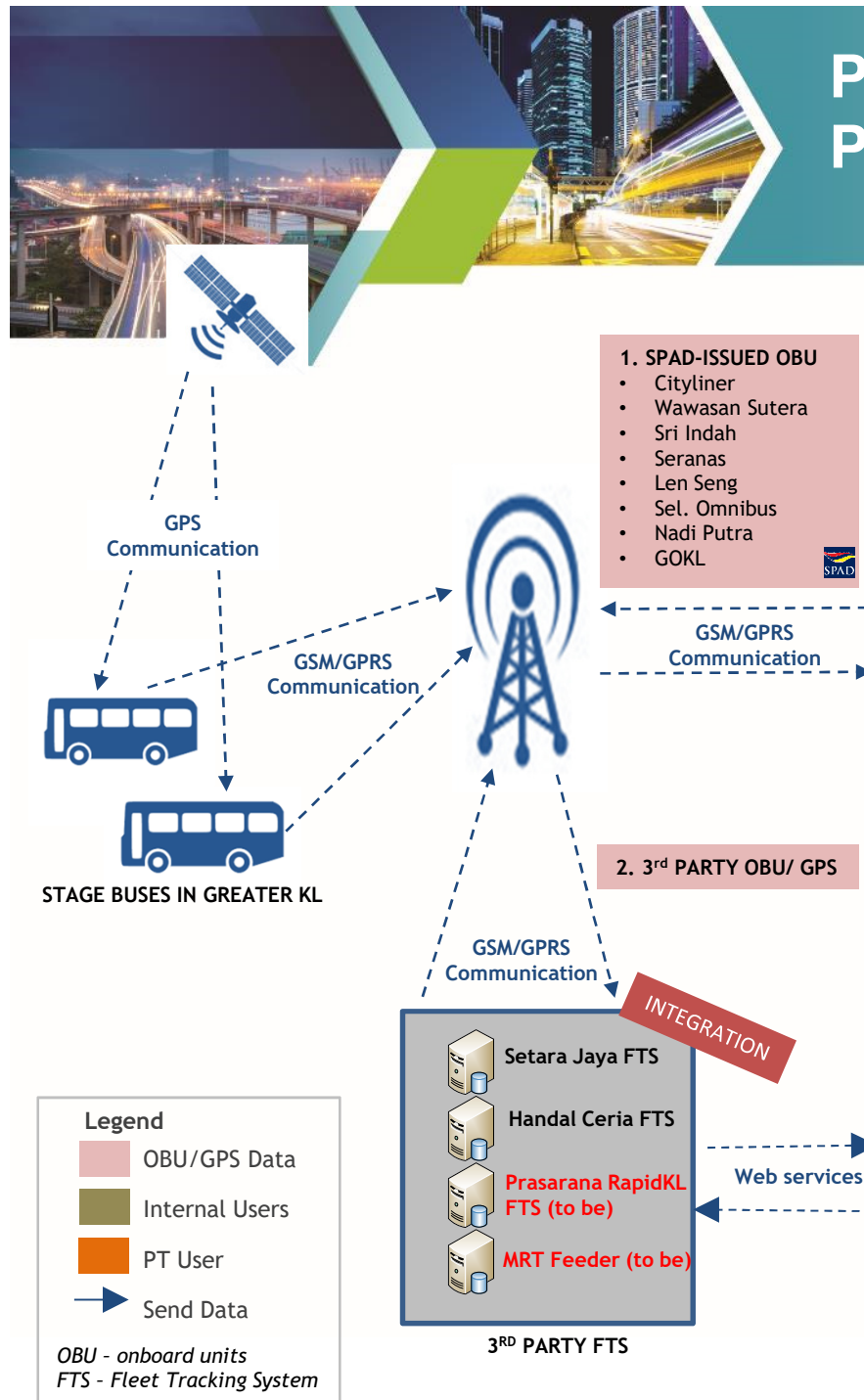


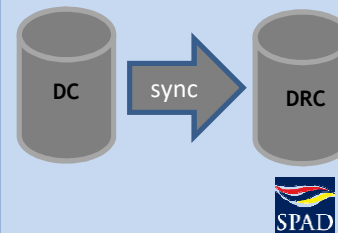
Performance Monitoring Hub System (PMHS)

An Introduction

PMHS Project Overview



Performance Monitoring Hub System



JOURNEY PLANNER



Web services

INTEGRATION

PUBLIC INFORMATION DISPLAY

GSM/GPRS Communication

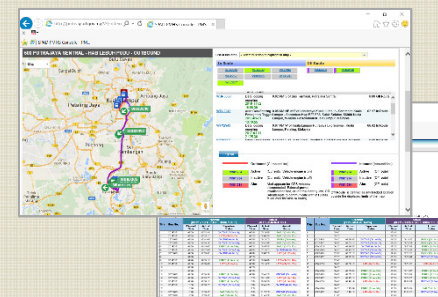


COMMUTERS

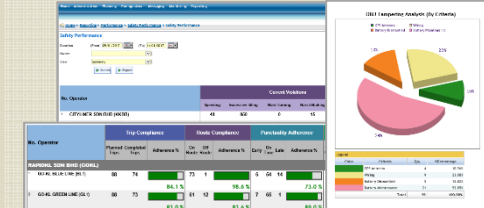
COMMAND & CONTROL CENTRE



REAL-TIME MONITORING



REPORTING



SPAD OFFICERS

PMHS: Key performance monitoring areas

Area

Monitoring Display

Requirement

Target

Trip Compliance

[OUTBOUND] Trip for Route : GO-KL RED LINE (RL1)

Trip	Bus No.	Departure (TERMINAL JLN TUN RAZAK)			Arrival (KL53 - Hospital Kuala Lumpur (Selatan))		
		Planned Time	Actual Time	Departure Status	Planned Time	Actual Time	Arrival Status
1.	WB4375F	06:00	06:02:37	ON TIME (0h 2m 37s)	07:00	06:35:00	EARLY (0h 25m 0s)
2.	WB4094F	06:05	06:03:04	ON TIME (0h 1m 56s)	06:50	06:56:00	LATE (-0h 6m 0s)
3.	WB7804F	06:10	06:06:18	EARLY (0h 3m 42s)	06:55	07:26:00	LATE (-0h 31m 0s)
4.	WB1765F	06:15	06:09:52	EARLY (0h 5m 8s)	07:00	07:28:00	LATE (-0h 28m 0s)
5.	WB5961E	06:20	06:13:51	EARLY (0h 6m 9s)	07:05	07:39:00	LATE (-0h 34m 0s)
6.	WB5803E	06:25	06:19:46	EARLY (0h 5m 14s)	07:10	07:47:00	LATE (-0h 37m 0s)
7.		06:30			07:15		
8.		06:35			07:20		
9.		06:40			07:25		
10.	WB4375F	06:45	06:48:28	ON TIME (0h 3m 26s)	07:30	07:26:00	EARLY (0h 4m 0s)
11.	WB7804F	06:50	06:39:40	EARLY (0h 10m 20s)	07:35	07:26:00	EARLY (0h 9m 0s)
12.	WB1765F	06:55	06:53:37	ON TIME (0h 1m 23s)	07:40	07:28:00	EARLY (0h 12m 0s)
13.	WB5961E	07:00	06:59:42	ON TIME (0h 0m 18s)	07:45	07:39:00	EARLY (0h 6m 0s)
14.	WB5803E	07:05	07:06:52	ON TIME (0h 3m 52s)	08:05	07:47:00	EARLY (0h 18m 0s)
15.		07:10			08:10		
16.	WB4094F	07:15	07:15:54	ON TIME (0h 0m 54s)	08:15	07:53:00	EARLY (0h 22m 0s)

- Buses must be installed with active OBUs
- The buses should pass through the 1st bus stop or terminal and reach the last bus stop or terminal
- The schedule provided for PMHS should be updated and as per operation on the ground

- Min. 70% compliance

Route Compliance

- Buses must be installed with active OBUs
- The buses should pass through the route lines as per given by S.P.A.D.

- Min. 70% compliance

Punctuality Adherence

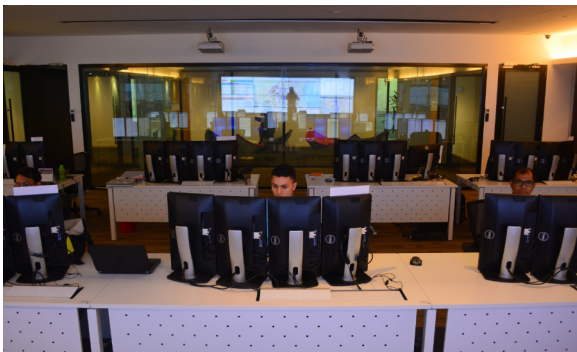
No. Operator	OBU-Bus Availability			Current Performance				Trip Status (Now)
	Active	Lost Comm.	Inactive	Early	On Time	Late	Adherence % (# on time / # completed trips) X 100%	
1. CITYLINER SDN BHD (GOKL)	14	3	3	15	51	6	71.8 %	[RL1] 11:45 EARLY
2. CITYLINER SDN BHD (KKBB)	19	2	123	0	8	3	72.7 %	[136] 11:20 ON TIME
3. LEN SENG SDN BHD	7	2	3	1	8	1	80.0 %	[W12] 11:25 LATE
4. METROBUS NATIONWIDE	96	2	67	16	43	6	66.2 %	[M43] 11:45 ON TIME
5. SELANGOR OMNIBUS CO. BERHAD	10	1	28	2	1	0	33.3 %	[147] 09:45 EARLY
6. SERANAS SDN BHD	41	7	33	4	17	0	81.0 %	[09] 11:25 ON TIME
7. SETARA JAYA SDN BHD	35	3	43	2	17	2	81.0 %	[43] 11:40 ON TIME
8. SRI INDAH JAYA SDN BHD	8	1	9	1	6	0	85.7 %	[573A-W] 09:40 ON TIME
9. WAWASAN SUTERA SDN BHD	8	1	22	1	4	0	80.0 %	[77] 10:00 ON TIME

- Buses must be installed with active OBUs
- The buses should depart from the 1st bus stop as per departure time in bus operation schedule
- The schedule provided for PMHS should be updated and as per operation on the ground

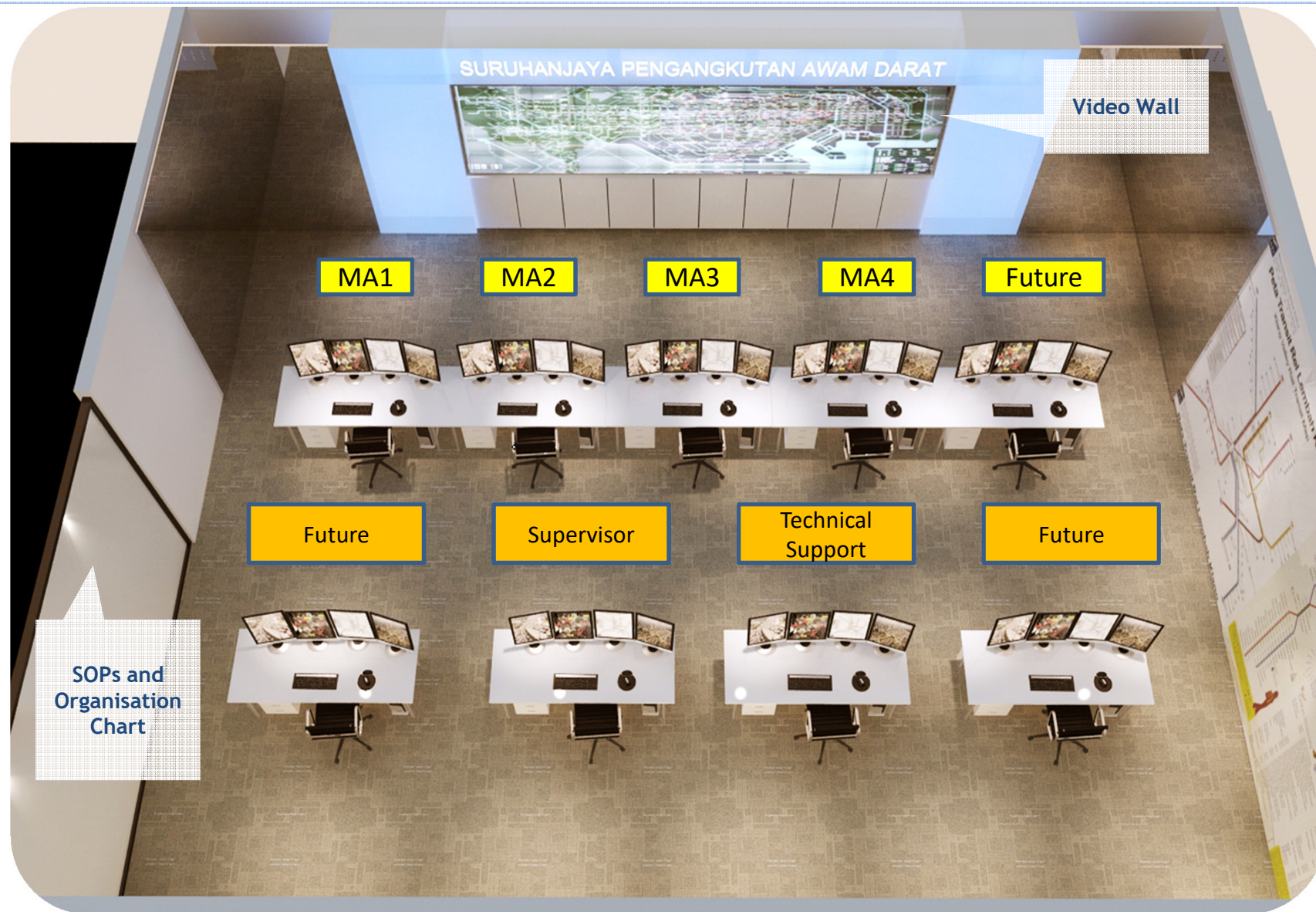
- Min. 70% compliance

PMHS Command & Control Centre

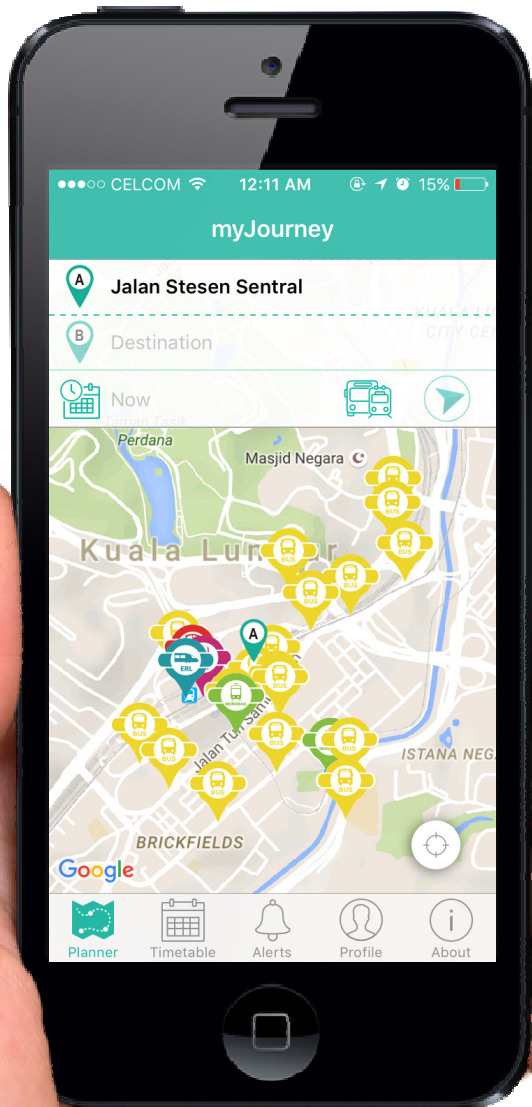
- PMHS Command & Control Centre (CCC) is situated in SPAD HQ in Platinum Sentral
- PMHS Primary Datacentre and Disaster Recovery Centre are located in MAMPU, Putrajaya and Menara Usahawan, Putrajaya respectively.
- The CCC is manned by 4 SPAD officers to ensure system and infrastructure uptime. The team work closely with the SPAD Bus Operations Team to ensure operation compliance by the operators.



Command & Control Centre Layout



Features of the Journey Planner mobile app



Journey planning related services



Planner

- Trip options
- Navigation assistance
- Ratings & feedback



Timetable

- Schedule for different routes & stops



Alerts

- List of service alerts affecting PT modes

Non-journey planning related services

User profile

- History & Favourites
- User preferences
- Social media connectivity

About page

- Tutorial
- Info on SPAD & Operators
- Contact info

1 Planner

1.1 Origin & Destination and Journey Preferences

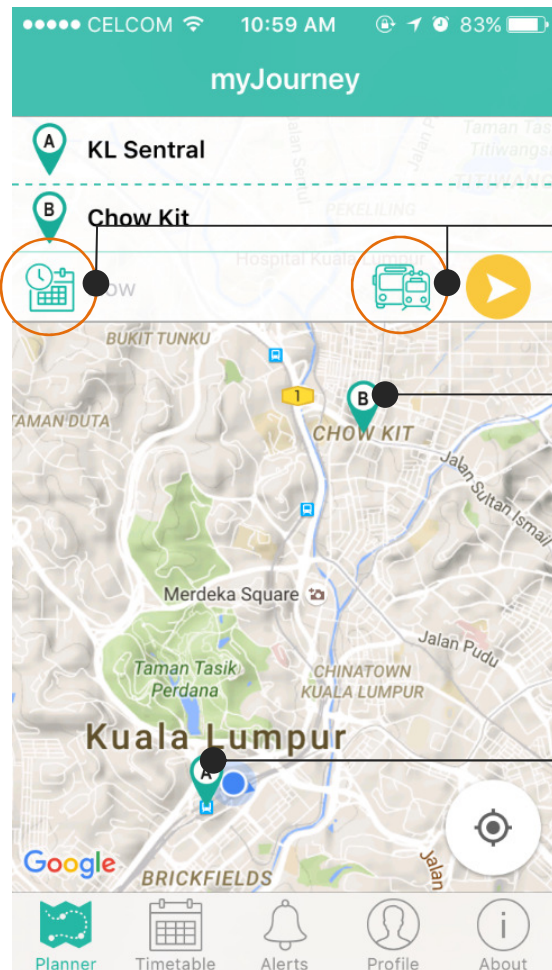
1 Planner

2 Timetable

3 Alerts

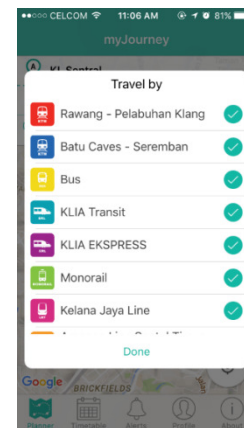
4 Others

ORIGIN & DESTINATION and JOURNEY PREFERENCES

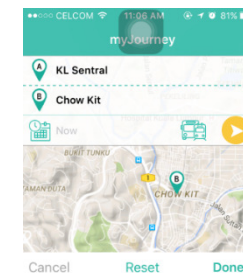


Set preferred mode and departure date & time

- Users can set their preferred mode and departure date & time (Default: Date & time set to user's current time)



Set preferred mode



Set departure date & time

- User's selected origin & destination will be displayed on the map, depicted by the green icons
- Icons can be pin-dropped anywhere on the map

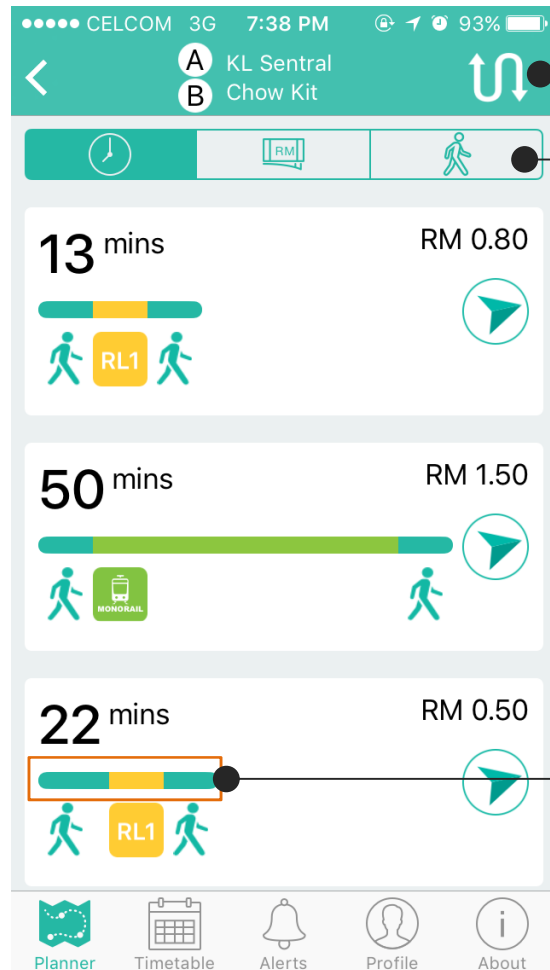
1.2 Journey options

1 Planner

2 Timetable

3 Alerts

4 Others



JOURNEY OPTIONS

Displays the best journey options (minimum of 3 results) for the user's journey

- Option to change direction

Sort results

- Results can be sorted by time engagement, cost or walking distance

- Result options will display:
 - Total time for the whole journey
 - Total fare for the whole journey
 - Type of modes involved for the journey

- The bar indicates the time needed to travel on each corresponding mode

From this page, user can either:

a) View journey details

Click   

OR

b) Start journey navigation

Click 

1.3 Journey details

1

 Planner

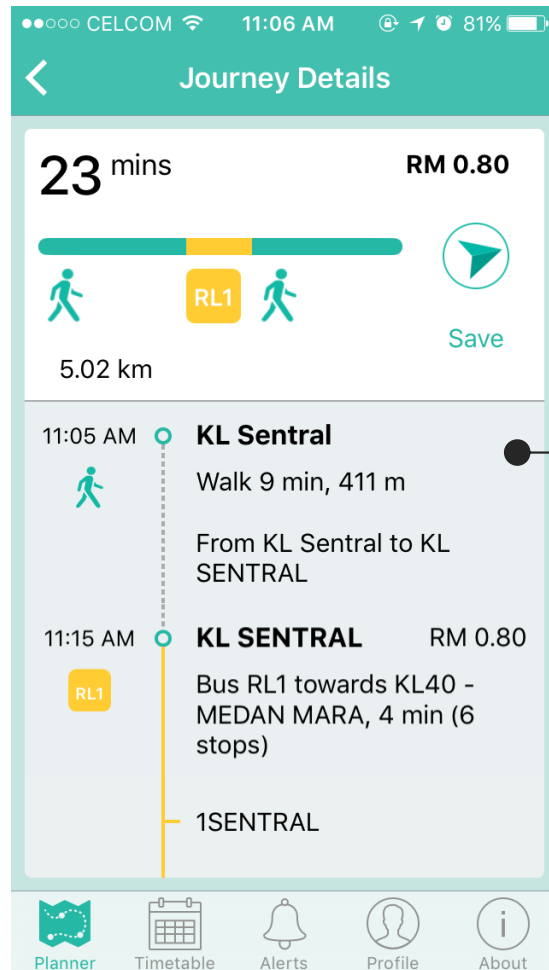
2 Timetable

3 Alerts

4 Others

JOURNEY DETAILS

Detailed view of the journey displayed in a list view



- Scrolling up will show all the stops that a bus/train passes through en route to the user's next stop



1.4 Journey navigation

1 Planner

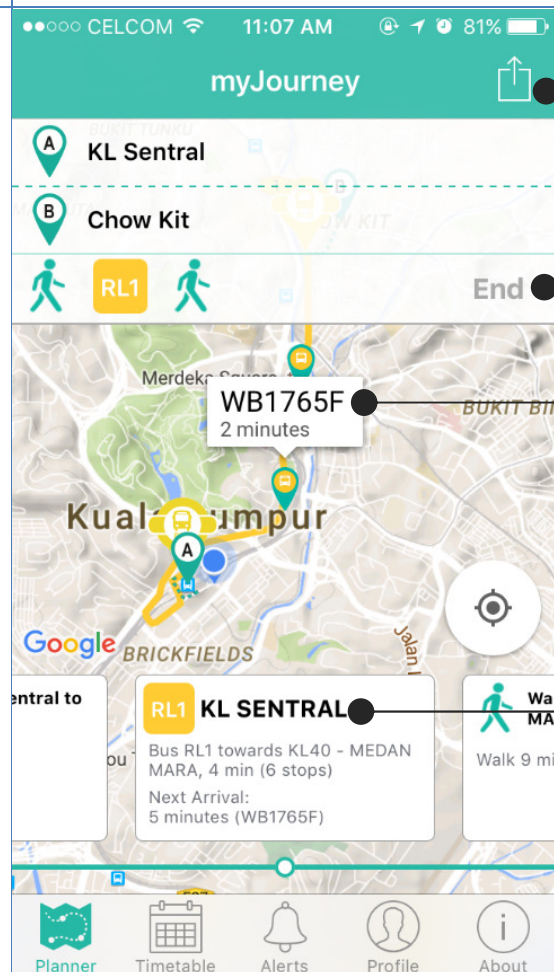
2 Timetable

3 Alerts

4 Others

JOURNEY NAVIGATION

Provides navigation assistance & tracks user's location while on a journey



Share location / journey

- Option for user to share their current location / share their journey via social media or text message

- Option to end the journey

Real-time vehicle position & ETAs (applicable for stage buses & KTM Komuter only)

- Real-time vehicle movements with vehicle license plate number/ID and ETA
- Will display the next 3 oncoming vehicle servicing that route to the user's stop
- Vehicle position and ETA will automatically refresh

Navigation bars

- Navigation boxes will display info of:
 - Walking time & distance
 - Bus number / train ID and direction
 - Number of stops that the bus / train will pass through
 - Bus/train ETA to user's stop
 - Bus license plate number / train ID
- ETA will automatically refresh

THANK YOU