

# Ahmedabad 'Janmarg'



A project under JnNURM

An initiative of:

**AHMEDABAD MUNICIPAL CORPORATION**

Operations :

**AHMEDABAD JANMARG LTD.**

Technical support : CEPT University, Ahmedabad, India

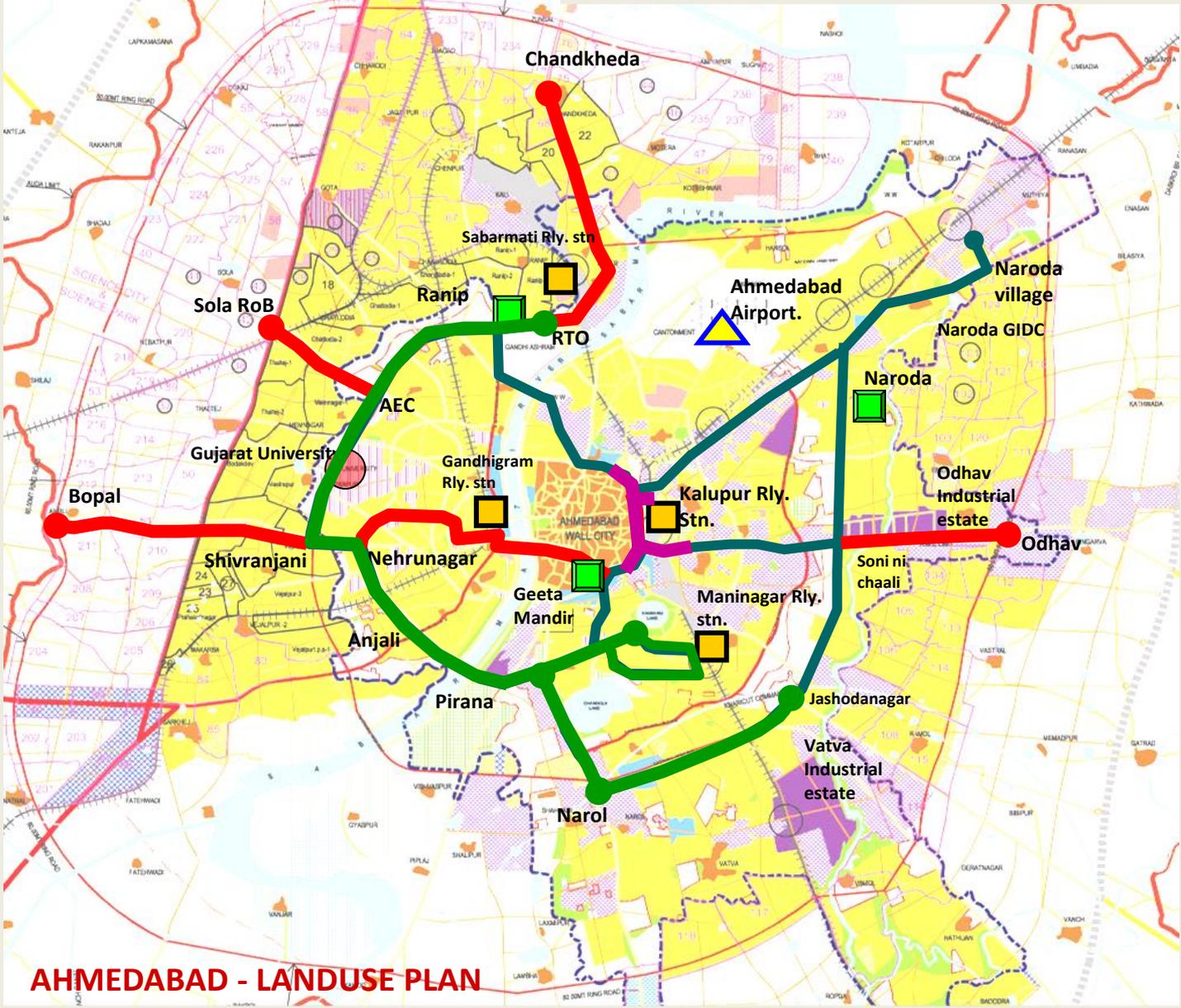
# Ahmedabad today..

- Area- 466 sq kms. Population-58 lakh, By 2031 >1 Crore
- 22 lakh vehicles. 2 wheelers-73 percent, 8 Lakh Bicycles, 60000 3-wheelers
- Addition of 430 vehicles every day
- Ahmedabad has 5 ring roads and 17 well developed radials. Mixed Land uses
- Avg. Trip Length is about 5.5 kms in Ahmedabad
- Low Road Fatalities (Ahmedabad 202, London-204, Singapore-190)
- CNG Introduced-2006

# AHMEDABAD APPROACH..

1. Comprehensive outlook
2. Continuous Effort
3. Strong / Decisive Leadership
4. Proactive Elected Wing
5. Encouraging State
6. Consultant who is a Partner
7. Adaptive design to social realities
8. Positive Media
9. Citizen who sees change as positive

# JANMARG – CORRIDOR PHASING



- █ Phase 1 corridors (58.3 kms.)
- █ Phase 2 corridors (26 kms.)
- █ Phase 2 Elevated BRT (4.5 kms.)

Total network (88.8 kms.)

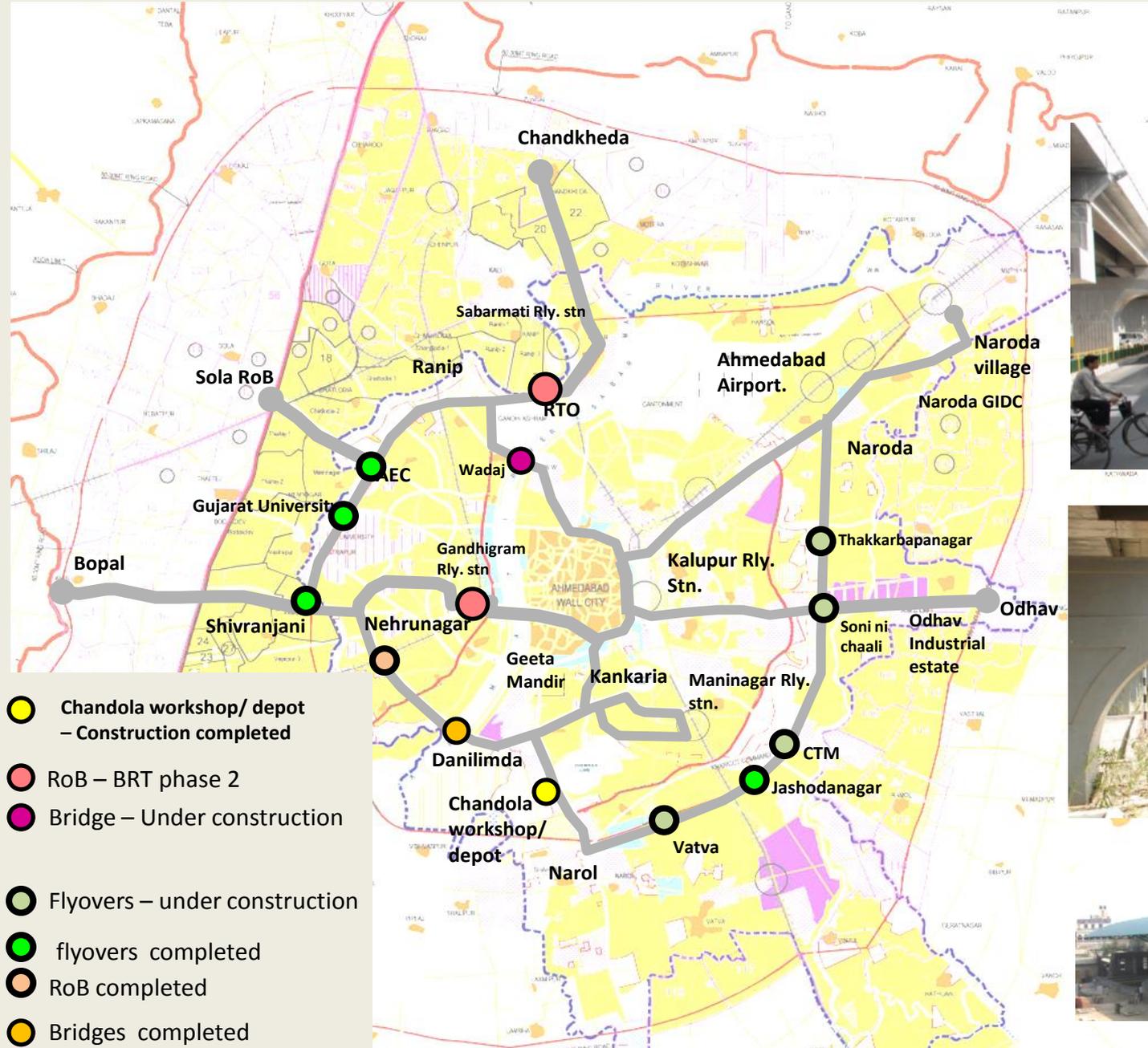
- █ Operational corridor (30 kms.)
- Routes: RTO – Maninagar/ Jashodanagar (peak hr) , Anjali –Jashodanagar (off peak)

## LEGEND

- ▲ Airport
- Railway Stations
- GSRTC terminals
- University/ educational campus
- Industrial estates
- RESIDENTIAL
- INDUSTRIAL
- INSTITUTIONAL

AHMEDABAD - LANDUSE PLAN

# Janmarg - Flyovers, bridges, RoB, Workshop and Depot



— BRT corridors (88.8 kms.)



Split flyover at Memnagar



Split flyover at A.E.C



Workshop and depot at Chandola

# Flyovers and Pedestrian Subways



Subway at Vijay Park, Thakkarbapanagar



Flyover at Jashodanagar

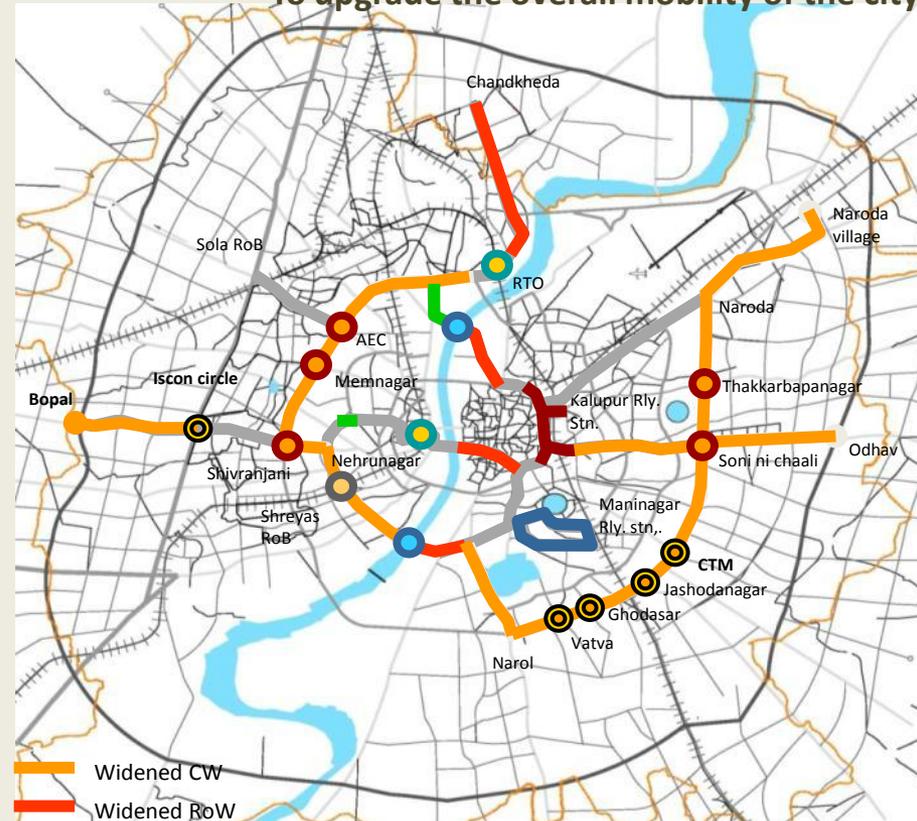


Flyover at Soni ni chali (under construction)

# JANMARG – Comprehensive Plan

- NETWORK and Not Corridors
- Connectivity of important origin and destinations
- Catalyst for area development
- low income, low accessibility zones (old walled city)
- Availability of right of way to build infrastructure
- Formation of strong network for flexible route operations
- Overall impact of transit on city
- **Connect ‘busy places’ but avoid ‘busy roads’**

To upgrade the overall mobility of the city



- Widened CW
- Widened RoW
- New Roads
- Elevated corridor
- One-way loop at Maninagar (adopted due to less RoW)

- New River bridge
- RoB Constructed (Phase 1)
- Proposed RoB/ RuB (Phase 2)
- Flyovers (phase 1)
- Proposed Flyovers (phase 2)

Increasing the stake holder base:  
Citywide

# BRT: System Components

## Running ways

- Segregated bus ways



## Bus Stations

- Accessible, Comfortable stations – Level boarding, External Ticketing



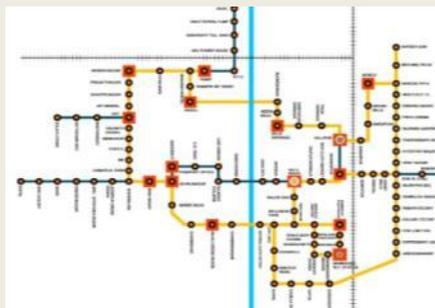
## Vehicles

- Clean buses & modern technologies
- Trained Driver



## ITS & Fare Payment

- Public Information System (Next bus/Next stop)
- External Ticketing, Smart Cards, AVL
- Area Traffic Management for Bus Priority & Minimise wastage of GREEN TIME



## Operating Plan

- Frequent, Reliable service
- Closed System
- Operations under Single Management Control

*High-quality*

*Customer orientated*

*Fast*

*Comfortable*

*Low-cost*

# BEFORE..AT AKHBARNAGAR



17.08.2005 09:34

# AFTER.. BRT AT AKHBARNAGAR



# BEFORE.. AT AEC



# AFTER..BRT AT AEC AND SPLIT FLYOVER



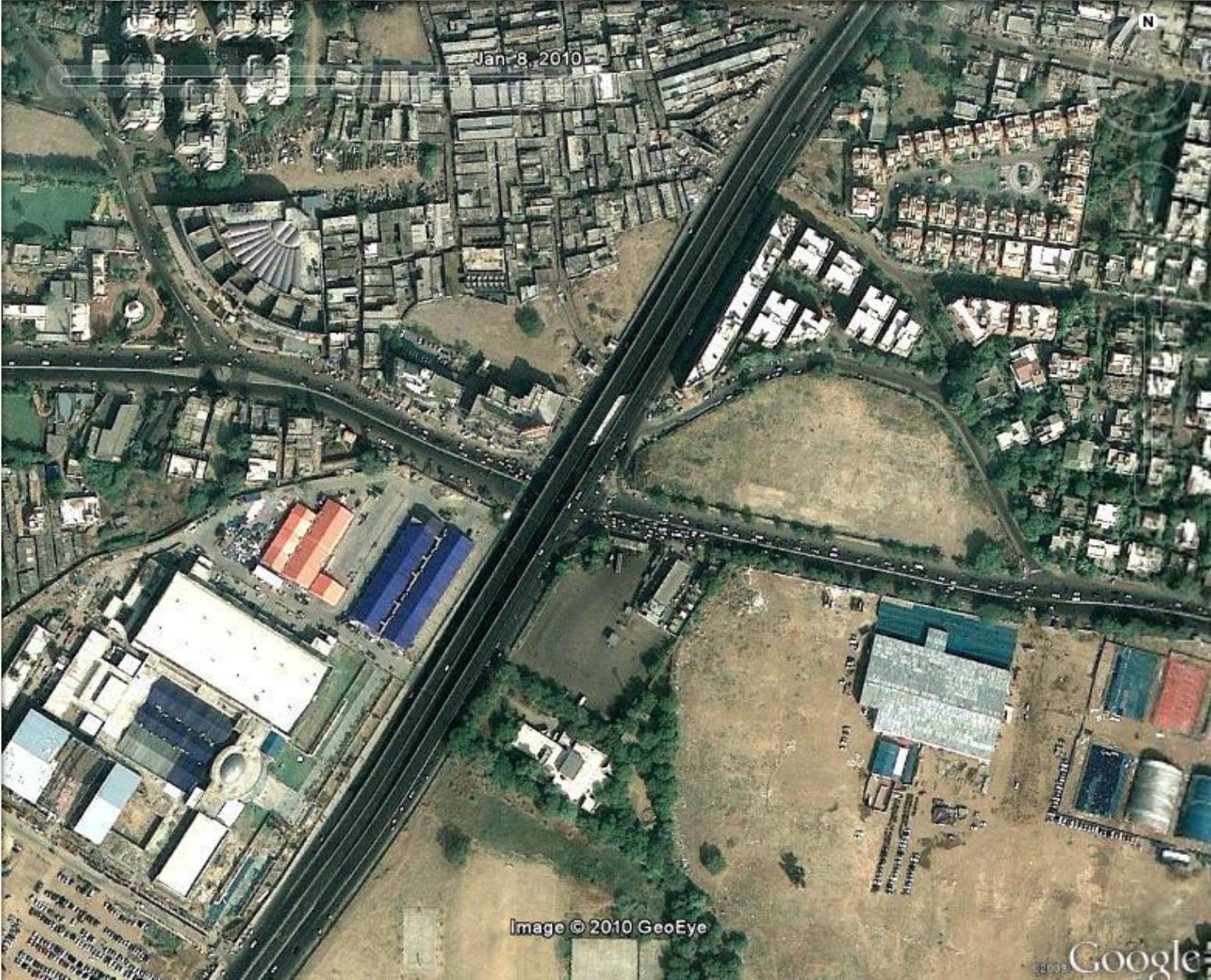
# BEFORE.. At Anjali



# AFTER.. At Anjali



# LANDUSE TRANSFORMATIONS



Jan 8, 2010

Image © 2010 GeoEye

Google

# Danilimda BRT



# BRT at Ranipur road



# Maninagar One-way BRT



Regular Bus stops



# Types of Bus stops



Bus stops below split flyovers

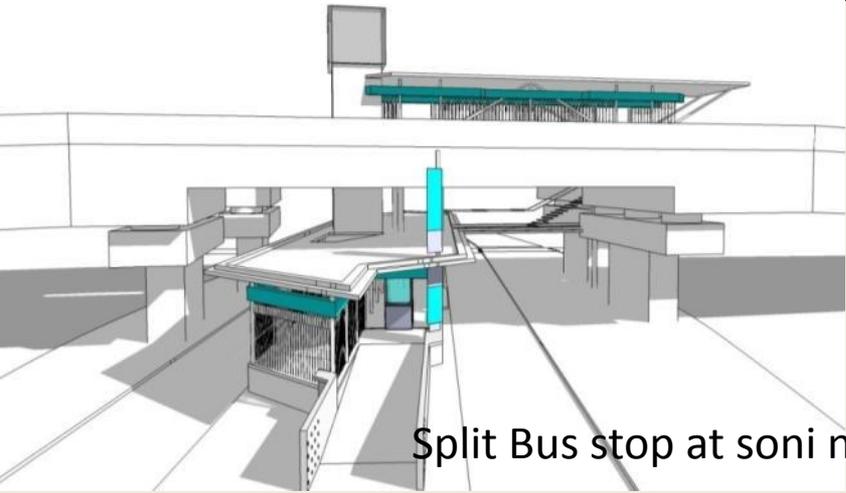
Bus stop at Kankaria Lake



Small Bus stops



Split Bus stop at soni ni chaali



# Soni ni Chali BRT bus stop



**VIEW FROM THE BRT LANE WITH  
BRIDGE**



**VIEW FROM THE BRT LANE WITH TRANSPARENT  
BRIDGE**



**VIEW FROM THE BRT LANE  
WITHOUT BRIDGE**

# Maninagar One-way BRT



# JANMARG – Extending the Ownership to the people of Ahmedabad

- Extensive public outreach and media coverage (during construction, trial runs, operations)
- Enhanced Accessibility for all (physically and visually challenged, senior citizens, women, children etc.)
- Bus stop prototype and Free trial runs
  - Special BRT rides for school children, industrialists, doctors, religious leaders etc.
  - BRT trial runs till 1 am during Navratri
- Special training programmes for staff, Bus drivers for improved skills and public interaction
- Regular passenger feedback surveys for performance monitoring

# JANMARG – Accessible for all



# BRT rides for School children





Visit to BRT by eminent Doctors of Ahmedabad

## Visit to BRT by Religious leaders of all sects



## Visit to BRT by eminent Industrialists of Ahmedabad





## BRT Trial runs - visits

- Surprise visit by Hon. Chief Minister of Gujarat, Shri. Narendra Modi



- On the bus ride, he discussed with the passengers, their response and feedback for the system

# JANMARG DURING NAVRATRI



# Public Outreach

JANMARG display at Public exhibitions, workshops, property shows



Regular newspaper articles / Radio Announcements

Janmarg website – [www.ahmedabadbrts.com](http://www.ahmedabadbrts.com)



Traffic jams rule the Vibant. It's a great Navratri Mahotsav on a



The BRTS, which sees 15,000 passengers during normal days, ferried 33,000 Amdavadis on Monday

# Vibrant BRTS

Revellers heading to Vibrant Gujarat Navratri Mahotsav take BRTS to avoid traffic woes

By Anand Jais

Planning to catch the Vibrant Gujarat Navratri Mahotsav on the Gujarat University Ground has a lot of ways to avoid traffic jams? Here's a tip. Take the BRTS. Around 23,000 Amdavadis had the same intention on Monday. "It was a great experience. My friends and I booked a private vehicle and I was stuck in traffic for an hour without being in a car. The bus journey did not take that long a time," said Miss Shah, a resident of Mahotsav

in Vidya Vihar. "I was so happy that I used our private car that made us stuck in traffic for an hour. The road space was a struggle. I thought our car is stuck in traffic for an hour. I decided to take the BRTS. It was with 30-40 people on board. The driver was very professional. He decided to pick up the bus. All the passengers were

The BRTS, which sees 15,000 passengers during normal days, ferried 33,000 Amdavadis during Navratri



66 I came with my sister and our kids. BRTS was the best bet as parking a private vehicle would have been a big hassle at the venue. This way the kids too can check out Amdavad's Navratri transport. -Rohan Parikh, resident of Nova Vada



66 We left home on our vehicle but got scared of getting caught by the cops. So we parked our bikes near Keshavnagar and took the BRTS to the venue. The ride was comfortable and free! -Dip, Dushan and Dhruv, Std. XI students



66 Thank God for BRTS. I avoided the traffic jam around the venue. People had parked bikes halfway into the road creating bottlenecks. I avoided being stressed out by taking the bus. -Bhavik Choksy who came with his family



66 People wearing garba bhavni can travel on the BRTS in comfort. And there's no need to worry about finding parking space. My friends and I had an excellent time traveling on this bus. -Shruti Shah, resident of Anjali Crossroads



66 Seeing the bus ply on Sunday, I parked my vehicle at a complex and got on board with my wife and son. As I did not have to drive through traffic, I was relaxed enough to enjoy the festivities. -Devang Shah, resident of Chandranagar



66 Why waste time in traffic? With its dedicated corridor, the bus reaches faster. And if you miss one bus, another will be along in a few minutes. And, it is absolutely free. -Narayan Kothari, resident of Vastral



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# Media : Passenger Feedback and responses

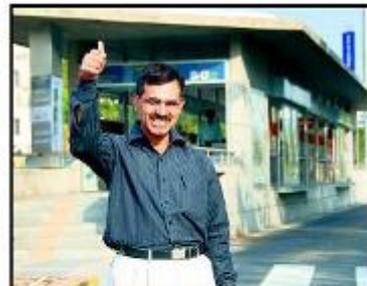
Car? Ab bus karo!

They have decided to keep their vehicles at home and take the BRTS. TOI meets two Amdavadis who said ...



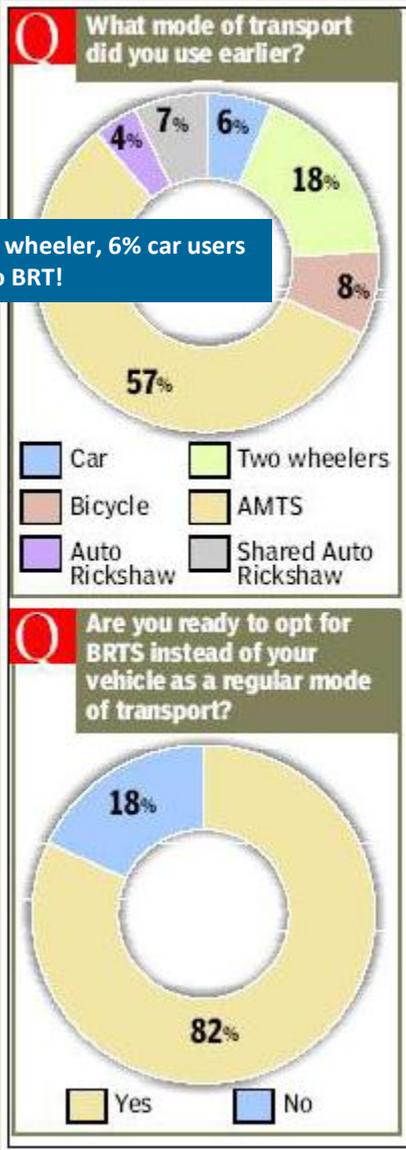
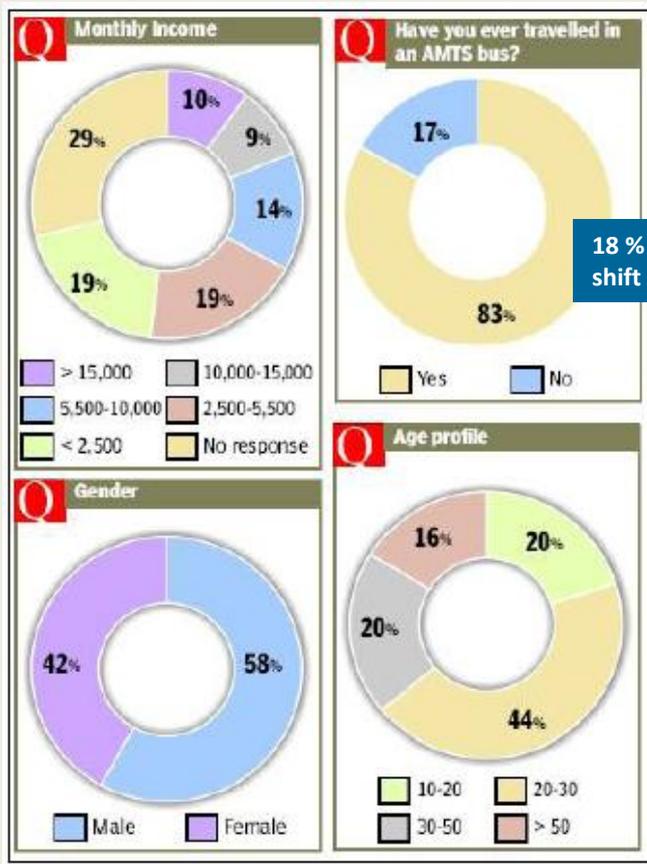
**“Ab BUS karo..”**  
 - Times Public Poll,  
 Times of India,  
 Ahmedabad

Rachna Soni Employee at a private firm Stays at | Judges Bungalow Road Workplace | Anjali Crossroads Owns | A two-wheeler and car The BRTS is a boon to the city. The bus stop is very close to my workplace at Anjali Crossroads. This makes it comfortable for me to board a bus at the end of the day at work and get down at Keshavbaug. But, it would be better if there was a connecting feeder bus to my residence on Judges' Bungalow Road. At present, I take an auto-rickshaw to reach my residence from the BRTS bus station. Driving a car and sitting in a BRTS bus are different experiences. The bus ride is more relaxing as I do not have to bother about the milling traffic. The authorities should introduce air-conditioned buses to add to the comfortable environment. I wish parking spaces are created close to the bus stations. But, it's a great beginning and I wish it will go great guns to make travel a better experience for travel-weary city-dwellers.



**“Thumbs UP to BRT..”**  
 - Times Public Poll,  
 Times of India,  
 Ahmedabad

Pushpender Sharma Chief Manager, State Bank of India Stays at | Naranpura Workplace | Ambawadi Owns | Car Till about a month ago, I would travel to my workplace at Ambawadi in my car. But the BRTS changed all that. Now, I am taking care of my fitness too, with a brisk walk from my home to the BRTS bus station at Jay Mangal. The six-km stretch from home to the bank, which would earlier take me about 30 minutes to cover, now takes just 15 minutes. This saving in time, with the walk as a bonus, has made my life easy. Initially, I would board the BRTS bus to get a feel of it. The way traffic is growing on city roads, driving a car is not such a pleasant experience. We have to manoeuvre a lot and face traffic jams on the cross junctions. Now, I am completely free of all these problems. I am also saving about Rs 2,000 by travelling on BRTS buses. It is not only about saving money but also bringing down the pollution level and having a comfortable ride. I like the BRTS facilities. It is always on time.



18 % 2 wheeler, 6% car users shift to BRT!

**“Comfort, Punctuality and Affordability make Ahmedabadis hop on to BRTS..”**  
 - Times Public Poll,  
 Times of India, Ahmedabad

# JANMARG – Delegates' visits



Dr. M. Ramachandran,  
Secretary, Ministry of Urban  
Development,  
Government of India, on his  
visit to Janmarg bus stop



Members of American Planning Association on  
their visit to Janmarg



Visit to BRT by Enrique  
Penalosa



Visit to BRT by Dario Hidalgo



Members of Lagos BRT, Nigeria  
on their visit to Janmarg

# AWARDS

2009

- **“Best Mass Transit Project under JNNURM for the Year 2008-09”**



by  
Ministry of Urban  
Development,  
Government of India.

2010

- **“International Sustainable Transport Award 2010”**



for visionary achievements  
in sustainable  
transportation and urban  
livability in a function held  
at Washington

## AWARDS

# “ITF-UITP International Award for Outstanding Innovation in Public Transport 2010” at ITF Forum 2010 Leipzig Germany

2010



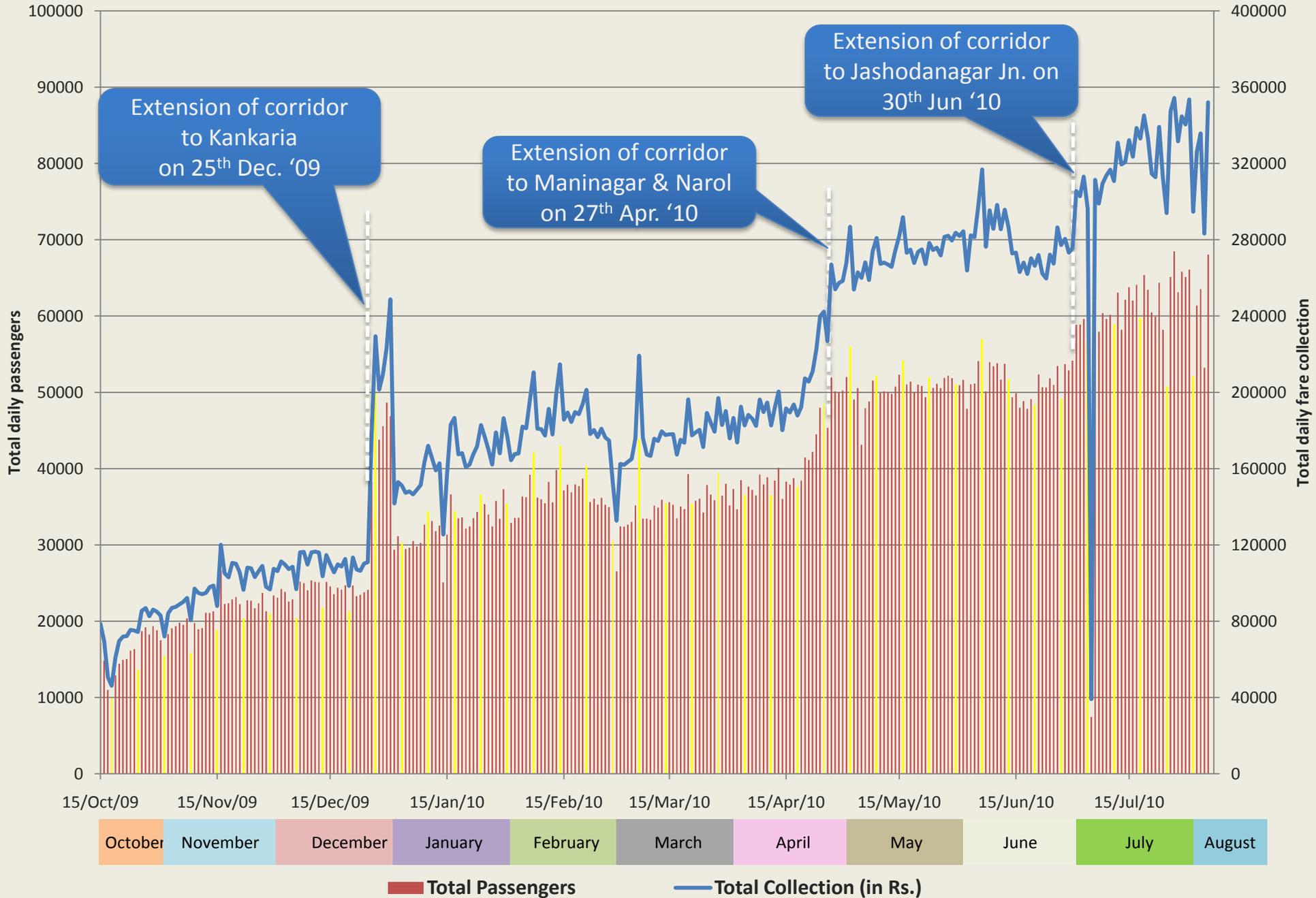
# Operations Plan

- Route R.T.O. to Maninagar loop,  
R.T.O to Jashodanagar Jn.  
Anjali to Jashodanagar Jn.
- Route length: 29.5 KM (25 KM Before Extension)
- Number of Stations: 42 (38 before Extension)
- Operational Timings: 6:00 AM to 11:30 PM.
- Peak hours : 8:00 AM – 11:00 AM ; 5:30 PM – 8:30 PM
- Frequency: 2.5 and 4minutes (peak)  
6-12 minutes (off-peak)
- Total Buses: 41 (39 before Extension)
- Total Round Trips: 226
- Avg. Daily Ridership: 55,783 (last month: 51,207)
- Avg. Daily Collection: 293,156 (last month: 280,145)

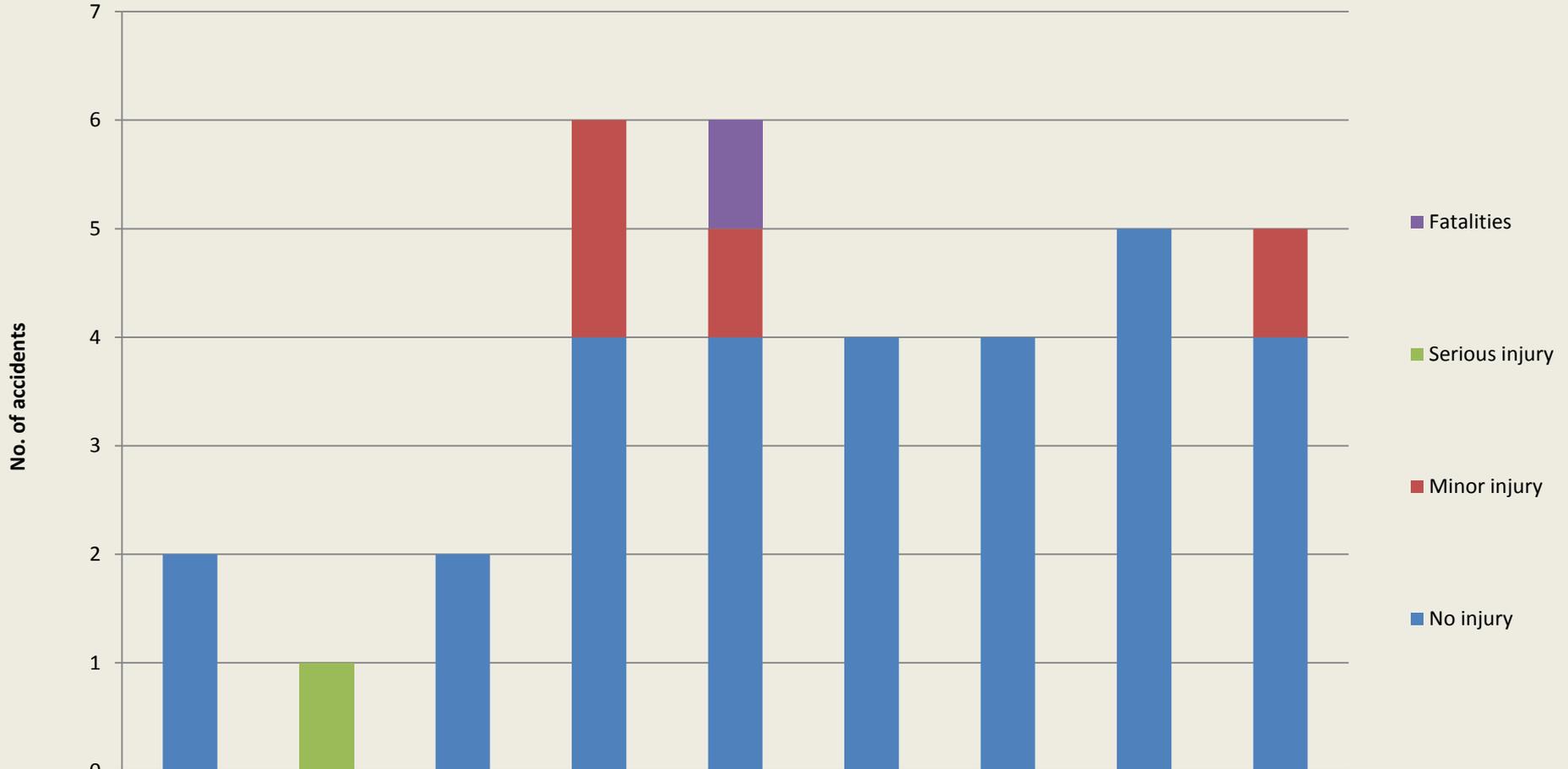
Different Schedules for weekday and weekend as per the demand.

# Total Ridership and Total Fare Collection

Sunday



# Accidents involving BRTS Vehicles



	1st Month	2nd Month	3rd Month	4th Month	5th Month	6th Month	7th Month	8th Month	9th Month
Fatalities	0	0	0	0	1	0	0	0	0
Serious injury	0	1	0	0	0	0	0	0	0
Minor injury	0	0	0	2	1	0	0	0	1
No injury	2	0	2	4	4	4	4	5	4

<b>Safety</b>	<b>55.81</b>	<b>111.6</b>	<b>77.19</b>	<b>27.9</b>	<b>28.4</b>	<b>41.03</b>	<b>30.58</b>	<b>53.73</b>	<b>53.30</b>
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Note: Safety = Inverse of (accidents / 1000 km)

# Pedestrian subway – under construction at gauri cinema and thakkarbapanagar



**ADAPTIVE DESIGN TO SOCIAL REALITIES :**  
Existing temple was accomodated below the ramp

# Adaptive design to social realities : existing religious structures on road



**ADAPTIVE DESIGN TO SOCIAL REALITIES :**  
Existing temple was accomodated



Bus Rapid Transit System (BRTS) consists of several components designed to function together so as to generate superior services, which are compatible with other mass rapid transit system including metro rail system. BRTS is a newer technology in India and efficient management and operation of BRTS is critical to its overall success.

The overall objective of the Centre of Excellence in Urban Transport (CoE), a nationally recognized centre is to become a think-tank and a resource centre for research, education and training in planning and management of urban transport.

Centre of Excellence in Urban Transport, CEPT University (CoE) is currently providing technical assistance to Ahmedabad Municipal Corporation and Surat Municipal Corporation in the field of urban transport. CoE is in process of developing and offering educational programmes in the field of Urban Transportation so as to enhance the size of available human resource pool in the country.

Ahmedabad Janmarg Limited (AJL) is the wholly owned subsidiary of Ahmedabad Municipal Corporation, which is entrusted to run BRTS in Ahmedabad. BRTS in Ahmedabad is also commonly known as Janmarg. AJL is responsible for operating BRTS in Ahmedabad.

CoE is committed to assist AJL in development of the organization as a quality service provider and transit operations management agency. To meet these two goals, CoE in consultation with AJL will provide a series of reports. It will also develop and offer short-term training programmes to AJL staff in the areas of operations management based on the recommendation and strategies outlined in these reports.

Capacity Building Strategy for Ahmedabad Janmarg Limited is the first report in the series. Other reports under development are Operations Manual for AJL and Performance Measure and Service Quality Monitoring.

CoE will be offering a series of reports that contains the best practices and lessons learned based on the experiences gained during planning, development and imple-



**A Workshop on:  
MAKING OF BRTS - JANMARG Ahmedabad**

Date February 23, 2010  
Venue : URP Studio (SBST Building)



I. Introductions	10.30 AM
II. Making of Janmarg BRTS in Ahmedabad	10.40 AM
– A programme approach	
o Overview	
o Corridor selection & phasing	
III. Janmarg BRTS and Policy Decisions	11.00 AM
o Running Way	
o Stations	
o Vehicles	
o ITS	
o Contract	
o Operations Plan	
o Branding	
Lunch	12.00 PM
IV. Facilities	1.00 PM
o Roadway Design	
o Stations	
o Maintenance Depot	
o Pavement, Utilities & Construction	
V. Operations Planning and Monitoring	1.45 PM
o Operations Plan	
o Performance Measures	
o Organizational Framework	
VI. Contracts	2.15 PM
o PPP Contracts	
o Performance Challenges	
VII. Discussion /Q & A	2.45 PM
VIII. Corridor Tour	3.15 PM
IX. Meeting AJL Staff	

Date February 23, 2010



Thank you



Centre of Excellence in Urban Transport

An initiative of:  
Ministry of Urban Development, Govt. Of India.  
Supported by:  
Ahmedabad Municipal Corporation



CEPT University  
Kasturbhai Lalbhai Campus, Ahmedabad -380009



# *JANMARG: BRTS AHMEDABAD*

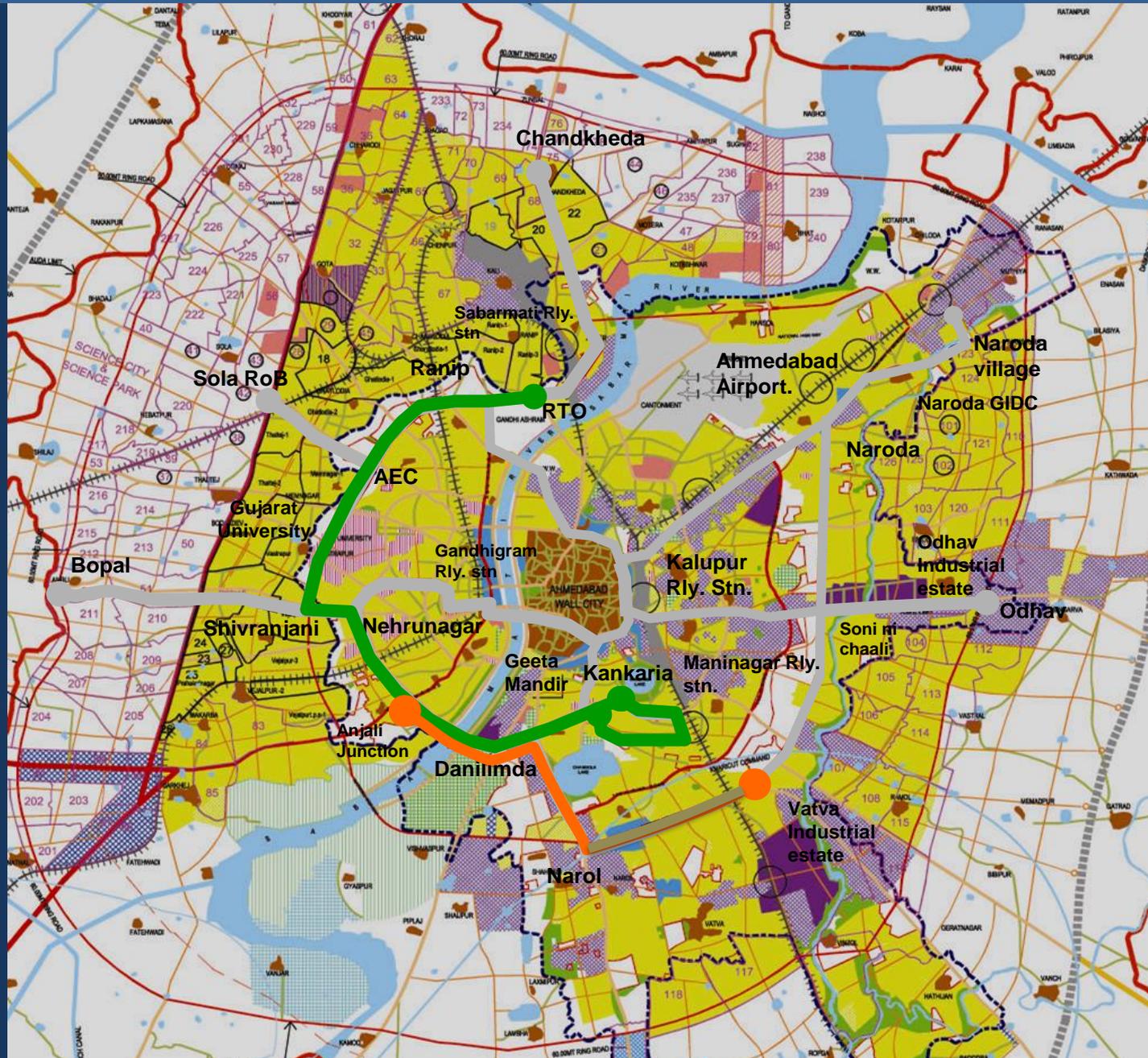
After Nine Months of Commercial Operations

## PERFORMANCE ASSESSMENT REPORT



*Centre of Excellence in Urban Transport,  
CEPT University*

# JANMARG Corridor – extension to Jashodanagar Junction



**BRT corridors  
(88.8 kms.)**

**Operational Corridors  
(29.5 km)**

**RTO to Maninagar loop–  
(22.5 kms.) – 33 bus  
stops**

**Danilimda to Narol Jn  
(3 kms.) – 5 bus stops**

**Inaugurated on  
30<sup>th</sup> June '10**

**Narol Jn to  
Jashodanagar Jn  
(4 kms.) – 4 bus stops**

# CEPT Understanding, Independent Assessment based on the Surveys Conducted every month

## Surveys Conducted after operation of BRTS started:

- Bus Docking Survey
- System Operator's driving Check and bus Check
- Bus stop Checklist including cleanliness
- Average Speed Check of BRTS
- User Feedback Surveys

# BRT Operational Routes : 3 routes

RTO – Maninagar loop : whole day at 4, 6, 8 minute frequency

RTO – Jashodanagar Jn.: During peak hours at 8 minute frequency

Anjali – Jashodanagar Jn.: During off peak hours at 12 minute frequency

## Peak Operations



## Off - Peak Operations



No. of buses: 41

Overlapping segment : RTO-Danilimbda

No. of buses: 41

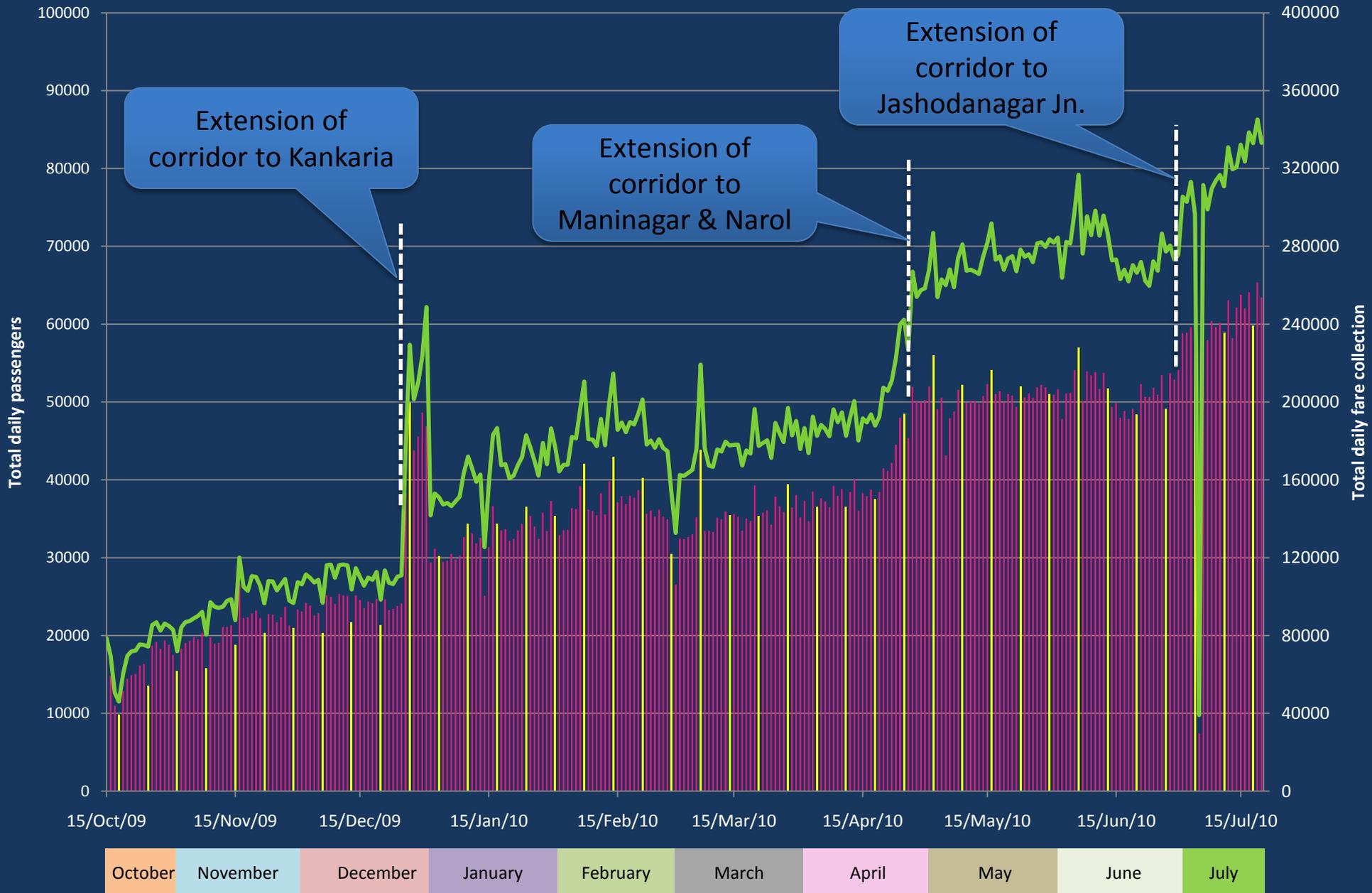
Overlapping segment : Anjali-Danilimbda

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# Total Ridership and Total Fare Collection

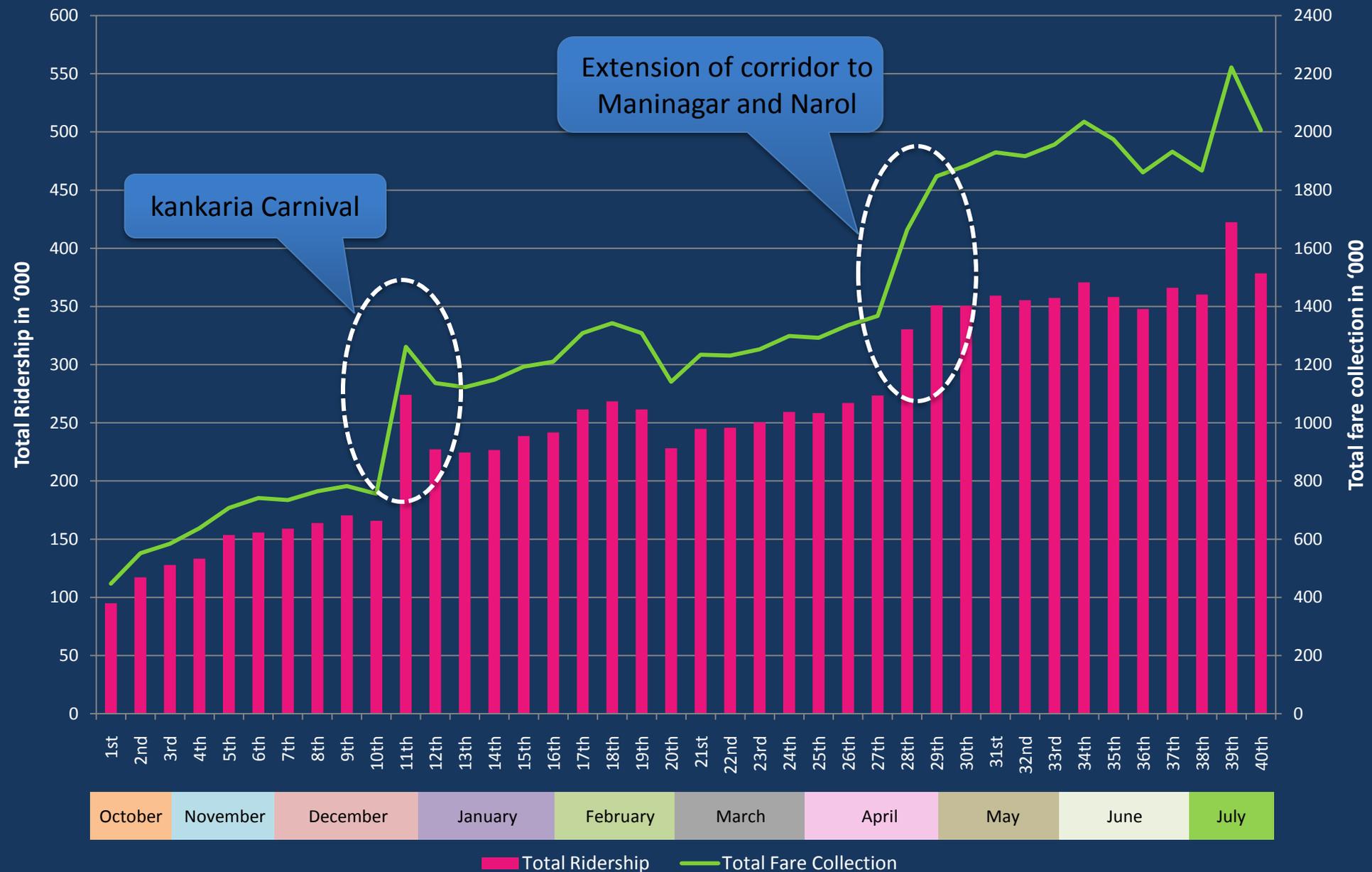
Sunday



Total Passengers

Total Collection (in Rs.)

# Total Weekly Ridership and Weekly Fare Collection



# Comparative Indicators

	1 <sup>st</sup> Month (15 Oct–14 Nov '09)	2 <sup>nd</sup> Month (15 Nov – 15 Dec '09)	3 <sup>rd</sup> Month (16Dec '09 – 15 Jan '10)	4 <sup>th</sup> Month (16 Jan–15Feb '10)	5 <sup>th</sup> Month (16 Feb–18 Mar '10)	6 <sup>th</sup> Month (19 Mar–18 Apr '10)	7 <sup>th</sup> Month (19 Apr–19 May '10)	8 <sup>th</sup> Month (20 May - 19 Jun '10)	9 <sup>th</sup> Month (20 Jun '10 – 20 Jul '10)
Route	R.T.O.- Chandranagar	R.T.O.- Chandranagar	R.T.O.- Kankaria	R.T.O.- Kankaria	R.T.O.- Kankaria	R.T.O.- Kankaria	R.T.O - Maninagar, R.T.O - Narol	R.T.O –Maningr, R.T.O – Narol Anjali - Narol	R.T.O-Maningr, R.T.O – JN Anjali - JN
Operation Timings	7:00 AM-10:30 PM	7:00 AM-10:30 PM	6:00 AM-11:30 PM	6:00 AM-11:30 PM	6:00 AM-11:30 PM	6:00 AM-11:30 PM	6:00 AM - 11:30 PM	6:00 AM - 11:30 PM	6:00 AM - 11:30 PM
Total buses operate/day	18	18	18-23	23	23 & 25 on Sunday	23	39 after 27 April (23 before)	39	41
Avg. Total Kms/day	3600 km	3600 km	4980 km	5400 km	5496 Km	5427 km	8225 km	8700 km	8964 km
Avg. Total Kms/bus /day	207 km	207 km	226 km	240 km	243 km	240 km	255 km	223 km	220 km
Total Passengers	536749	715653 (33.3%)	971138 (80.9%)	1105814 (106%)	1090148 (103.1%)	1152704 (114.8%)	1512452 (182%)	1587426 (196%)	1729261 (222%)
Total fare collection (INR)	2511888	3333705 (32.7%)	4649050 (85.1%)	5545853 (121%)	5463349 (117.5%)	5766524 (129.6%)	7929919 (216%)	8684495 (246%)	9087824 (262%)
Avg. pax/day	17315	23086 (33.3%)	31327 (80.9%)	35672 (106%)	35166 (103.1%)	37184 (114.8%)	48789 (182%)	51207 (196%)	55783 (222%)
Avg. collection/day (INR)	81029	107539 (32.7%)	149969 (85.1%)	178898.5 (121%)	176237.1 (117.5%)	186016.9 (129.6%)	255804 (216%)	280145 (246%)	293155 (262%)
Avg pax./bus/day	962	1283 (33%)	1528 (58.9%)	1740 (80.9%)	1529 (58.9%)	1616.7 (68.1%)	1435 (49%)	1313 (36%)	1381 (44%)
Avg. collection /bus/day	4502	5974 (32.7%)	7315 (62.5%)	8726 (93.9%)	7662.5 (70.2%)	8087.69 (79.7%)	7524 (66.3%)	7183 (60%)	7260 (61%)

# Transit Performance Measures

	1 <sup>st</sup> Month	2 <sup>nd</sup> Month	3 <sup>rd</sup> Month	4 <sup>th</sup> Month	5 <sup>th</sup> Month	6 <sup>th</sup> Month	7 <sup>th</sup> Month	8 <sup>th</sup> Month	9 <sup>th</sup> Month
	(15 Oct–14 Nov '09)	(15 Nov – 15 Dec '09)	(16Dec '09 – 15 Jan '10)	(16 Jan– 15Feb '10)	(16 Feb– 18 Mar '10)	(19 Mar– 18 Apr '10)	(19 Apr– 19 May '10)	(20 May - 19 Jun '10)	(20 Jun '10 – 20 Jul '10)
Average Trip Length									
Week day	4.16	4.28	4.84	4.97	4.92	5.1	5.5	6.12	5.64
Weekend	NA	NA	5.54	5.89	6.33	6	6.10	6.20	6.41
Buses on road during off peak in % of total	50%	50%	40%	50%	50%	50%	54%	54%	56%
% of Revenue kms	90.3%	90.3%	96.6%	98.3%	98.3%	98.3%	98.6%	98.6%	98.5%
% of Non-revenue kms	9.7%	9.7%	3.4%	1.7%	1.7%	1.7%	1.4%	1.4%	1.5%
fare / passenger km (fppk)									
Week day	1.08	1.07	1.02	0.99	0.98	0.97	0.92	0.87	0.92
Weekend	NA	NA	0.94	0.91	0.88	0.94	0.88	0.85	0.87
Operating Ratio for Bus Operator	0.66	0.87	0.88	0.97	0.92	0.97	0.92	0.91	0.94
Load factor									
Week day	36%	48%	44%	45%	46%	54%	63%	56%	54%
Weekend	NA	NA	49%	62%	59%	60%	71%	72%	63%
Inverse of (Breakdown/thousand KM)	10.15	37.21	25.73	55.8	42.6	55.10	24.47	<b>12.79</b>	<b>13.23</b>
Inverse of (accidents/thousand and KM)	55.81	111.62	77.19	27.9	28.4	44.35	30.58	<b>53.73</b>	<b>53.30</b>
(Fatality rate / 1000 Km) for BRTS	0	0	0	0	0.01	0	0	0	0
Pax /hour in peak direction (pphpd)									
Weekday	1430	1471	1700	1817	1792	2000	2720	2683	3119
Weekend	NA	NA	1862	2274	2412	2524	2884		2871
Average Travel Speed of BRTS	26	26	25	24.5	24.3	24.8	25	24.7	24.2

# Accidents involving BRTS Vehicles

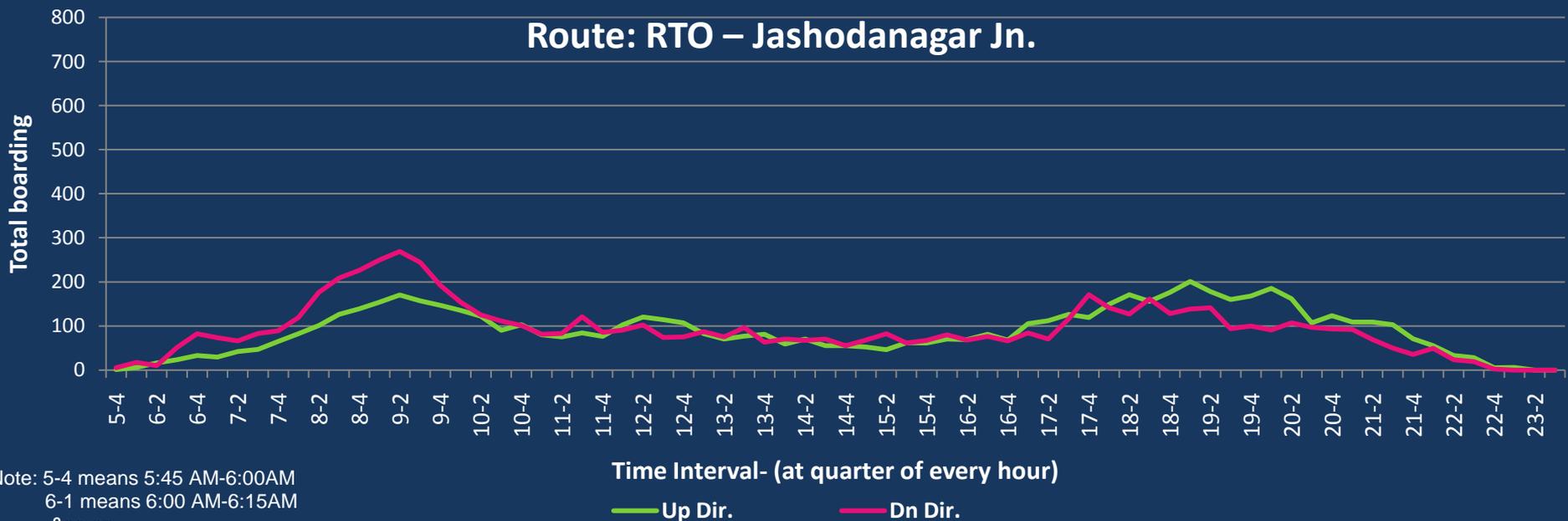
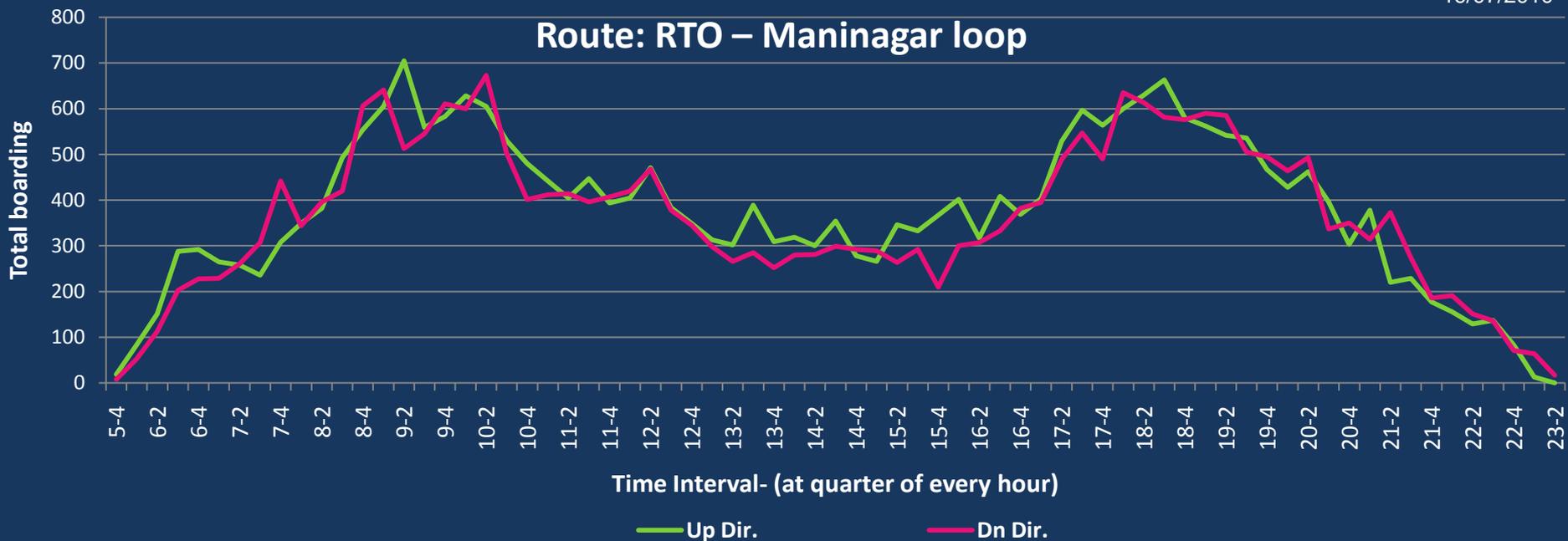
Accidents	1 <sup>st</sup> Month	2 <sup>nd</sup> Month	3 <sup>rd</sup> Month	4 <sup>th</sup> Month	5 <sup>th</sup> Month	6 <sup>th</sup> Month	7 <sup>th</sup> Month	8 <sup>th</sup> Month	9 <sup>th</sup> Month
	(15 Oct–14 Nov '09)	(15 Nov – 15 Dec '09)	(16Dec '09 – 15 Jan '10)	(16 Jan– 15Feb '10)	(16 Feb– 18 Mar '10)	(19 Mar– 18 Apr '10)	(19 Apr– 19 May '10)	(20 May - 19 Jun '10)	(20 Jun '10 – 20 Jul '10)
Total number of accidents	2	1	2	6	6	4	4	5	5
Fatalities	0	0	0	0	1	0	0	0	0
Serious injury	0	1	0	0	0	0	0	0	0
Minor injury	0	0	0	2	1	0	0	0	1
No injury	2	0	2	4	4	4	4	5	4
Safety= Inverse of (accidents/Thousand KM)	55.81	111.6	77.19	27.9	28.4	21.03	30.58	53.73	53.30

- Accidents during ninth month involved no injuries except 1 which had minor injury.
- Major number of accidents have happened on the junctions and cross roads.
- Reliability of service decreases to 13.23 as no. of breakdown of buses increases to 21.

Note: Higher the number of accidents lower is the safety. Also depends on no. of kms travelled

# PASSENGER 15 Min. TRIP ANALYSIS ON WEEKDAY

19/07/2010

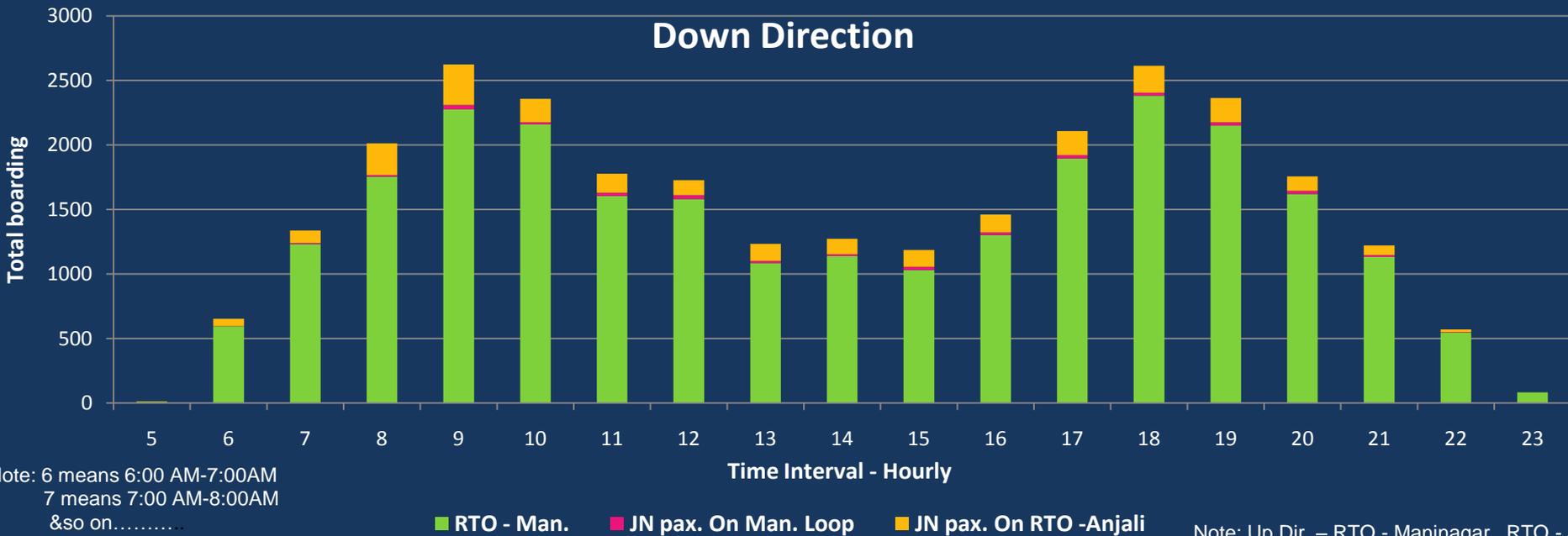
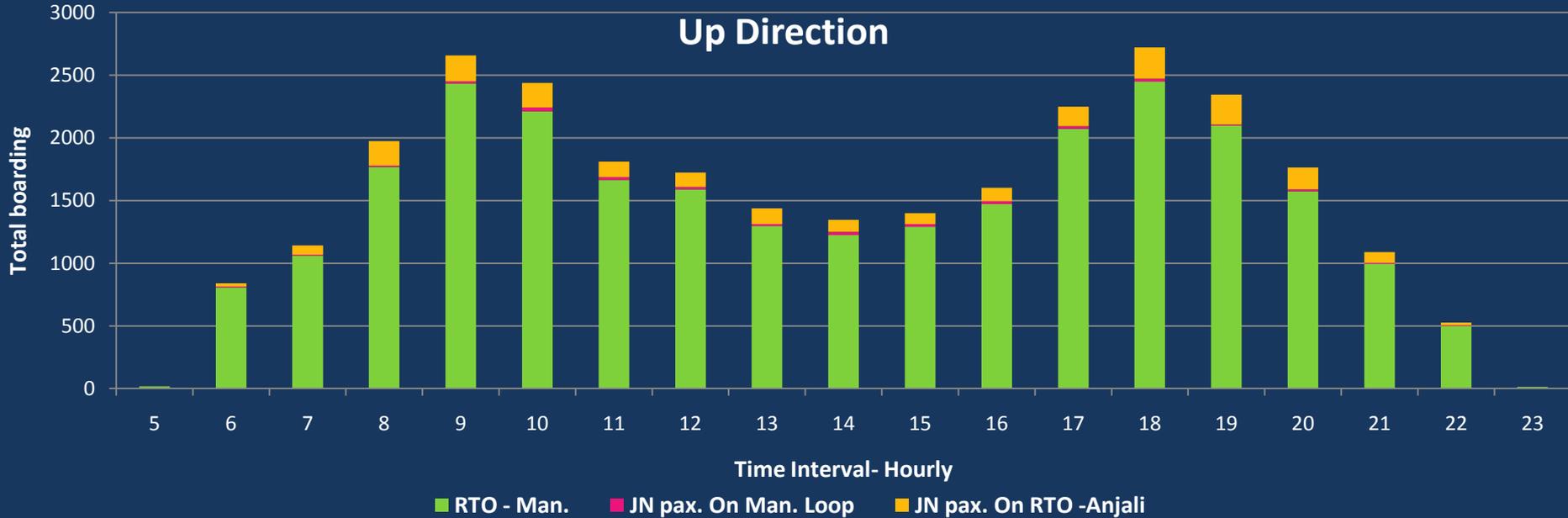


Note: 5-4 means 5:45 AM-6:00AM  
 6-1 means 6:00 AM-6:15AM  
 &so on.....

Note: Up Dir. – RTO - Maninagar , RTO - JN

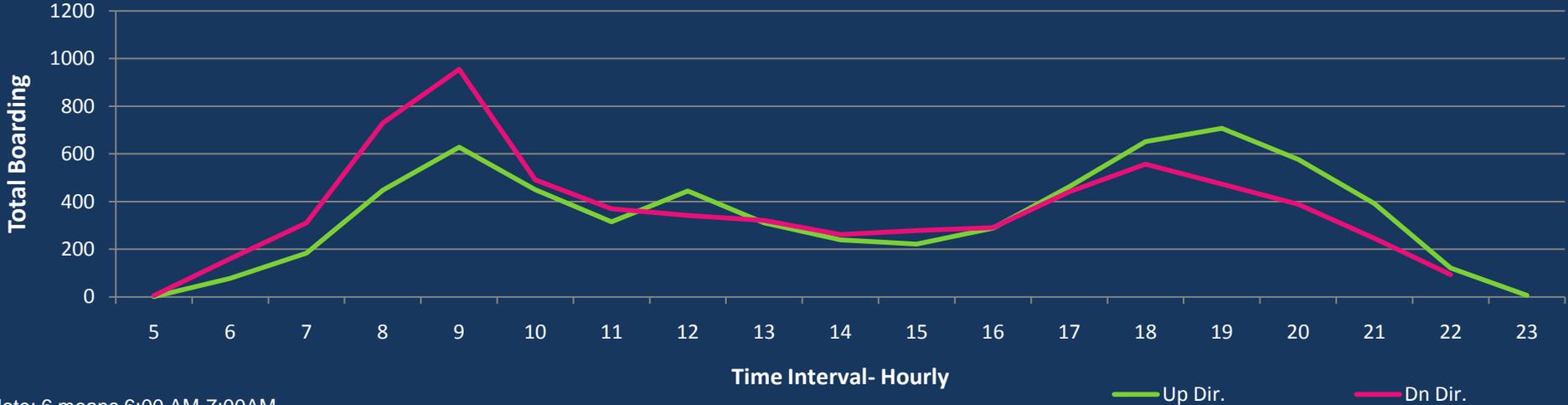
# PASSENGER TRIP ANALYSIS ON WEEKDAYS on RTO – Maninagar Route

19/07/2010



# PASSENGER TRIP ANALYSIS ON WEEKDAYS on RTO – JN Route

19/07/2010

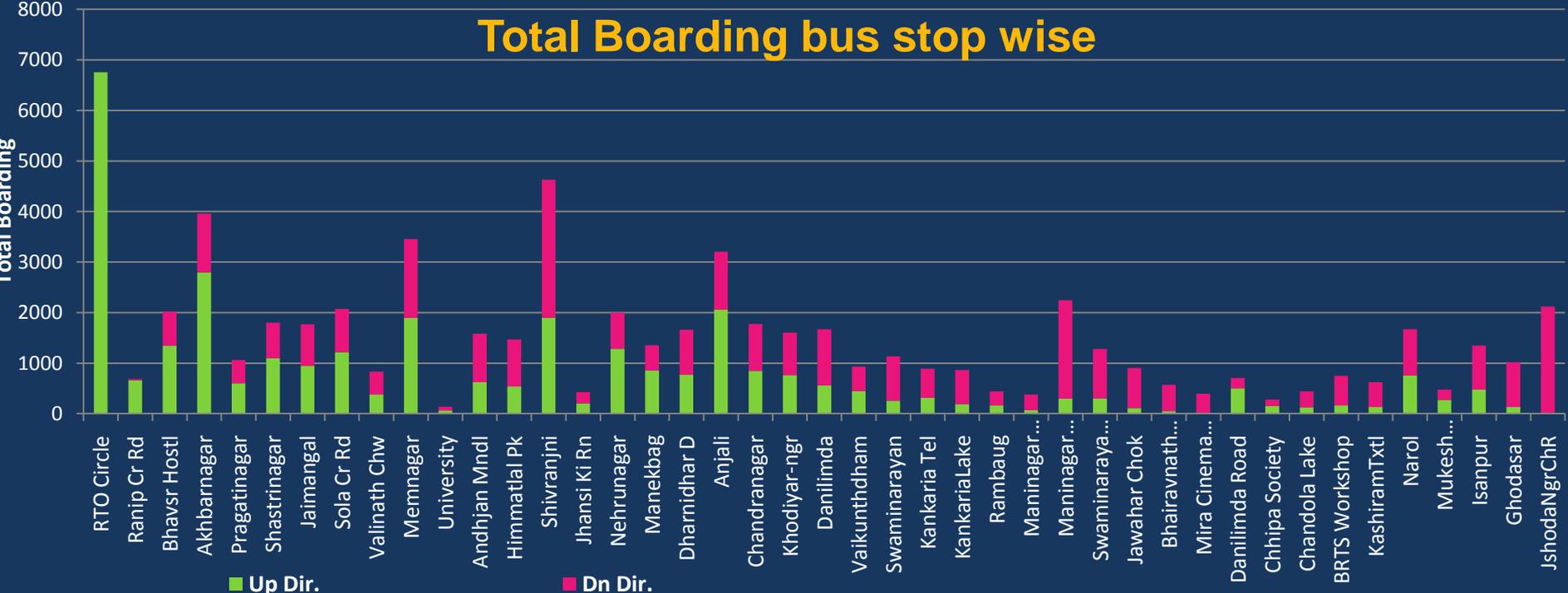


Note: 6 means 6:00 AM-7:00AM  
7 means 7:00 AM-8:00AM  
&so on.....

Up Dir. Dn Dir.

Note: Up Dir. – RTO - Maninagar , RTO - JN

## Total Boarding bus stop wise

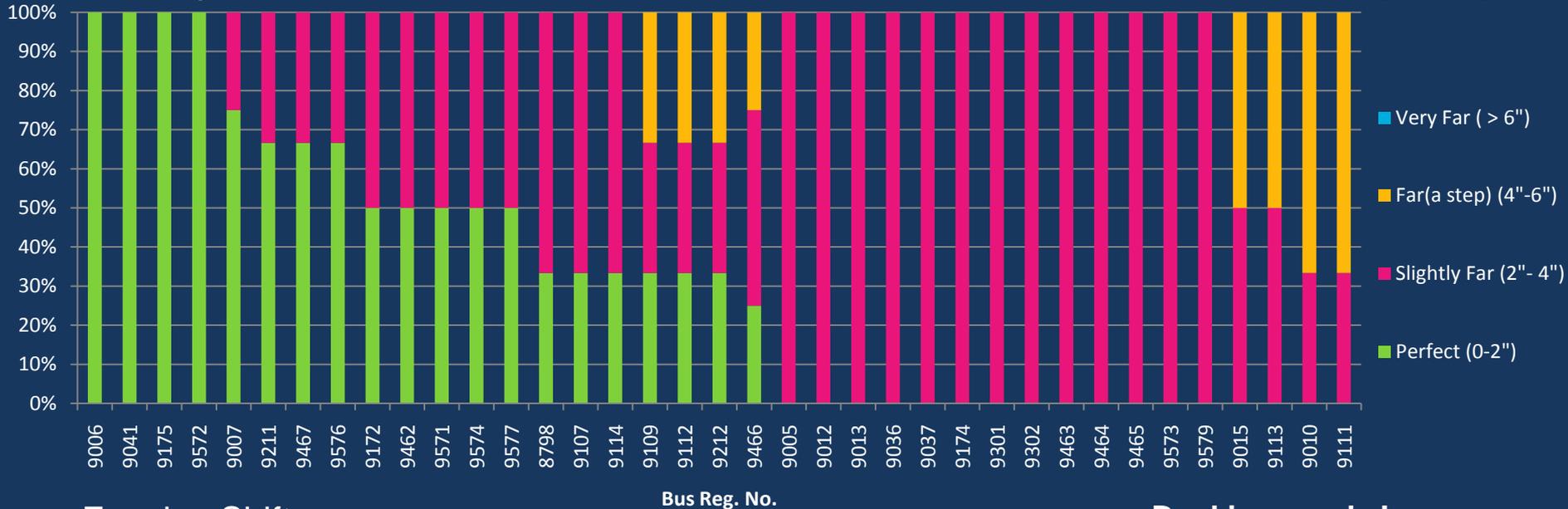


Up Dir. Dn Dir.

# Bus Docking Survey

## Morning Shift

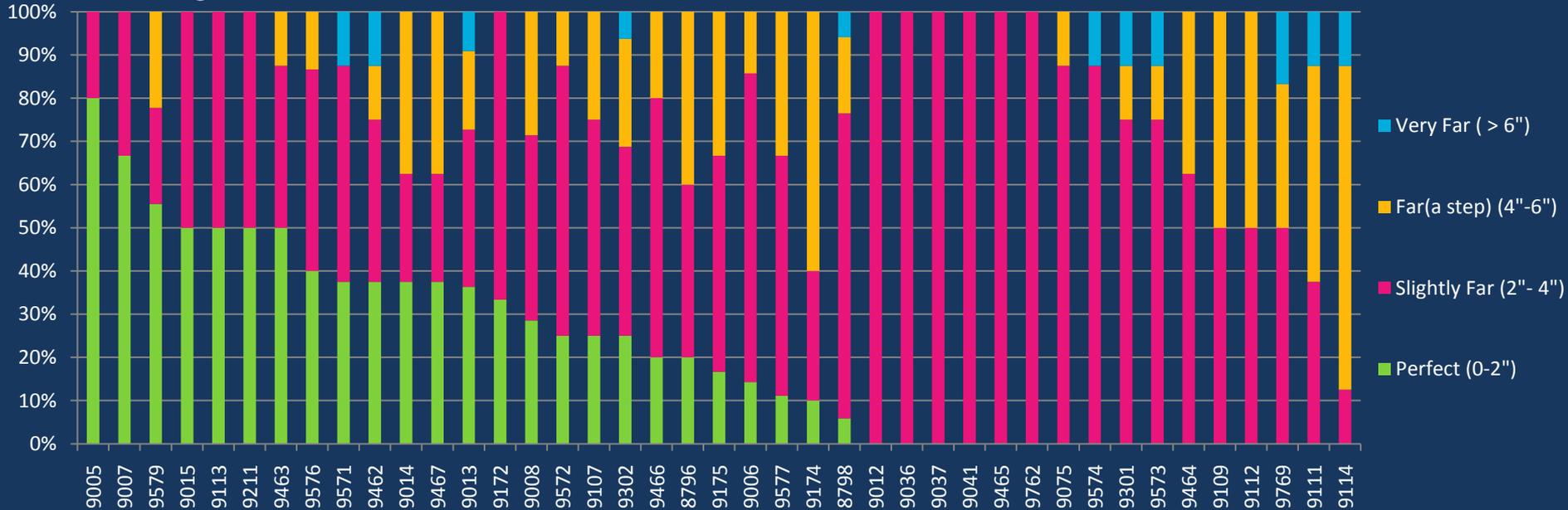
Samples: 10 per bus



## Evening Shift

Bus Reg. No.

## Docking needs Improvement

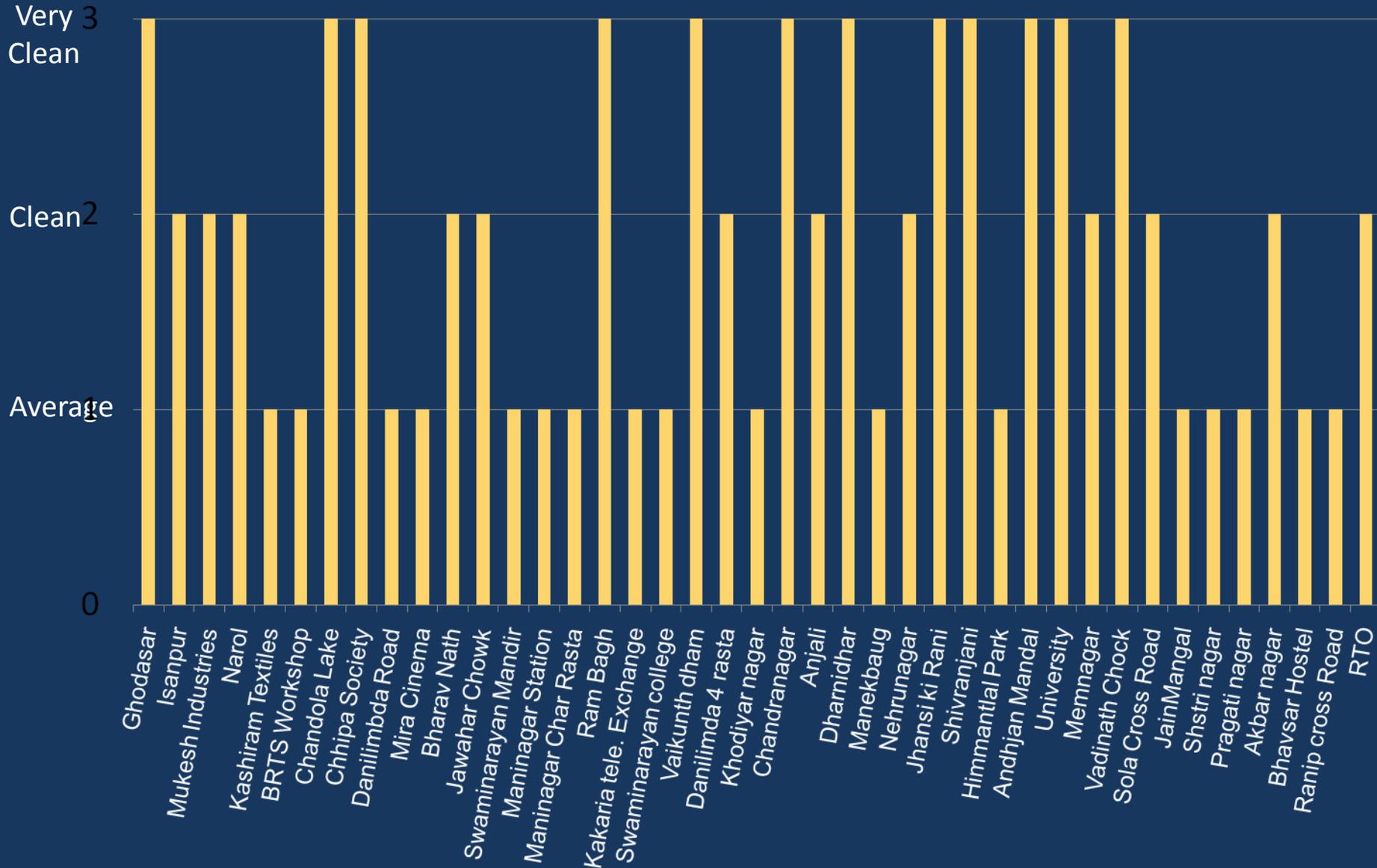


# SO's Driving Check

Sr. No.	Bus No.	Docking	Driving- Rough/Ok/Smooth	Noise	Vibration
1	9174	Almost Perfect	Ok	No	Yes
2	9571	Perfect	Ok	No	Yes
3	9107	Perfect	Smooth	No	Yes
4	9111	Almost Perfect	Ok	No	No
5	9574	Perfect	Ok	No	No
6	9576	Almost Perfect	Smooth	No	No
7	9041	Perfect	Smooth	No	No
8	9006	Perfect	Ok	No	No
9	9212	Perfect	Ok	No	No
10	9005	Almost Perfect	Smooth	Yes	No
11	9466	Almost Perfect	Ok	No	Yes
12	8798	Almost Perfect	Ok	No	Yes
13	9579	Almost Perfect	Ok	No	No
14	9302	Almost Perfect	Ok	Yes	No
15	9301	Almost Perfect	Smooth	No	No
16	9175	Perfect	Ok	No	No
17	9572	Perfect	Ok	No	No
18	9010	Almost Perfect	Ok	No	No
19	9467	Almost Perfect	Ok	No	No

Sr. No.	Bus No.	Docking	Driving- Rough/Ok/Smooth	Noise	Vibration
20	9573	Almost Perfect	Ok	No	No
21	9007	Perfect	Ok	No	Yes
22	9036	Almost Perfect	Ok	No	0
23	9211	Perfect	Ok	No	Yes
24	9172	Almost Perfect	Ok	Yes	0
25	9113	slightly far	Ok	No	Yes
26	9037	Almost Perfect	Smooth	No	No
27	9114	Almost Perfect	Smooth	No	No
28	9112	Almost Perfect	Ok	Yes	No
29	9466	Slightly far	Ok	No	Yes
30	9463	Almost Perfect	Ok	Yes	No
31	9075	Slightly far	Smooth	Yes	No
32	9013	Slightly far	Ok	No	Yes
33	9006	Slightly far	Smooth	Yes	No
34	9012	Almost Perfect	OK	No	Yes
35	9036	Almost Perfect	OK	No	No
36	9109	Perfect	smooth	No	No
37	9112	Slightly far	OK	No	Yes

# Bus Stops Check: Cleanliness Assessment



# User Feedback Survey Forms

## Methodology for user satisfaction survey in the 9th month:

- I. All the bus stops were included for survey including the new extension.
- II. Surveys were conducted on the bus stops between RTO to Maninagar loop and RTO to Jashodanagar.
- III. Surveys carried out in the Morning peak (8:30 am- 11:30 am ) , and Evening peak (5:30 pm-8:30 pm).
- IV. Sampling was done on the basis of 10% of boarding at each bus stop.

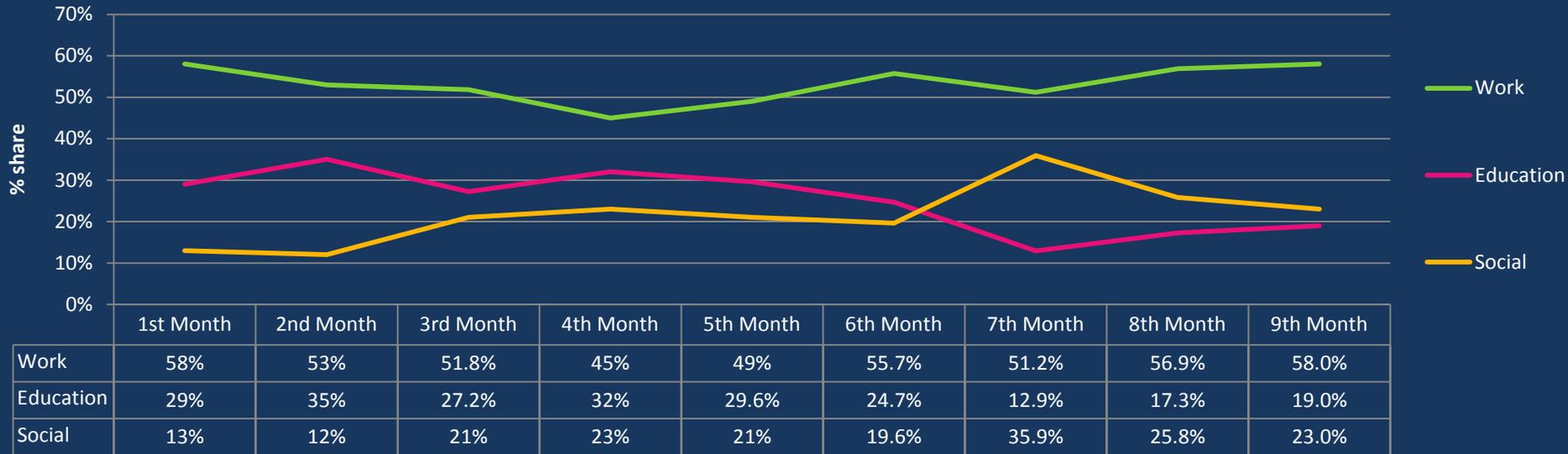
## Outcomes:

- I. Collection of Samples
- II. With unbiased results specially considering purpose of trip
- III. More number of comments and suggestions

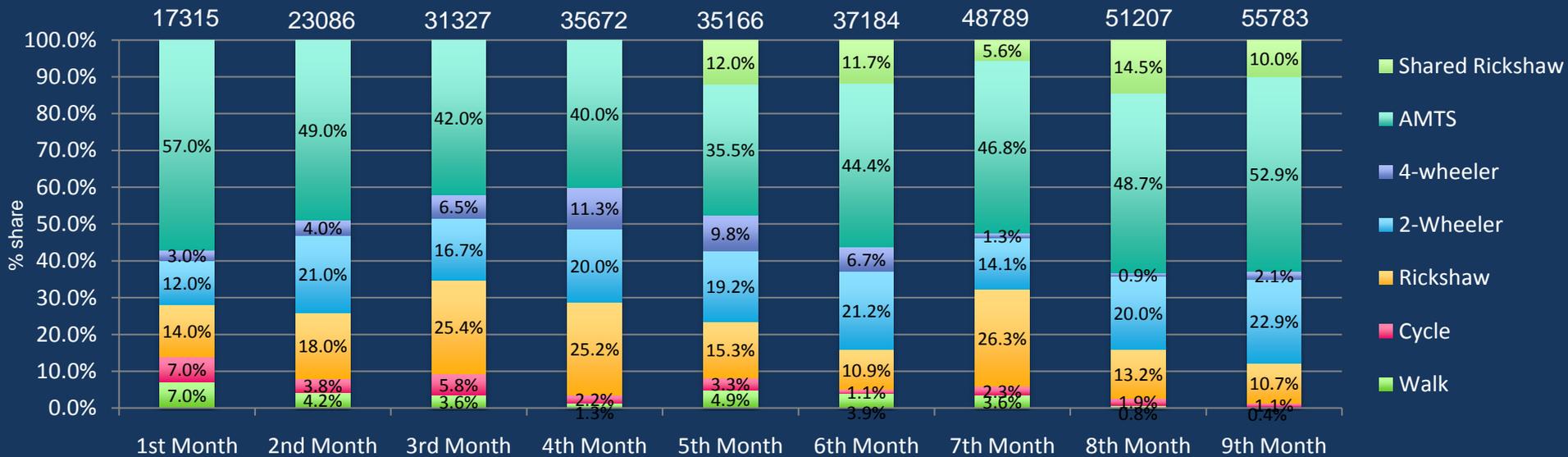
# Purpose of Trip and Modal Shift

Sample Size: 300

## Purpose of Trip

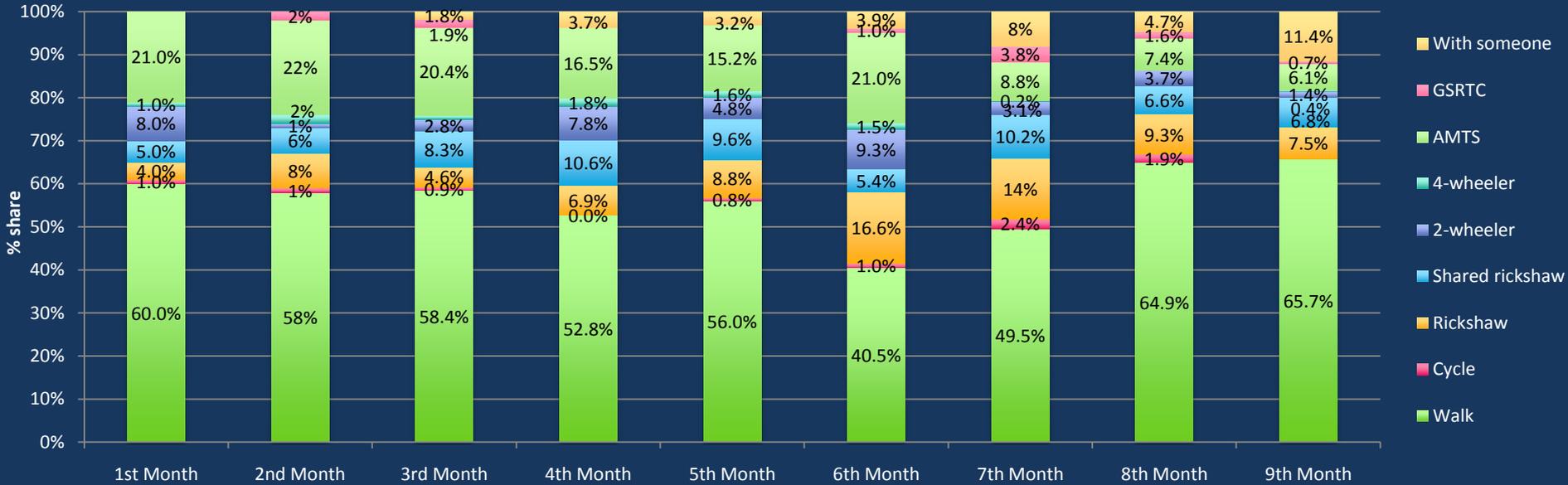


## Modal Shift to BRTS



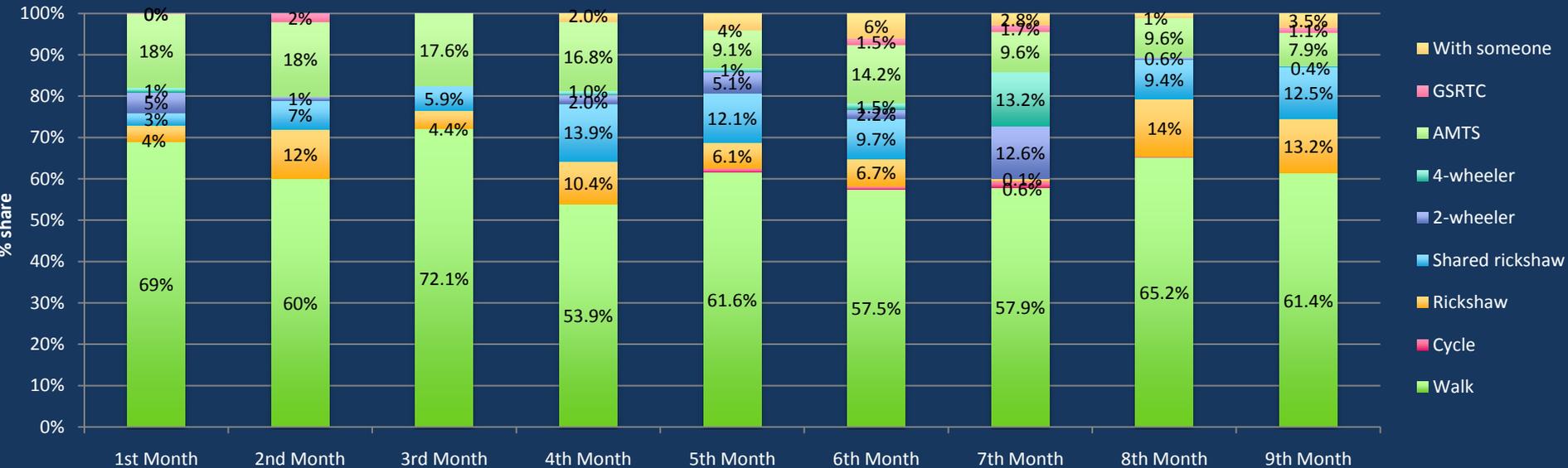
# Current BRT Users: Access Mode

Sample Size: 300



# Current BRT Users: Egress Mode

Sample Size: 300



JANMARG User Feedback Survey (Opinion of BRTS Users)																		
	1st Month		2nd Month		3rd Month		4th Month		5th Month		6th Month		7th Month		8th Month		9th Month	
	Yes	No	Yes	No	Yes	No	Yes	No										
Feel Safe to cross road	76%	24%	79%	21%	78%	22%	82%	18%	85%	15%	87%	13%	83%	17%	76%	24%	82%	18%
Good Frequency of buses	100%	0%	100%	0%	100%	0%	98%	2%	97%	3%	97.3%	2.7%	97%	3%	95%	5%	90%	10%
Buses are clean	100%	0%	95%	5%	98%	2%	98%	2%	99%	1%	100%	0.0%	99%	1%	97%	3%	95%	5%
Driven safely	97%	3%	96%	4%	95%	5%	95%	5%	91%	9%	92.2%	7.8%	90%	10%	82%	18%	81%	19%
Helpful Drivers	-	-	-	-	100%	0%	99%	1%	96%	4%	94.5%	5.5%	93%	7%	95%	5%	93%	7%
Bus stop staff helpful	-	-	-	-	97%	3%	98%	2%	97%	3%	98%	2%	92%	8%	97%	3%	94%	6%
Fare is consistent	82%	18%	90%	10%	96%	4%	92%	8%	90%	10%	93.9%	6.1%	90%	10%	90%	10%	92%	8%
Stops are Clean	96%	4%	99%	1%	96%	4%	97%	3%	96%	4%	97.6%	2.4%	95%	5%	96%	4%	96%	4%
Payment is easy	87%	13%	88%	12%	89%	11%	91%	9%	94%	6%	86.7%	13.3%	91%	9%	95%	5%	95%	5%
Staff in uniform	-	-	-	-	-	-	-	--	96%	4%	99%	1.0%	92%	8%	92%	8%	98%	2%

# JANMARG User Feedback Survey (Compliments)

- Thank you AMC , Good work
- Bus fare is managed well specially for loop
- A very good service and should start soon start its other corridors
- A very good, effective, comfortable and service
- Buses and Bus stops are clean.
- Entry to bus is very comfortable for kids and aged people due to at grade boarding.
- Janmarg is the best transportation system in Gujarat
- Travel time reduces.
- Much comfortable than AMTS
- Feel like 'Metro'- a royal feeling

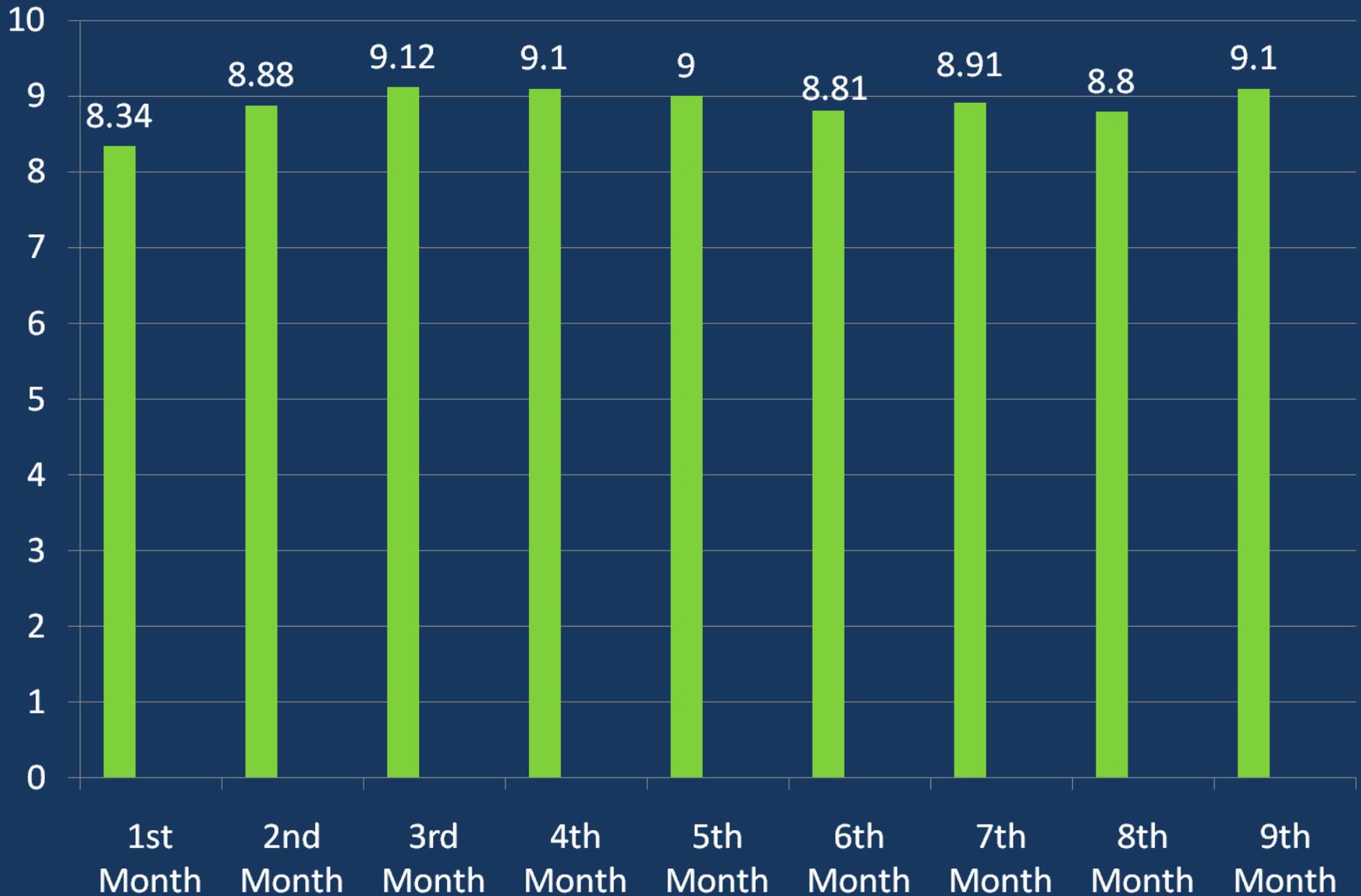
# JANMARG User Feedback Survey (Suggestions)

- Provision of smart cards/pass for daily passengers; some concession for the school kids & elderly people.
- Provide private car & 2wheeler parking provision at RTO
- Bus Stops At Highway Should Have Foot Over Bridge.
- Bus station platform tickets should be issued like railways in order to drop their relatives and old aged people
- Bus stop should have Passenger information system(speakers) and fans
- Route should be extended to Sabarmati.
- More handles should be provided to stand safely.
- Primary Facilities Like Water Should Be Available.
- Reduce Fair for daily commuters.
- Two separate doors for entry and exit should be there.
- Demand for A.C buses
- Bus should have a conductor.

# JANMARG User Feedback Survey (Complains)

- Breaking jerks are high and irresistable for standing passengers
- Frequent use of mobile phone by ticket givers causes inconvenience to passengers.
- Ticket givers ask to use other ticket window inspite of being free.
- Sometimes SO doesn't stop long enough for all passengers to board the bus.
- Problem of loudspeakers in buses.
- People sit near the bus door on floor & create congestion.
- LED panel at bus stops are not flashing the correct time of buses to arrive (towards RTO direction).
- Doors Not Operating Properly
- Bus Stop at Danilimda Char rasta is very Small.
- Seats For Women are utilized by other passengers.
- Staff at some location needs to improve their behavior.
- Furniture at some stops is damaged.
- Fare is costly compared to AMTS
- Sometimes buses not come for 15 min (even during peak hours) and then 4-5 buses come together

# Average Rating by BRTS Users



## For Further Information:

**Prof. H.M. Shivanand Swamy**

**Centre of Excellence in Urban Transport**

**CEPT University**

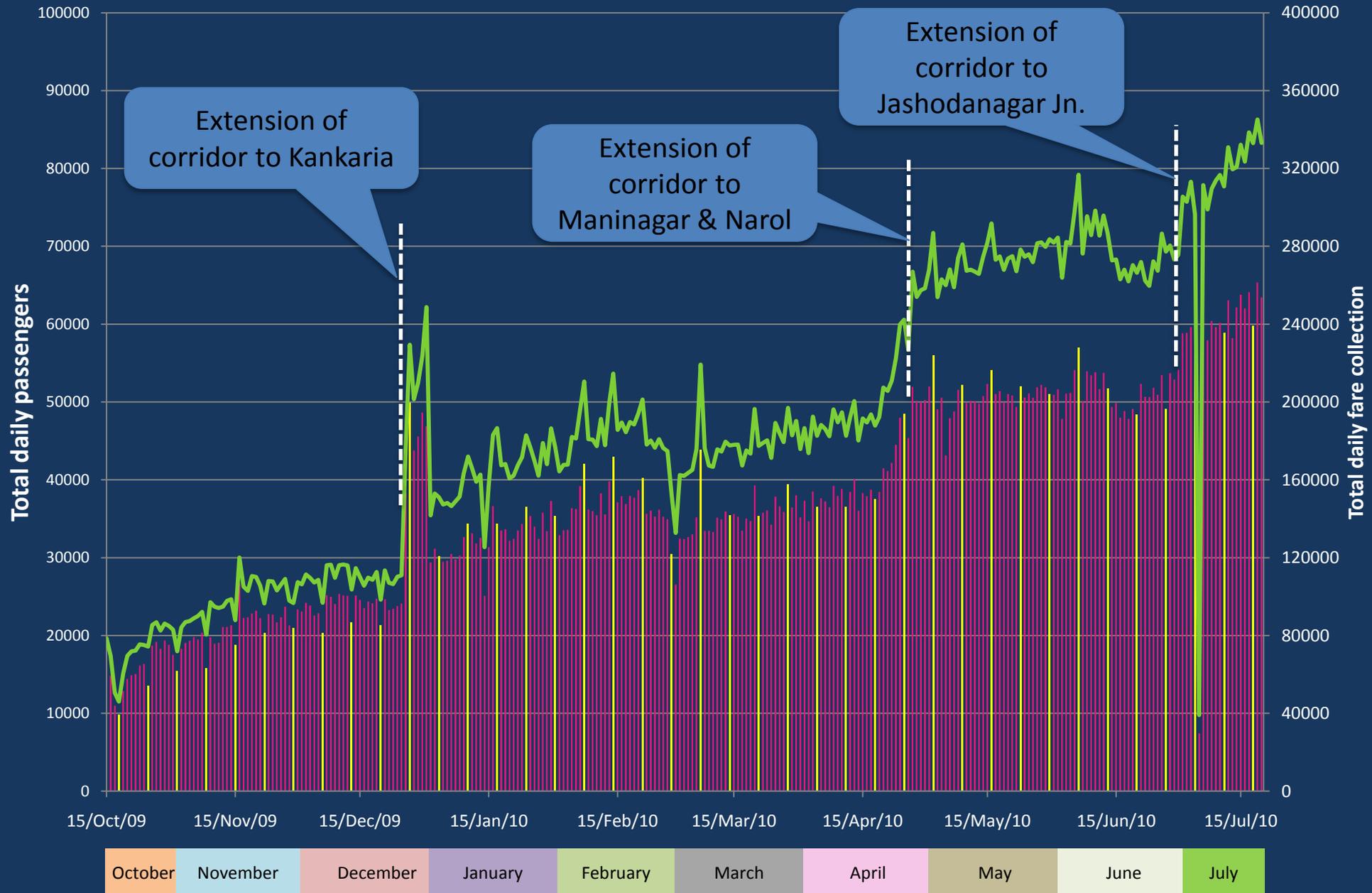
Kasturbhai Lalbhai Campus, Ahmedabad -380009

**Tel :: + 91-79-26302470**

**Email : [hmsdivanandswamy@cept.ac.in](mailto:hmsdivanandswamy@cept.ac.in)**

# Total Ridership and Total Fare Collection

Sunday

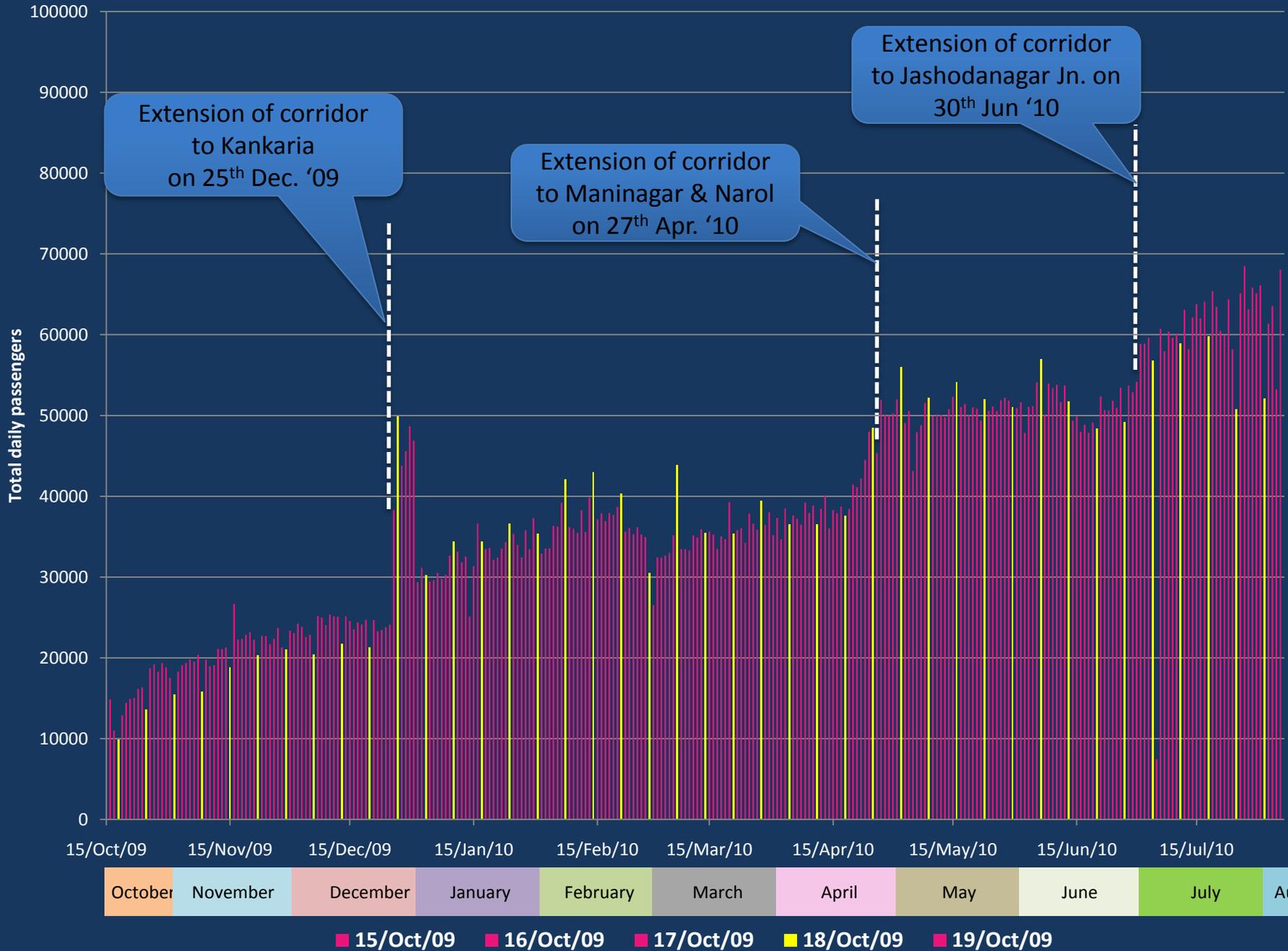


Total Passengers

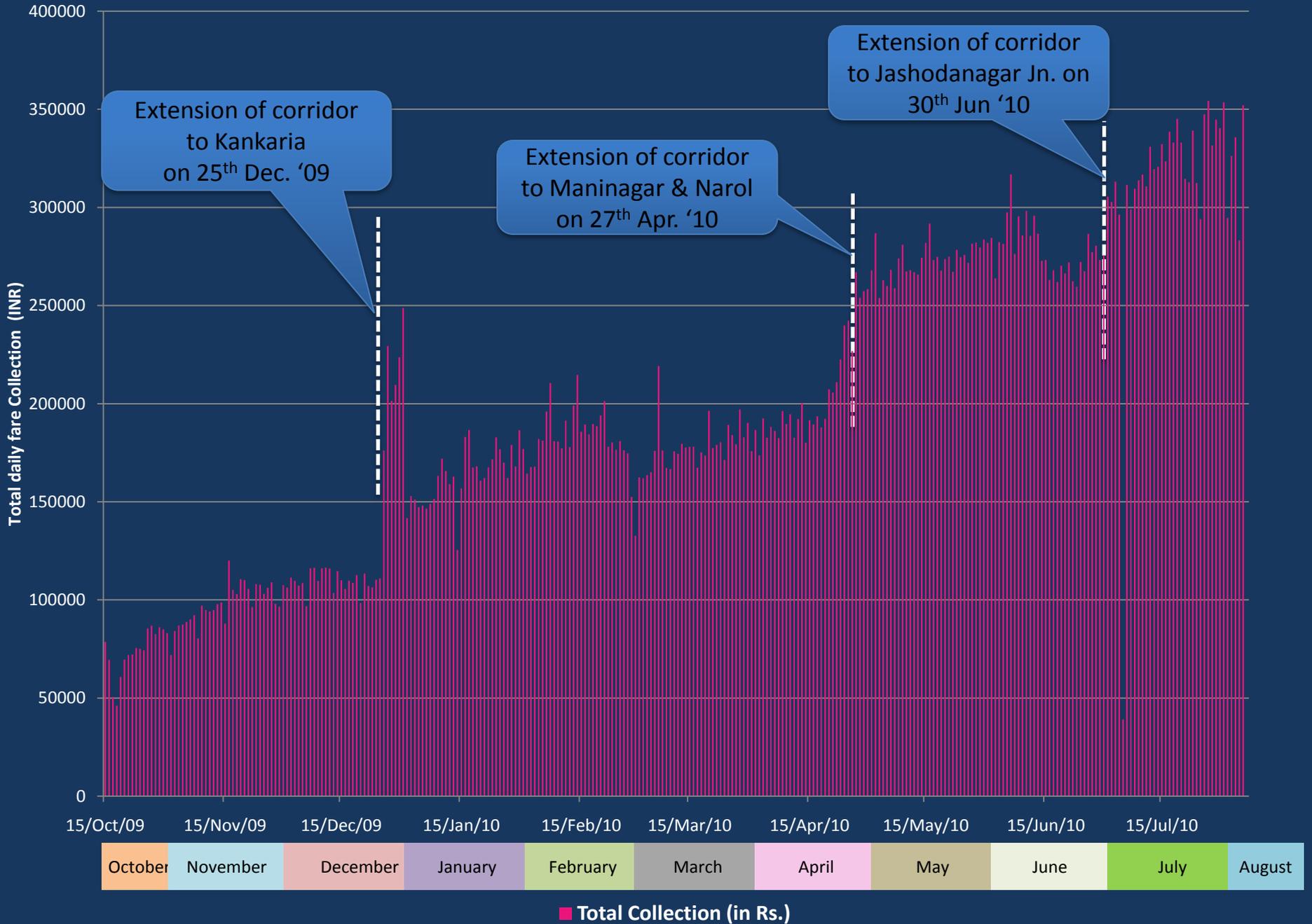
Total Collection (in Rs.)

# Total Ridership

Sunday



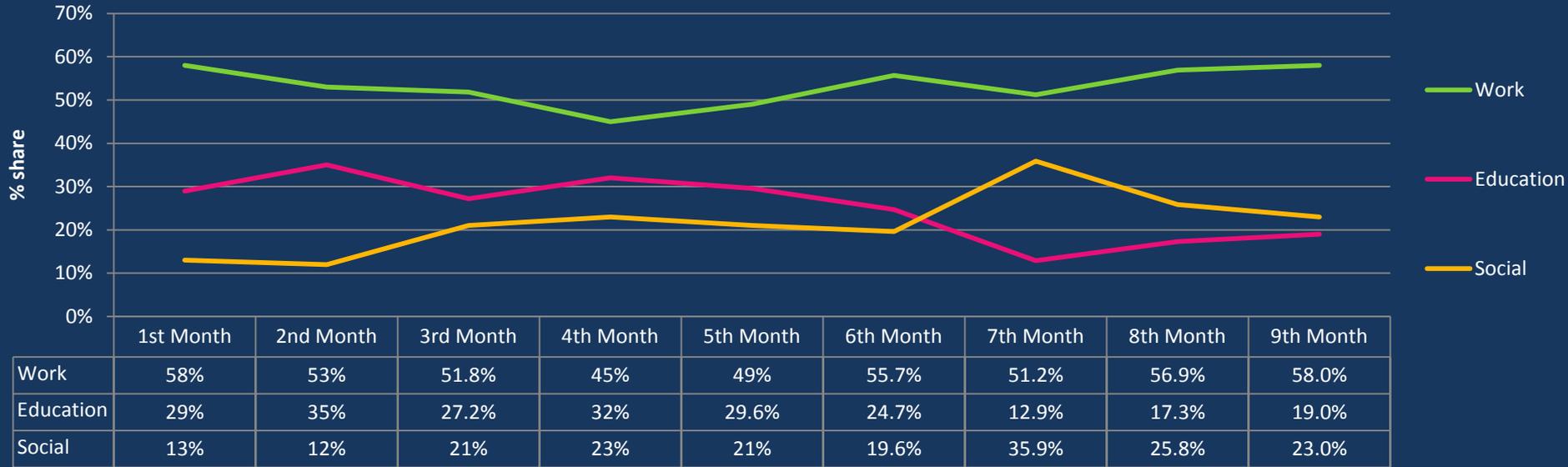
# Total Fare Collection



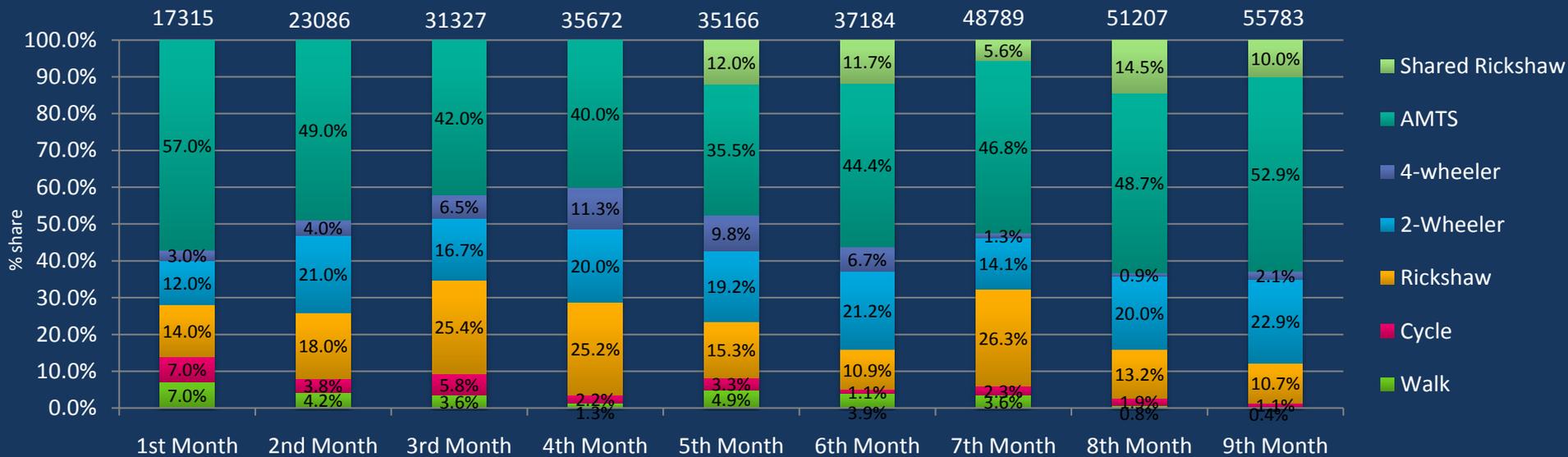
# Purpose of Trip and Modal Shift

Sample Size: 300

## Purpose of Trip

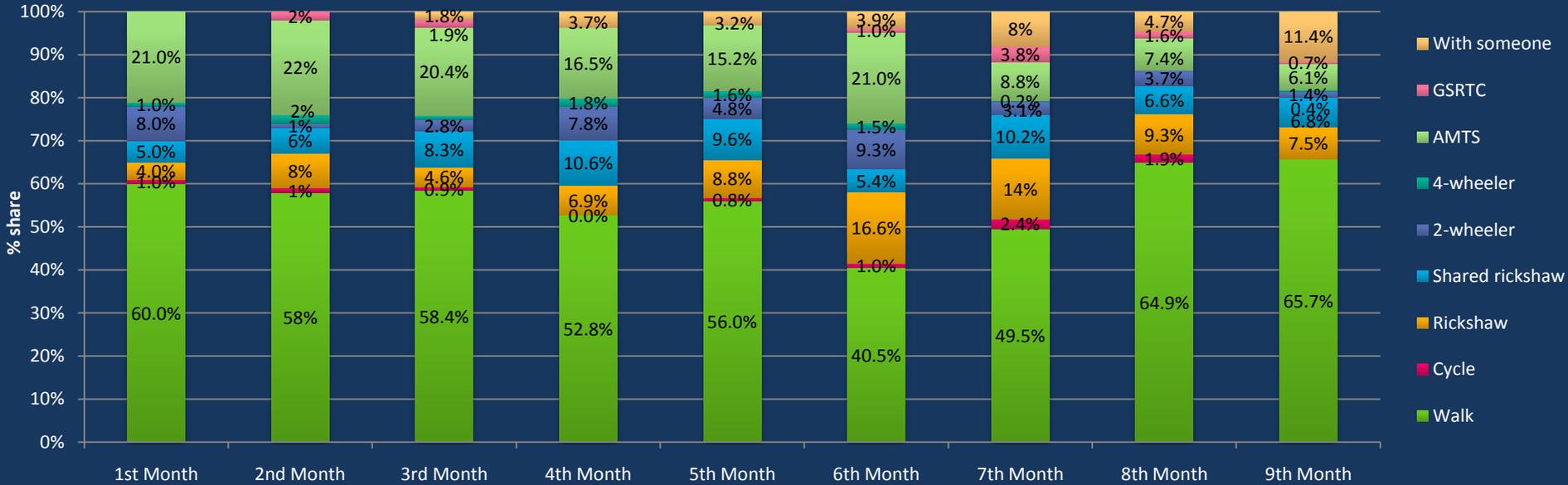


## Modal Shift to BRTS



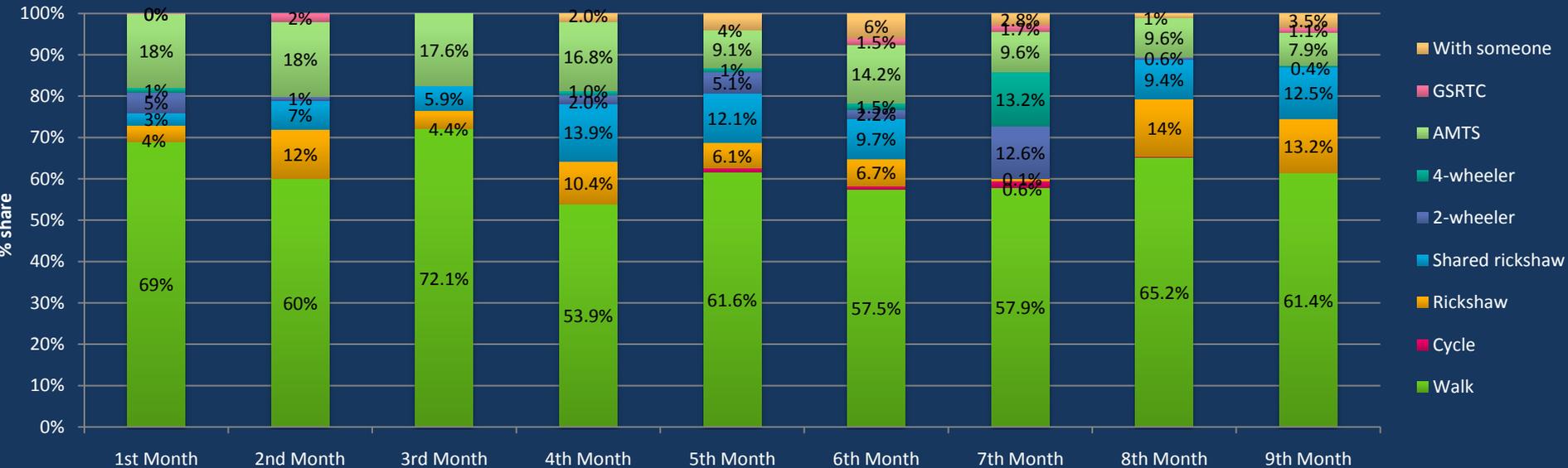
# Current BRT Users: Access Mode

Sample Size: 300



# Current BRT Users: Egress Mode

Sample Size: 300



# Average Rating by BRTS Users

