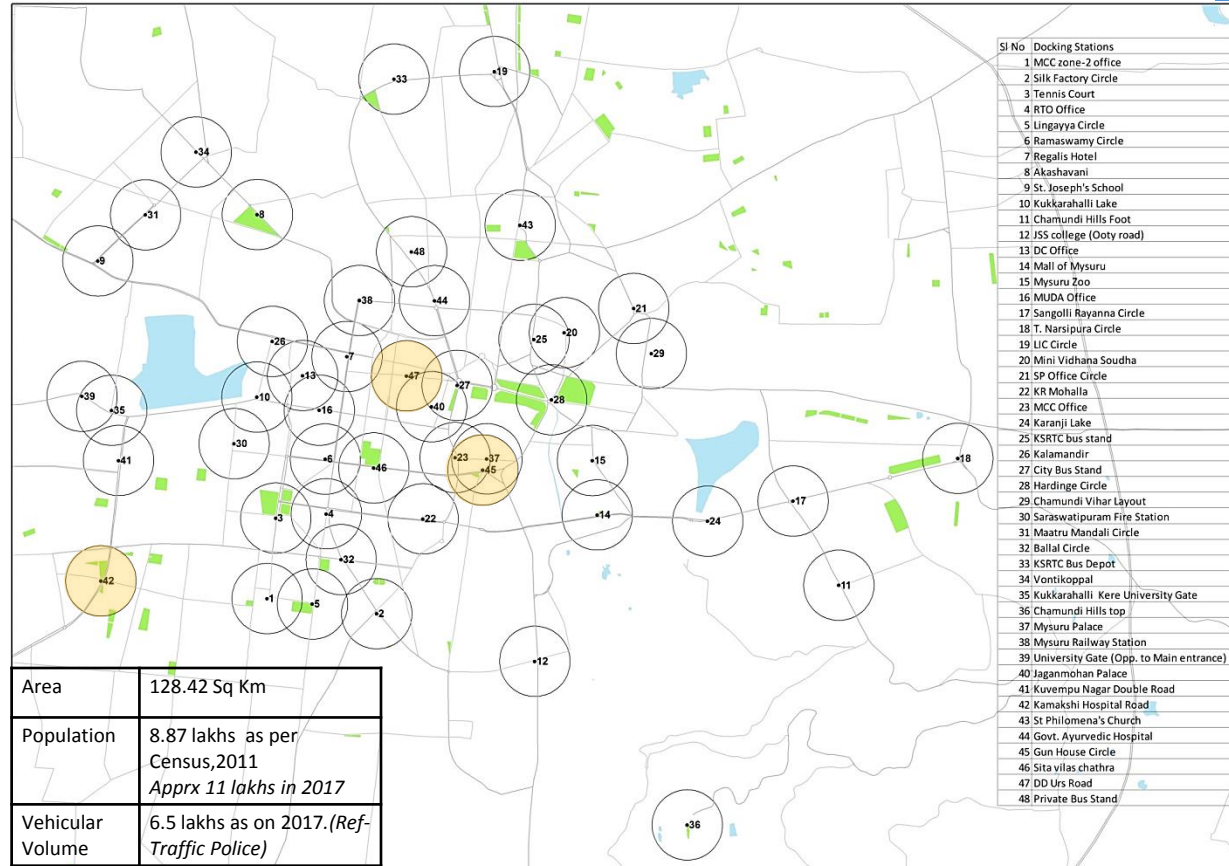




Introduction to Mysuru Public Bicycle Sharing System

Mysuru Public Bicycle Sharing System

- ❖ Bicycle based transportation system where users can take bicycle at any docking stations and return it back to any other docking station as per convenience.
- ❖ DULT and MCC has implemented the System with WB grant assistance.
- ❖ Docking stations are located within 500m vicinity in most of the locations.
- ❖ 45 stations are operational out of 48 docking stations.
- ❖ Area coverage of 28 Sq km (1/4th of Mysuru area).



Mysuru PBS area coverage with 500m buffer zone



System Brief

- ❖ The PBS system has been inaugurated by the **Hon'ble Chief Minister of Government of Karnataka on 04.06.2017.**
- ❖ More **than 7000 members has been registered** in the system as on 01.11.2017.
- ❖ The system components of Mysuru PBS systems are as follows-
 - ✓ **45 Docking stations are operational** out of 48 docking stations.
 - ✓ **Total 700 ports are operational** out of 750 ports.
 - ✓ **425 no. of cycles are in the system** out of 450 cycles.
 - ✓ A **central control centre has been set-up** for controlling and monitoring.
 - ✓ A **website and Mobile phone app** (Android and iOS) has been developed.
 - ✓ **6 Registration centres** along with 6 Mysuru One centers are performing registration activities.
 - ✓ CCTV streaming is available for 44 locations.
 - ✓ **6 Redistribution vehicles** are operational.



Institutional Set-Up and Chronology of the implementation

A Govt. Order has been issued to set up a **Project Monitoring Committee** for periodic monitoring and supervision of PBS Project **under the chairpersonship** of Deputy Commissioner, Mysuru District with the following members-

- Deputy Commissioner, Mysuru District, Mysuru : Chairperson

Members:

- Commissioner of Mysuru City Corporation
- Commissioner of Police, Mysuru
- Commissioner of Mysuru Urban Development Authority (MUDA)
- Representative of Commissioner, DULT
- SE, MCC: member- convenor



DC, Mysuru along with MCC Commissioner on ride before system implementation.

Implementation Process:

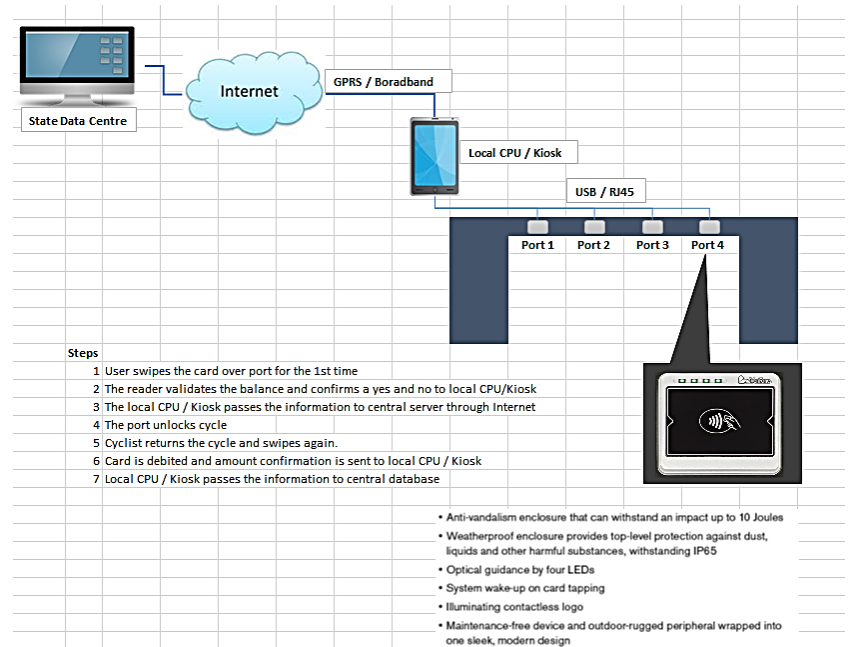
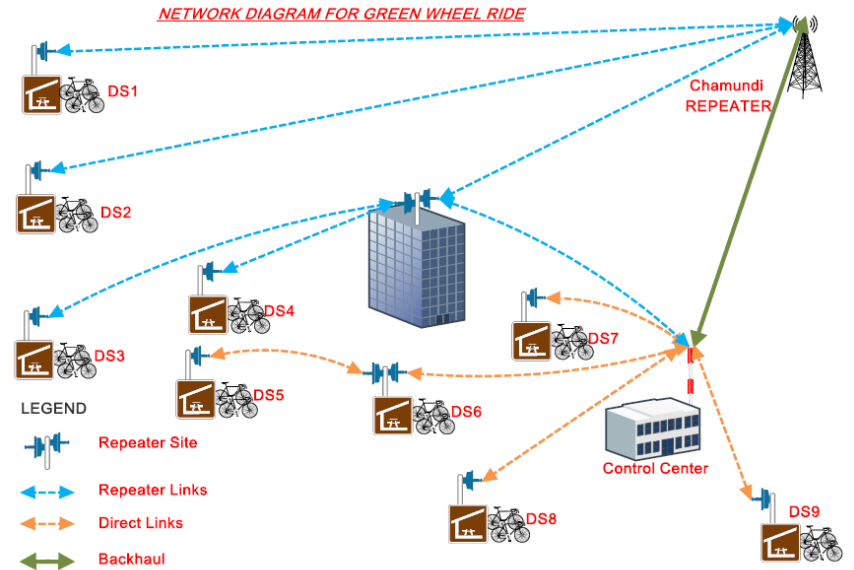
- ✓ Implementation through PBS operator selected through tender process.
- ✓ Entire capital cost and O& M cost **to be reimbursed** to the operator.
- ✓ Six years contract duration: **six months for setting up infrastructure; 5 ½ years of operations.**
- ✓ The **Govt has full control over the fare determination** as the revenue earned through the System is going to MCC.



The World Bank team reviewing the PBS system in Mysuru

Communication Network set-up for PBS system

- ✓ A **microwave based communication system** has been set-up exclusively for Mysuru PBS system.
- ✓ A **stored value card system** has been adopted for Mysuru PBS system.
- ✓ The user information are being updated in the Smart card only.
- ✓ A **user can use the system even network fails** between the docking stations and control centre.
- ✓ A **QR code based system** also implemented to make the registration process easy.



PBS Software

Port Status
Find out what bicycles are available

● Available ● Empty ● Locked ● Error

STATION NAME	FPGA-3	FPGA-4	FPGA-5	FPGA-6
Jayanagar Railway Gates	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Tennis Court	1 2 3 4	1 2 3 4	1 2 3 4	
Lingaiyya Circle	1 2 3 4	1 2 3 4	1 2 3 4	
RTO	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
DC Office	1 2 3 4	1 2 3 4	1 2 3 4	
MUDA Office	1 2 3 4	1 2 3 4	1 2 3 4	
Fire Brigade	1 2 3 4	1 2 3 4	1 2 3 4	
Ramaswamy Circle	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Metropole Circle	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Seetha Vilas Chatra	1 2 3 4	1 2 3 4	1 2 3 4	
Srinivasa Circle	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Kukkarahalli Lake Gate	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Akashavani	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Kalamandira	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4

- ❖ A software has been developed to monitor and operate the system on a **real time basis**.
- ❖ The **SLA reports are getting generated** in the system.
- ❖ All the bicycle transactions are accounted in the system.
- ❖ The **accounts report and daily collection reports** are also available in the software.
- ❖ Reports can be **downloaded in excel format** for analysis.

Cyclathon Event organized



- ❖ 4 cyclathon event has been organized by the operator to promote PBS System in Mysuru.
- ❖ The cyclathon includes the journey between Chamundi Hill Foot and Top.
- ❖ These events was organized on 05.02.2017, 19.02.2017, 26.02.2017 & 21.03.2017.



Recharge Scheme and user charges

Recharge Scheme

User fees	Validity
Rs. 50	30 days
Rs. 20	10 days

Fare Chart

Time span	Member user fees in Rs.
0- 60 mins	0
1 hour- 2 hours	5
2 hours- 3 hours	10
3 hours - 4 hours	20
4 hours- 6 hours	50
6 hours- 8 hours	100
8 hours- 12 hours	150
Greater than 12 hours	250

- ✓ *The user will get a benefit of unlimited number of cycle hires for a trip duration of 1 hour throughout a month.*

Summary

User Type	Security Deposit (Refundable) (in Rs.)	User Fees (in Rs.)	Processing Fees (in Rs.)	Total (in Rs.)
All Users	250	50 (valid up to 1 month)	50	350

Daily Progress monitoring Info (System generated info)

Major stakeholders (*Commissioner, DULT & MCC, MCC, DULT representatives and other MCC officials*) are getting an daily update (MOBKAR Mobile message) summarizing the following details:

- ❖ Total No of Registration done.
- ❖ Daily no of registration done.
- ❖ Daily Bicycle transactions
- ❖ Daily Top-up count in No. (both Rs. 50 & Rs.20)

1:12 PM

... 89%



DM-MOBKAR



Rs.50TopUps(Total):2271
Rs.20TopUps(Total):262

17-9 10:29

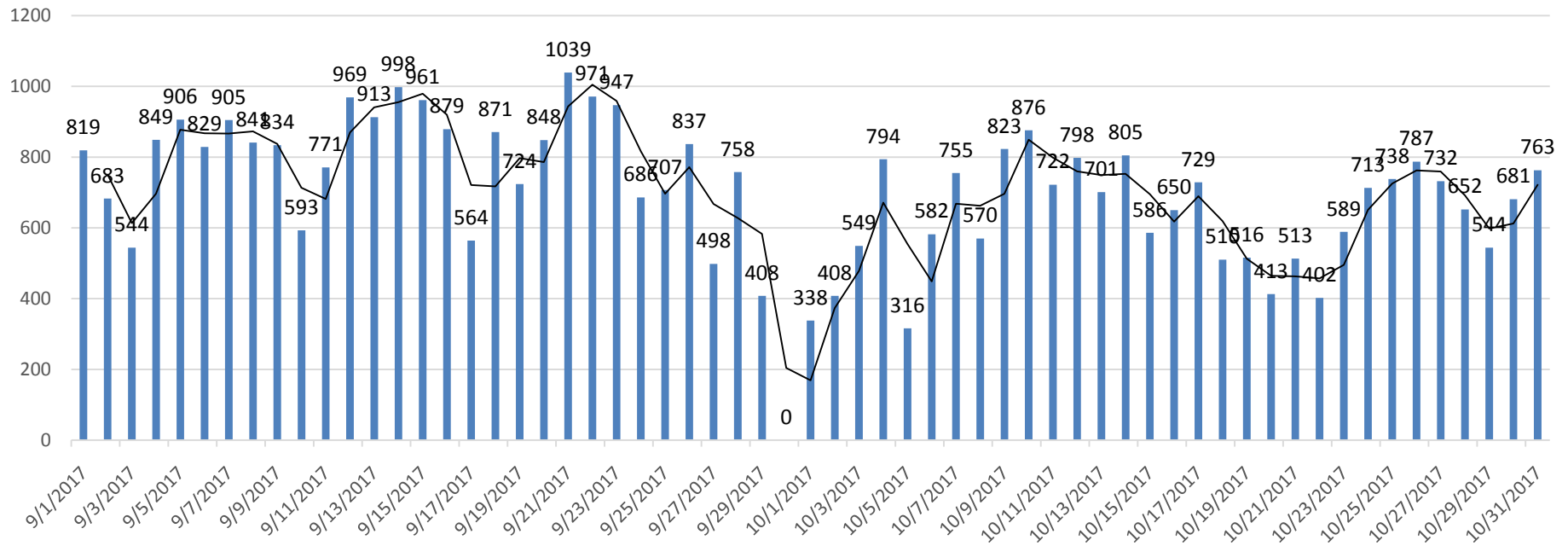
TRIN TRIN Status Update
Date:SEP 16 2017
Registrations:37
Rides: 879
UsageCost:Rs.395
Total Registrations:6128
Rs.50TopUps(Total):2322
Rs.20TopUps(Total):272

10:01

TRIN TRIN Status Update
Date:SEP 17 2017
Registrations:21
Rides:564
UsageCost:Rs415
TotalRegistrations:6149
Rs.50TopUps(Total):2366
Rs.20TopUps(Total):278

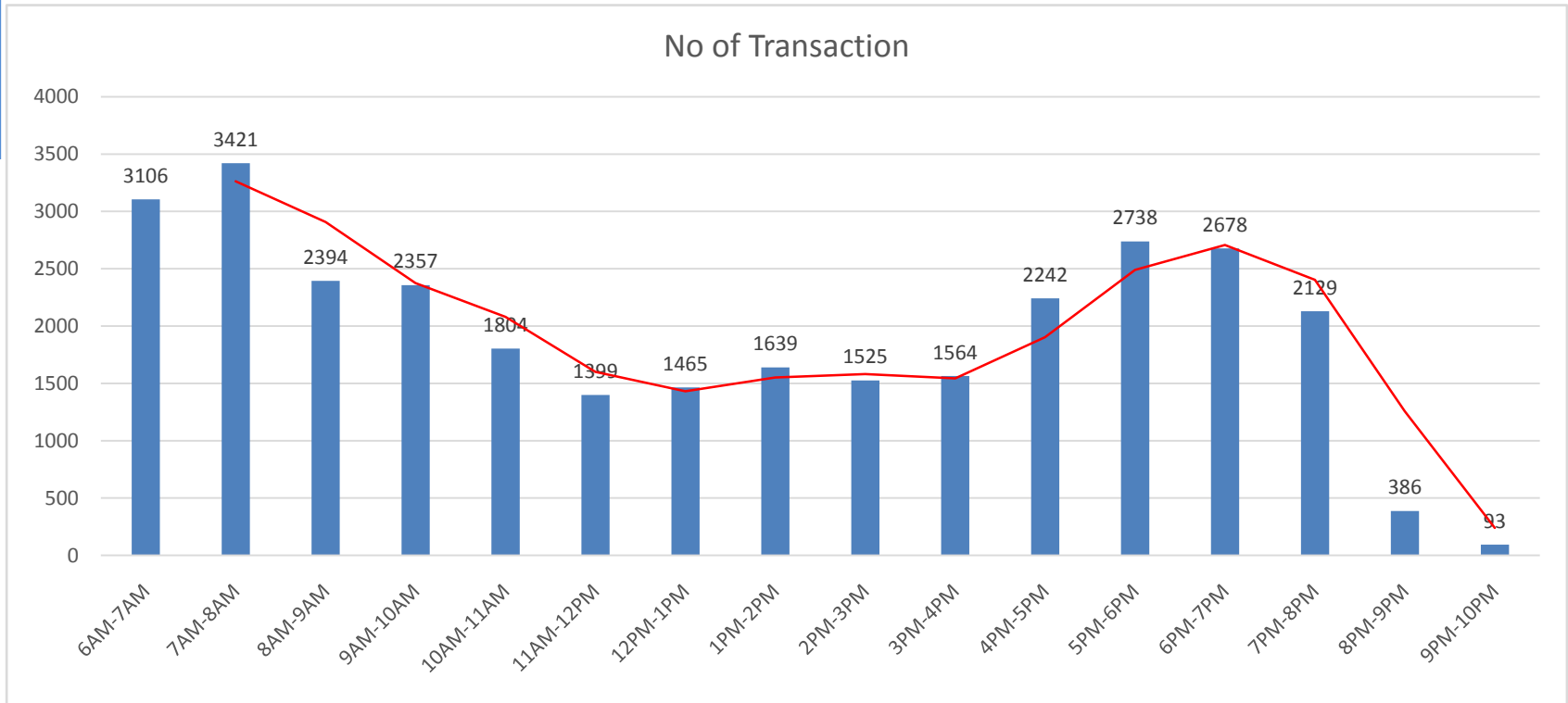
Bicycle Transactions for the month of September & October, 2017

Chart Title



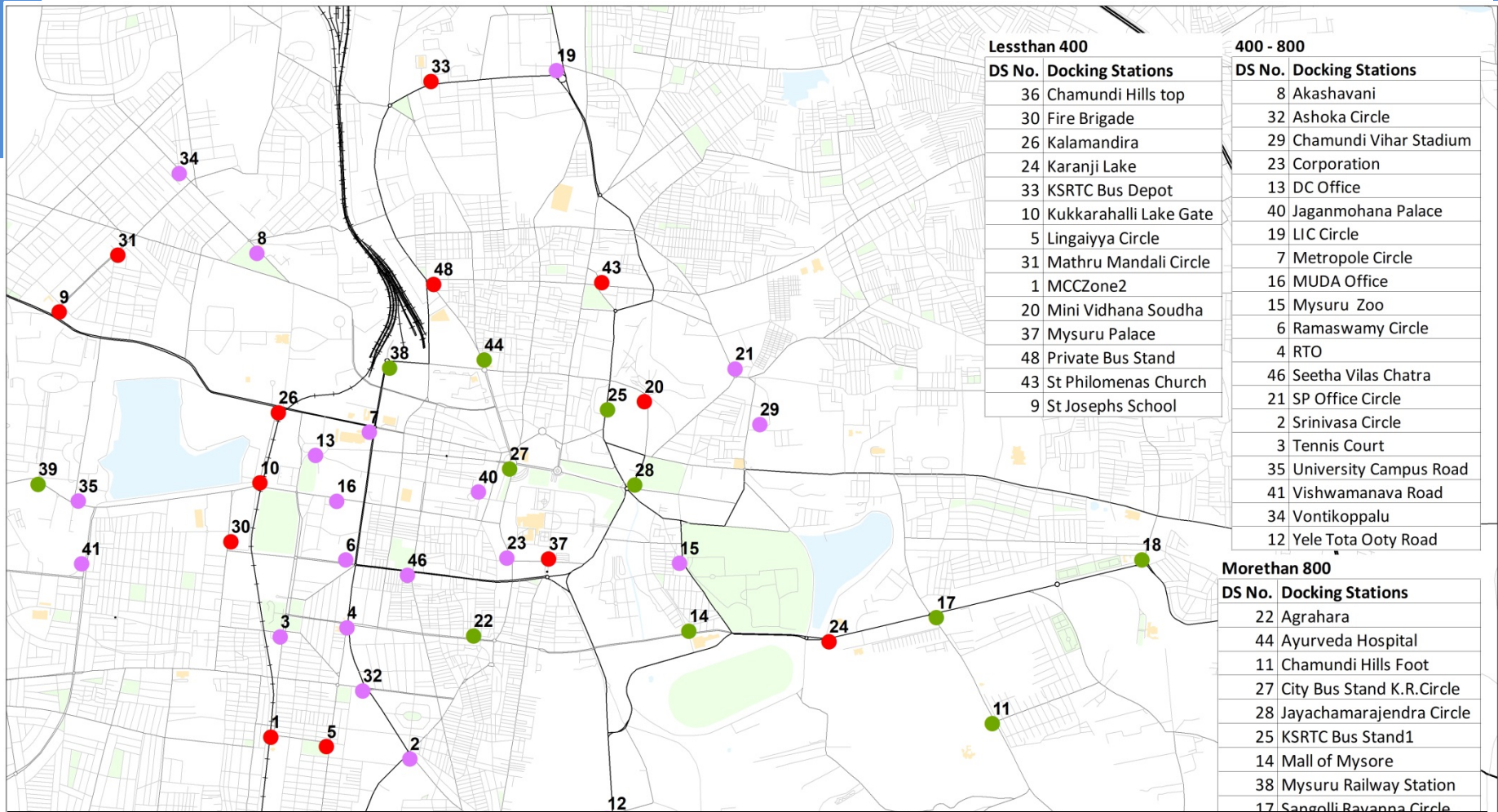
- ❖ During the month of September, the daily bicycle transaction no. has been observed to 800-1000/day on an average.
- ❖ During the month of September the bicycle usage /day has been increased to 2/day.
- ❖ 800-1000 daily trips have been converted to as PBS trip with Zero pollution level.
- ❖ The operation was closed on 30.09.2017 due to Dasara Event.
- ❖ The daily rides was affected in the month of October, because of heavy unusual rainfall.

Identification of peak and off-peak time in the system



- ❖ 6:00A.M to 10:00A.M has been considered as morning peak hour.
- ❖ This is primarily because of the reason that people have to catch train from Mysuru railway station during morning time.
- ❖ The Evening peak time is considered as 5:00P.M-7:00P.M.
- ❖ The usage become very low after 8:00P.M.

Distribution of Docking Stations-Check-in details

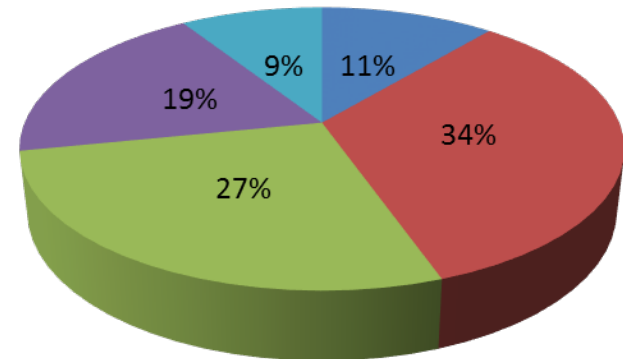


- ❖ The distribution of check-in and check-out cycles are distributed in a same manner.
- ❖ Maximum people are using the cycle as a last mile of connectivy and for shorter distance trips .

User Type & distribution of usage (System Info)

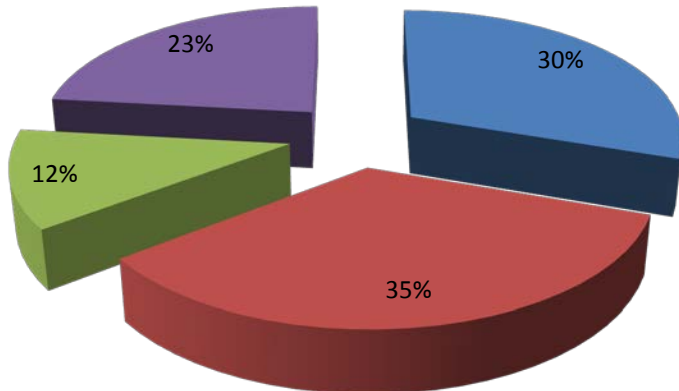
- ❖ User group **between 20-30 years** are the most predominant user type.
- ❖ The usage by the **more than 40 years user group is higher than below 20 years user group.**
- ❖ **The usage up to 1 hour comprises 58% of the total usage.**
- ❖ Very minimum no. of usage have been observed for more than 2 hours of usage continuously.
- ❖ The **employees of different organization** are the predominant user type.

Age wise distribution of user



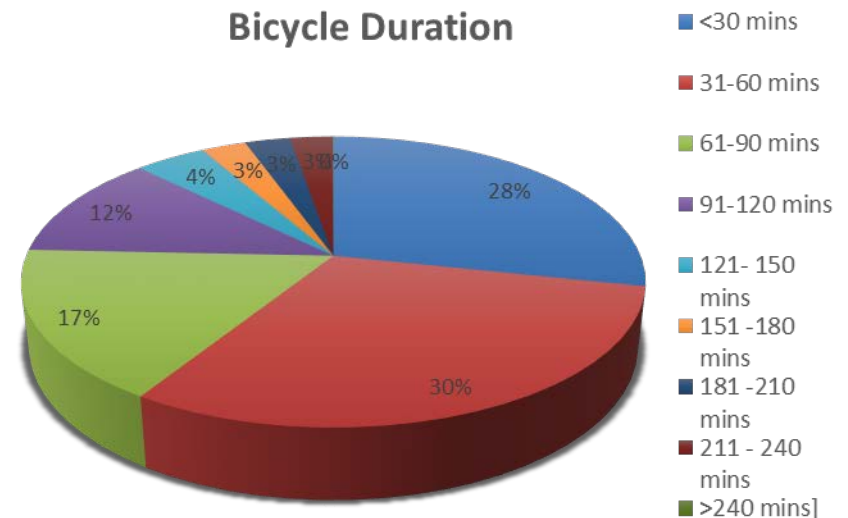
■ < 20 years
 ■ 20-30 years
 ■ 30-40 years
■ 40-50 year
 ■ >50 years

User Type Distribution



■ Students
■ Employees
■ Kids
■ Others

Bicycle Duration

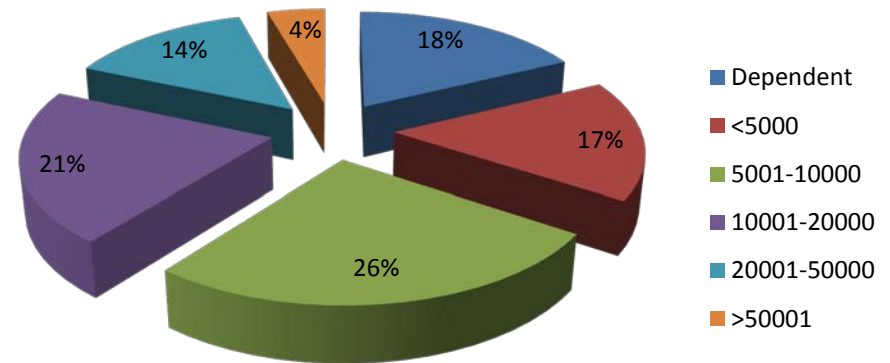


■ <30 mins
■ 31-60 mins
■ 61-90 mins
■ 91-120 mins
■ 121-150 mins
■ 151-180 mins
■ 181-210 mins
■ 211-240 mins
■ >240 mins]

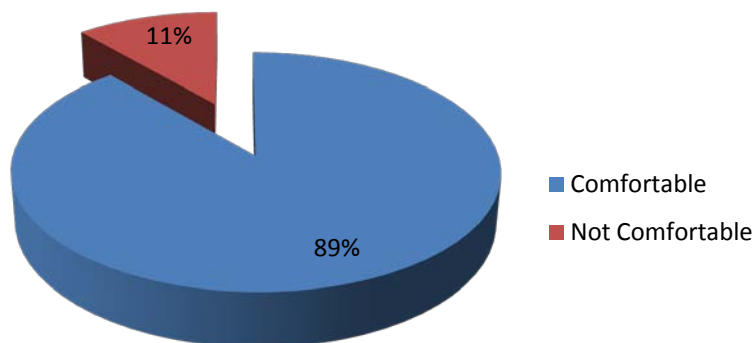
User Survey Data Analysis

- ❖ Sample size collected: 450
- ❖ The people earning less than 10k/ per month are the predominant user type (61%).
- ❖ Maximum people are using the system for work purpose only.
- ❖ The work & educational trips comprises 60% of the total usage.
- ❖ About 89% of the users feel that the cycles are comfortable to use.

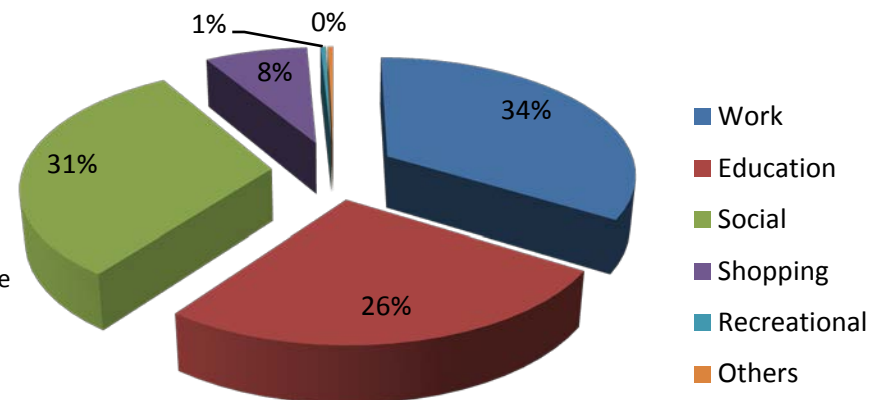
User Monthly Income



User Comfortness



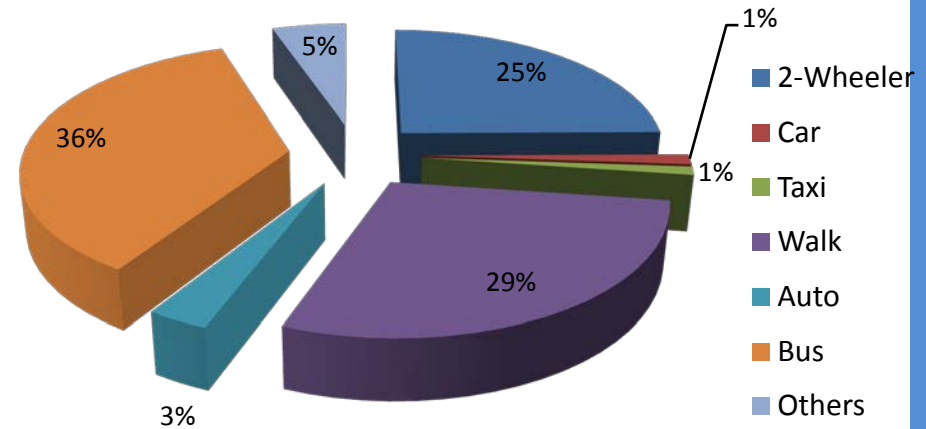
Purpose to use PBS



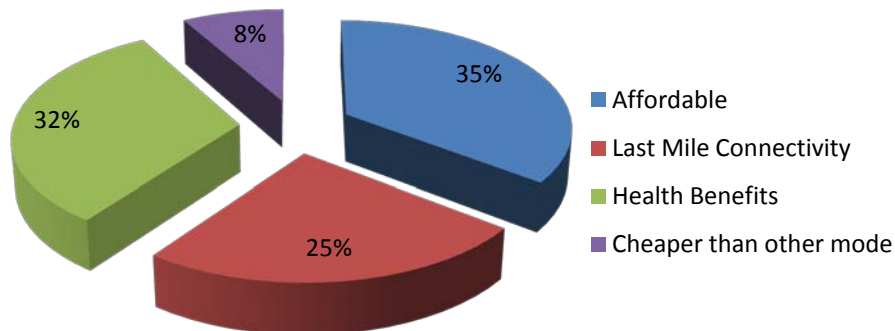
User Survey Data Analysis

- ❖ Based on the user survey, 25% of the users have shifted from 2-wheeler to the PBS System.
- ❖ 35% of the users feel that the PBS system is affordable and 25% of the users are using the system as a last mile connectivity.
- ❖ Overall, 93% of the users feel that the system outcome is positive.

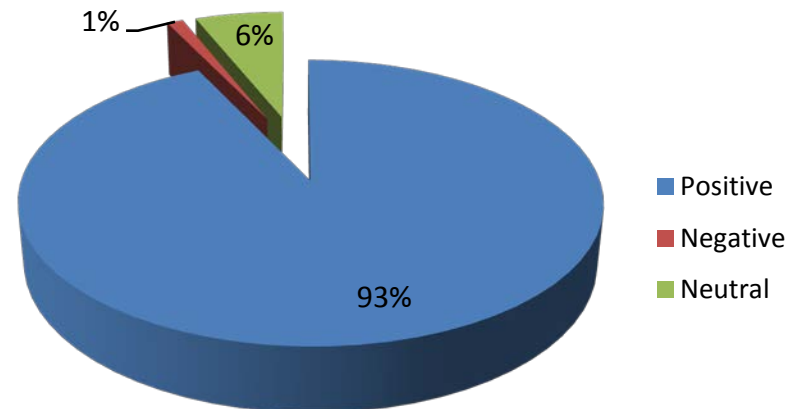
Modal Shift to PBS



Reason to use PBS



Overall User Experience



Scope for improvement suggested by the Users

- ❖ Demand for more number of docking stations has been raised.
- ❖ Providing GPS tracking system to cycles.
- ❖ Extending the time limits of operations.
- ❖ Improvement of network to solve the ports hanging issue.
- ❖ Providing more number of cycles in peak hours.
- ❖ Provision of bigger baskets to the cycles.



Implementation & Operational Challenges

Implementation challenges:

- ✓ **Site Clearance** : Although most of the sites belong to the Mysuru City Corporation, getting site clearance taking longer time than expected.
- ✓ **Alternate Site locations**: Getting the alternate site locations with a provision of 1.5m clear footpath space was time consuming.
- ✓ **Network Connectivity**: Clear line of sight was not available from every docking stations to the Control centre/ Chamundi hill repeater.

Operational Challenges:

- ✓ **Redistribution of cycles**: Every week around 300-500 new users are getting added. Identify a redistribution pattern was real challenge to the operator.
- ✓ **Data Traffic**: Because of more no of check-in and check-out, the data traffic flow between the docking stations and control centre is becoming too high.

Inclusive Benefits

- ❖ A bicycle based Public Transport option has been provided to the city residents to **reduce the vehicular dependency** on the motorized transit.
- ❖ 30% of the total users have been shifted from motorized mode to the PBS system. *(Source-User Survey Data)*
- ❖ The major destination areas are covered by the PBS system to encourage people to use PBS system.
- ❖ The PBS System is being used by the different income group. The usage is not restricted to the LIG people.
- ❖ The unisex bicycles have **no gender bar** and can be used by the women users too.
- ❖ Cycling at a city scale is helping to **retain the charm of a heritage city** with zero pollution level.



Video on the Mysuru PBS System

Mysuru PBS Video:

[Trin Trin-Intro Video English\[YouTube\].mp4](#)

Thank You...

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