a big share in country's GDP but can be act as a first step towards social cohesiveness of this world being treated as whole irrespective of any gender.

"Including women as a consideration in transport sector do not require extra effort, only you have to look further the male frame of reference" (CIVITIS, 2019)

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