

Survey of usage of cycle tracks in Pune

Study conducted in October-November 2020

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Table of contents

1. INTRODUCTION	2
2. OBJECTIVES OF THE STUDY	3
3. METHODOLOGY	3
4. FINDINGS OF THE SURVEY	6
5. CONCLUSION	8
6. ACKNOWLEDGEMENT	8



1. Introduction

Save Pune Traffic Movement (SPTM) is a Non-Government Organization promoting transport projects that make it safe, convenient and attractive to use sustainable modes, viz., walking, public transportation and cycling.

Pune city is growing by leaps and bounds. It is important that the city promotes these sustainable modes, else roads of Pune will become even more congested and polluted than they are today. The Comprehensive Mobility Plan (CMP) of Pune (2008) has set ambitious targets of achieving modal share of 50% for non-motorized transport and 40% for public transportation. However, the city won't be able to achieve these targets unless it has a plan and implements it earnestly.

To that end, PMC has devised a "Pune Bicycle Plan" in 2017. Though its implementation is yet to gather momentum, some "cycle tracks" were indeed developed in the last 3-4 years. The design of these tracks was expected to follow the guidelines set forth by Pune's Urban Street Design Guidelines and/or the Urban Cycling Design Guidelines included in the Cycle Plan, which differ only slightly from each other. The new cycle tracks and adjacent footpaths largely conform to these guidelines, except one important design element: As per these guidelines, the cycle tracks are expected to be 5 cm lower than the footpaths. However, it has been observed that virtually all new cycle tracks and the adjacent footpaths are at the same grade.

Whether because of this or any other reasons, a vast majority of the cyclists still continue to use the carriageway instead of the cycle tracks.

SPTM believes in taking decisions supported by objective data. Therefore, we felt that before finding out the reasons why cyclists are not using the cycle tracks, it would be useful to quantify their usage by conducting a survey, by establishing a baseline of cycle track usage.

This report documents the findings of the survey. We believe this report will be useful for the city to periodically assess the usage of cycle tracks, and identify and implement suitable measures to improve the usage (and hence the cyclists' convenience and safety). In turn, this will also ensure that public money is better utilized for the purpose it was allocated for.



2. Objectives of the study

SPTM decided to conduct a survey to determine the following:

1. What fraction of cyclists use the cycle tracks vs the carriageway?
2. Does this fraction vary according to the time of the day?

The purpose of the study was **to establish a baseline for these parameters**, so that improvements in these parameters could be quantified later on.

3. Methodology

3.1. Survey locations and timings

At the outset, our intention was to conduct the survey on all cycle tracks that have been built in the last 3-4 years, essentially after the USDG and Pune Cycle Plan came in existence. However, we thought that it may be unlikely that the fraction of cyclists using the cycle track could vary drastically across Pune. Therefore, considering the convenience of available surveyors, we decided to conduct the survey on the following 6 cycle tracks in western Pune:

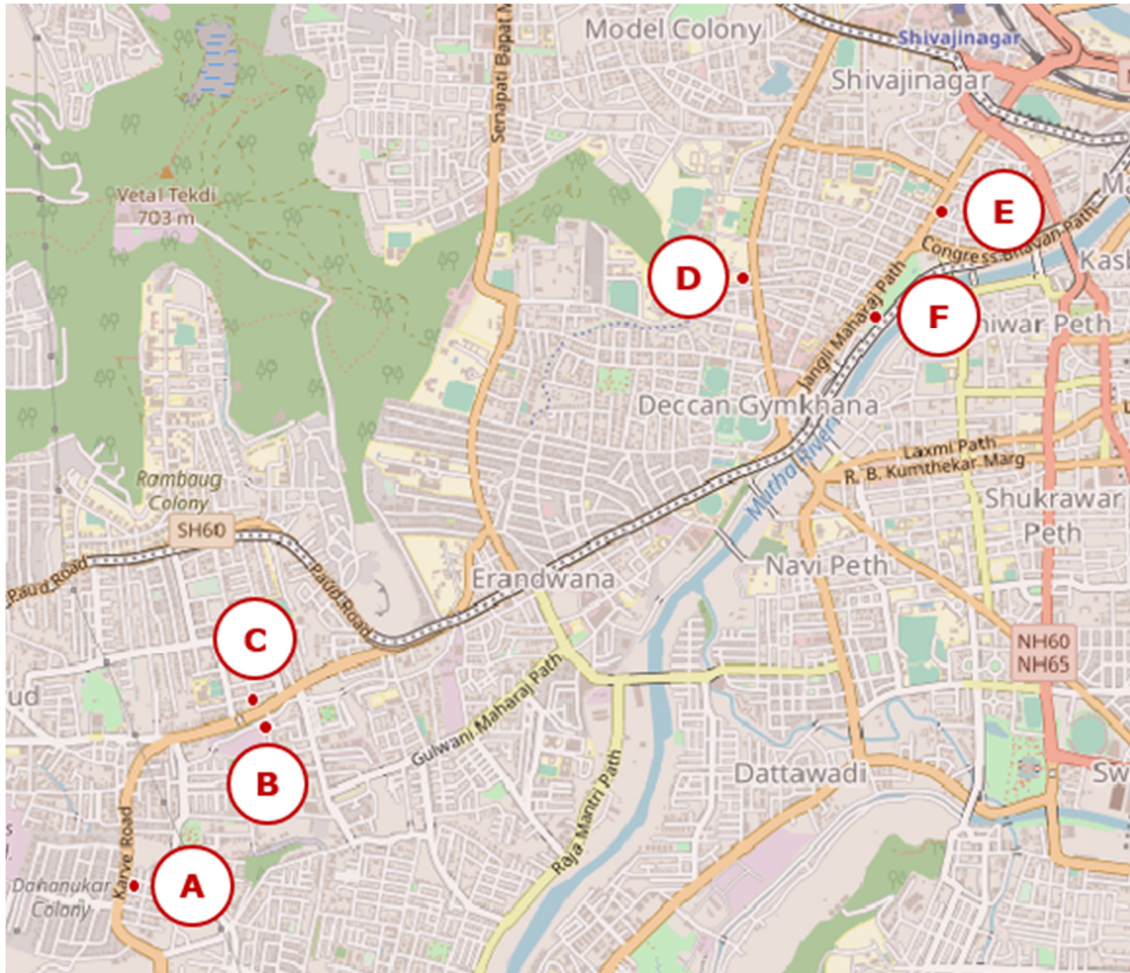
- A. Karve Road (Southbound), before Dahanukar Colony chowk
- B. Karve Road (Westbound), between Hutatma Rajguru Chowk and Mrityunjayeshwar Chowk
- C. Karve Road (Eastbound), between Mrityunjayeshwar Chowk and Hutatma Rajguru Chowk
- D. Ferguson College Road, opposite Hotel Vaishali
- E. Jangli Maharaj Road, between Modern College bus stop and Rani Laxmibai Chowk
- F. Jangli Maharaj Road, opposite Hotel Shubham

The “cycle tracks” at these locations are at the same grade as the footpath. In most cases a verge of about 50 cm separates them from the carriageway.



The following map shows the locations:

Figure 1: Map of survey locations



Usage patterns of cyclists vary significantly over the time of the day. In order to cover this variable, the survey was conducted at the following times at each of the 6 locations:

- | | |
|-----------------------|----------------------------------|
| 1. Early morning: | 30 minutes between 0600-0800 hrs |
| 2. Morning rush hour: | 30 minutes between 0930-1130 hrs |
| 3. Afternoon: | 30 minutes between 1300-1600 hrs |
| 4. Evening rush hour: | 30 minutes between 1700-1900 hrs |



3.2. Data collection

The data required for this study was collected using observations. No questionnaire of any kind was used.

The surveyors counted-

1. The number of cyclists cycling on the carriageway, and
2. The number of cyclists cycling on the "cycle track".

The surveyors were instructed to count cyclists riding on both the "correct" (i.e., left) side of the road, as well as cyclists riding on the "wrong" side.

Counting was done using a pen and paper. The surveyors entered the data in a Google Form.

The counts taken by the surveyors are presented in the following table:

Table 1: Number of cyclists counted

Location	Early morning		Morning rush		Afternoon		Evening rush		For all timeslots	
	Track	Total	Track	Total	Track	Total	Track	Total	Track	Total
A	3	15	0	8	2	11	2	10	7	44
B	3	23	1	14	1	10	2	7	7	54
C	7	29	1	8	1	9	4	17	13	63
D	3	74	2	11	1	9	5	24	11	118
E	1	80	0	10	2	11	1	13	4	114
F	6	122	1	16	3	20	3	24	13	182
For all locations	23	343	5	67	10	70	17	95	55	575

3.3. Method of analysis

In accordance with the objectives of the survey, the data was analyzed as follows:

3.3.1. Fraction of cyclists use the cycle tracks vs the carriageway

This was determined by adding the number of cyclists on the cycle tracks, and dividing by the total number of cyclists, for each location as well as for all locations together. These numbers are shown in the column "For all timeslots" in the table above.

3.3.2. Variation of this fraction according to the time of the day

This was determined by adding the number of cyclists on the cycle tracks, and dividing by the total number of cyclists: For the four timeslots as well as for all timeslots together. These numbers are shown in the row "For all locations" in the table above.

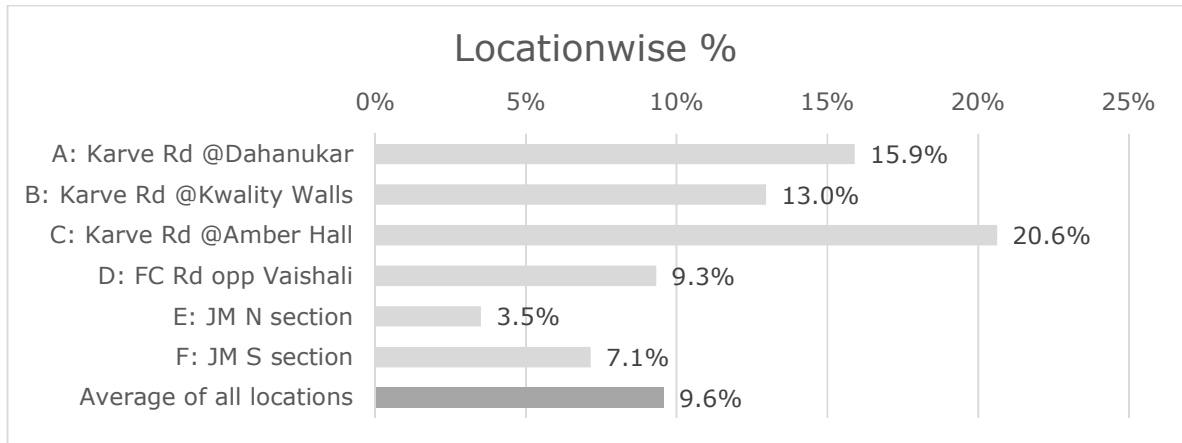


4. Findings of the survey

4.1.1. Fraction of cyclists use the cycle tracks vs the carriageway

The following chart shows this fraction.

Figure 2: % of cyclists using cycle tracks: Location-wise

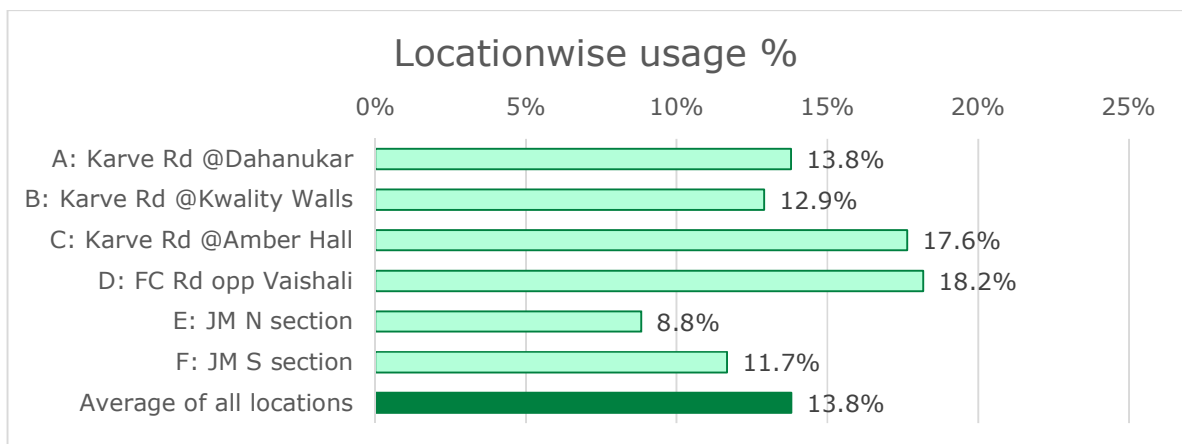


Although the usage of the cycle track is rather low everywhere (the maximum being about 20%), there is significant variation even within the low usage.

However, we noticed that the number of cyclists in the early morning hours is very high on FC and JM Roads. It won't be surprising if the cyclists in such large numbers felt a bit safer on the carriageway. Hence we thought that the early morning scenario there was an "outlier" and should not impact the overall impression of cycle track usage. Therefore we decided to omit the early morning readings at all locations from the analysis.

Then the same chart would look as shown below:

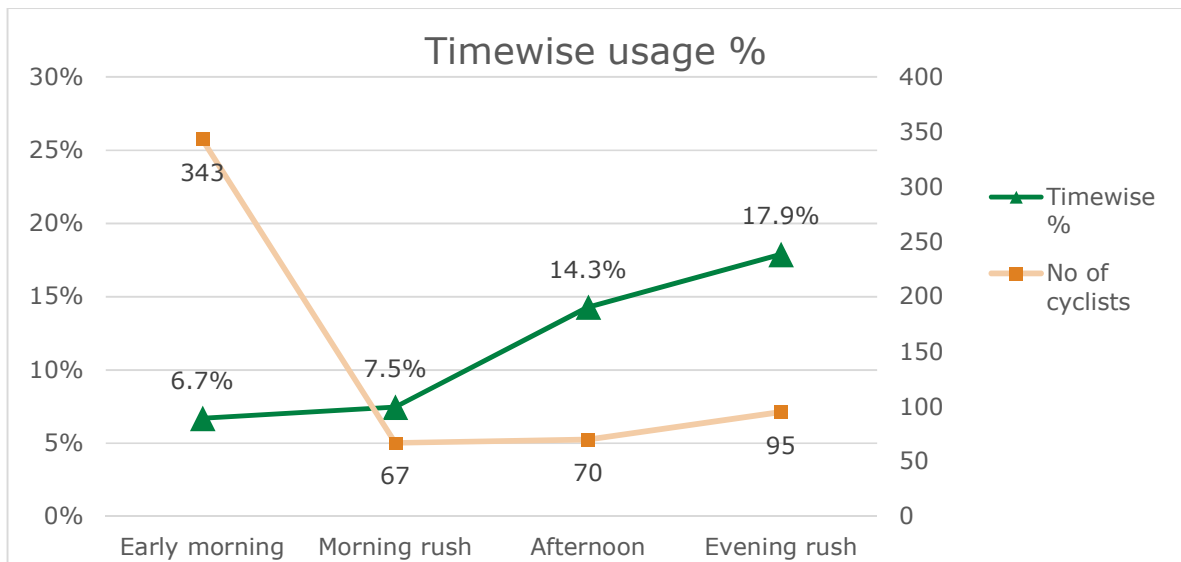
Figure 3: % of cyclists using cycle tracks: Location-wise, except early morning



4.1.2. Variation of this fraction according to the time of the day

The following chart shows how the usage varies during the day.

Figure 4: Percentage of cyclists using cycle tracks: Time-wise



It is interesting to note that the usage of cycle tracks is minimal in the early morning hours, when the number of cyclists on the road is much higher than during the rest of the day, and the number of other vehicles is also much lower. It seems likely that as the day progresses and traffic picks up, cyclists feel unsafe on the carriageway and the use of cycle track increases.

4.2. Interpreting the findings

Before we interpret the findings, it must be understood that the fraction of cyclists using a cycle track depends on several factors. From our experience, some such factors could be:

1. Obstructions on the cycle track, of various types
2. Walkability of the adjacent footpath
3. Number of vehicles on the carriageway and their speed
4. Availability of shade on the cycle track
5. Quality of the riding surface
6. Adequacy of the width of the cycle track for the number of cyclists
7. Length of the cycle track "network" in the locality and also in the city as a whole

There may be additional factors too. However, since studying the impact of various factors on the cyclists' decision of whether to use the cycle track or not was out of the scope for this study, we did not ask any cyclists about reasons why they are not cycling on the cycle tracks.



4.2.1. Usage of cycle tracks vs location

If you ignore the early morning, recreational cycling from this study, the fraction of cyclists using the cycle track varied between a band of 8% to 18%. Since this is a fairly narrow band, we did not feel any need of conjuring up any reasons for this variation.

However, it must be noted and stressed that only 8% to 18% cyclists using the cycle tracks is a fairly low number. At this moment, we feel confident that addressing some of the possible reasons listed above would not only improve the cycle track usage, but also increase the overall number of cyclists on the road.

4.2.2. Usage of cycle tracks vs time of the day

The fraction of cyclists using the cycle track seems to increase as the day passes.

It may be possible that more vehicles on the road makes cyclists feel unsafe and encourages them to use the cycle tracks. But then, the fraction of cyclists using cycle tracks would show a dip in the afternoon hours. Although it is possible that the reason mentioned above plays a role, there may be several other local reasons overshadowing its effect. We do not think there is sufficient data to surmise why the usage might vary over the time of the day.

Even here too, it must be noted that only 7% to 18% cyclists using the cycle tracks depending on the time of the day is a very low number. This fraction could increase significantly if and when some of the possible reasons mentioned above are addressed.

5. Conclusion

We think that the data captured in this survey is in reasonable agreement within the data set as well as cause and effect. **This survey has achieved its main purpose of establishing a baseline for usage of cycle tracks.**

The fraction of cyclists using the cycle tracks varies between about 7% to 18%, depending on the location and the time of the day, barring the early morning hours. Recreational cyclists in early morning hours use the cycle tracks much less. Clearly, cycle tracks benefit commuter cyclists much more.

There may be several reasons, listed in chapter 4, for low cycle track usage. We feel that if these and such reasons are addressed, the usage will increase significantly, along with the absolute number of cyclists as well.

6. Acknowledgement

SPTM would like to thank the surveyors who spent their valuable time to ensure that the survey gets completed on time. Their work will go a long way in determining steps that our city should take to improve cycling, especially commuter cycling, in Pune.

