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Cleaner and better transport in cities

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Transport Services Implementation

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Abstract

This report is a comprehensive evaluation of the new services implemented in Kiryat Atidim Hi Tech Park and includes assessment of changes achieved in the modal split as well as assessment of the impact of the dissemination activities promoting the new services to the uptake of these services. This report is a continuation of the previous deliverables regarding the services implemented and the dissemination activities undertaken (See DI7.04.04; DI7.04.05; DI7.04.08)

Project Partners

Organization	Country	Abbreviation
Tel Aviv-Yafo Municipality	Israel	TLV
Technion	Israel	Technion

Document History

Date	Person	Action	Status	Diss. Level
13/11/2014	Eyal Shavit Lara Daor	Draft report	Draft	PC/TC
06/12/2015	Lara Daor	Edited report	Final	PC/TC

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Dissemination Level: PC = Project Coordinator, SC=Site Coordinator, TC=Technical Coordinator, EM=Evaluation Manager.

Transport Services

From the 1st of December 2014 new schedules and an enhanced shuttle service were implemented. The new shuttle services implemented alternated between the use of full 50-seater buses and minibuses based on the surveys carried out prior to the proposal and implementation of the new service, with a bus leaving every 15 minutes from 7:00am and the last bus for the morning service departing at 9:30 from the University train station. The afternoon service was every 15 minutes from 15:05pm with the last bus leaving Atidim at 18:05. The timing of the shuttle service was based on the train arrival times so that the shuttle departure times were coordinated with the train schedule.

In addition to the enhanced shuttle service also implemented as part of the measure was a car sharing app that was adapted and dedicated for the use of Atidim Park employees. The app which was named “Satidim” was operational from March 2015.

Evaluation

Prior to implementation of the new services shuttle user counts, a traffic count, an on-board shuttle survey and internet travel habits surveys were carried out:

Traffic count – December 2013

Shuttle user counts – May-June 2013, September 2014, and November 2014

On-board survey – December 2013, 170 respondents

Internet travel habits surveys – May-June 2013, 300 respondents; September 2014, 800 respondents

After implementation of the new services shuttle user counts were carried out as well as an on-board shuttle survey and an internet travel habits survey.

Shuttle user counts – January 2015, and March 2015

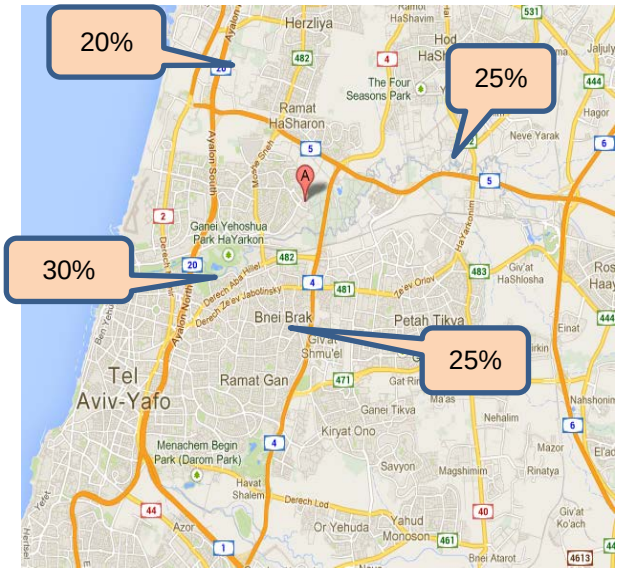
On-board survey – March 2015, 200 respondents

Internet travel habits surveys – May-June 2015

Main Findings Prior to Implementation of the New Tailored Services

Based on the travel service survey carried out prior to the implementation of the new services the main directions of arrival were determined:

Figure 1: Distribution of Commuter Trips to Atidim



Also determined was the modal split of travel to and from Atidim:

Table 1: Modal Split to Atidim 2013

Mode of Transport	% of Total
Private car as driver	49%
Private car as passenger / lift	2%
Bus or taxi	20%
On foot / bicycle	5%
Motorbike	2%
Train + Shuttle	14%
Private car + Public Transport	8%
Total respondents	**100%**

Car occupancy 1.03

Lower compared to average in Tel Aviv

And the availability of parking for both employees and visitors:

Table 2: Parking Distribution

Parking Space	% of Total
On-street parking (outside Atidim)	15%
Paid off-street parking	2%
Employee reserved parking	**76%**
Other free parking inside Atidim	6%
Total	100%

The various surveys and traffic counts were used to assess the number of trips to Atidim in the AM peak hours:

- Private cars – 1,200 (from traffic counts)
- Bus passengers – 250 (from on-board survey)
- Shuttle passengers – 150 (from operator)
- Total trips by motorised modes – 1,600
- Walking / bicycle – 120 (estimate based on survey)

The on-board surveys and the travel habits' survey were also used to assess attitudes regarding travel to and from Atidim and the following is a small selection of the comments which help to portray the need for an improved service:

- …it is not possible to arrive by bus because there is a lot of **congestion**…
- …from my home to Atidim I need to take **at least 2 different** bus lines…
- …I will only take the bus or shuttle if I don't have a **company car**…
- …the transit travel time **is not comparable** to the private car…

Assessed Alternatives

All the gathered data was used to calibrate and adapt the Tel Aviv Activity Based Transport Model for the Atidim Business Park area.

Table 3: Proposed Alternatives[1]

Alternative	Expected Impact (predicted by model)
Increase shuttle service frequency	Increase PT share (inferred from the model)
Carpool / shared ride	Decrease in private car trips (inferred from the model)

Table 4 below shows the inferred potential impact of changes to the frequency of the shuttle service on the model split for the Atidim area. Maximum frequency would, based on the model lead to an increase of 4% in the use of the train + shuttle, mostly at the expense of buses. Moreover, a decrease in the frequency leads to greater decrease in the use of the shuttle.

Table 4: Impact of Shuttle Service Changes to the Modal Split (Inferred from Model)

Mode	Maximum frequency	Increase frequency	Base	Decrease frequency	Minimum frequency
Car driver	**51%**	**52%**	**52%**	**53%**	**54%**
Car passenger	**3%**	**3%**	**3%**	**3%**	**3%**
Bus	**19%**	**20%**	**22%**	**25%**	**31%**
Mixed modes	**8%**	**8%**	**8%**	**7%**	**5%**
Train+ Shuttle	**19%**	**17%**	**15%**	**12%**	**7%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**

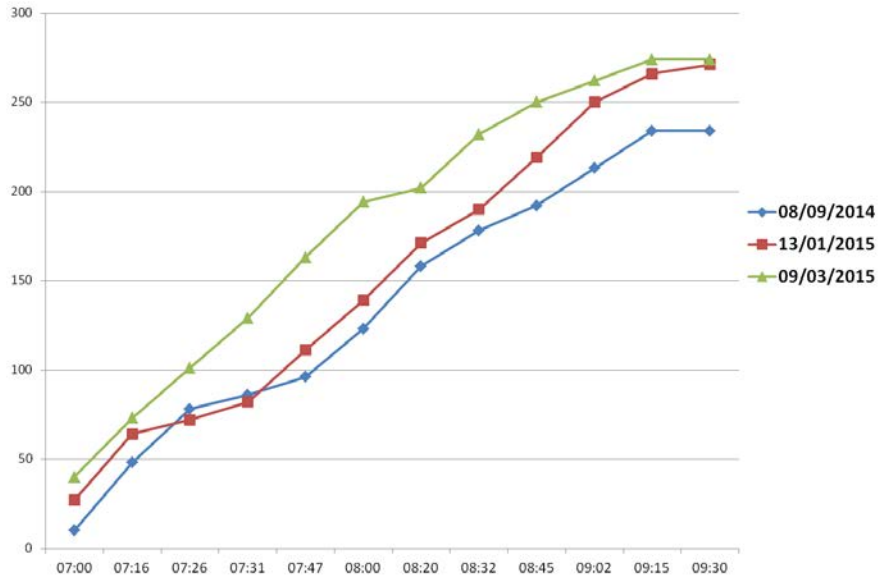
[1] Another alternative was proposed – Additional non-motorised mode infrastructure which would increase non-motorised trips (based on model adaptation). This was outside the scope of the measure and could not be considered.

Main Findings after Implementation of the New Tailored Services

The following alternatives were implemented: an enhanced shuttle service in operation from the 1st of December 2014 and a car sharing app dedicated for the use of Atidim Business Park employees from March 2015.

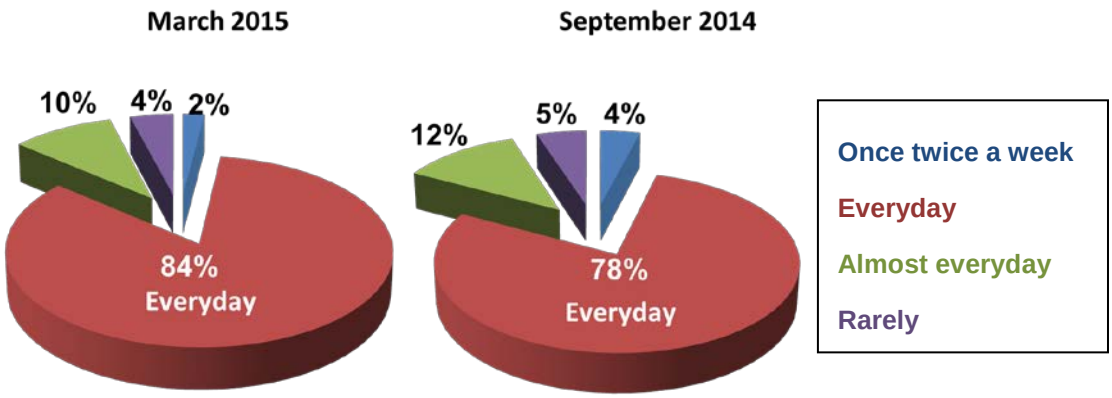
As can be seen from the following chart there was an increase in the use of the shuttle after implementation of the enhanced shuttle services. The first shuttle user count carried out after implementation of the new services in January 2015 showed an increase of 20% in shuttle use in the morning, rising from 230 to 275. This increase as can be seen was maintained in the March 2015 count.

Chart 1: Shuttle Users from the University Train Station – Before and After the Implementation of the Enhanced Services



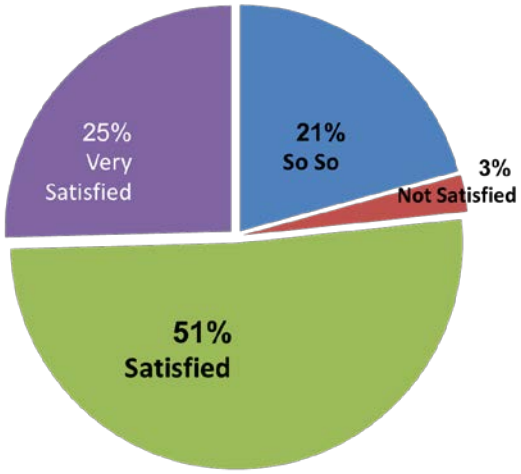
As can be seen from Chart 2 below the overall everyday use of the shuttle increased:

Chart 2: Frequency of Shuttle Use



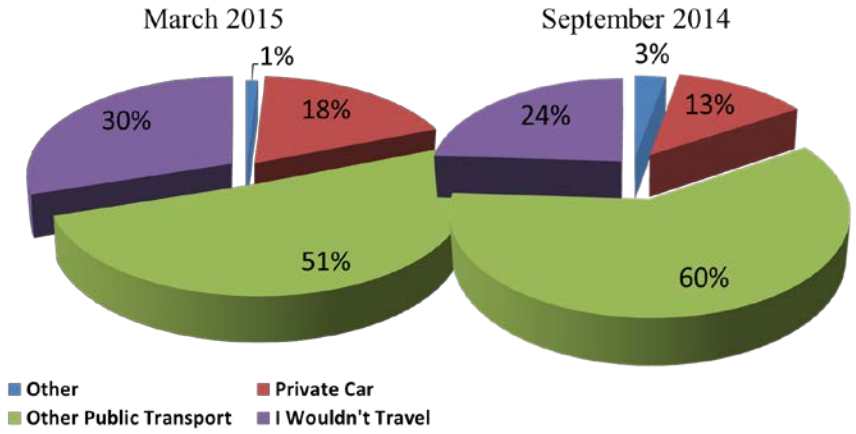
As for satisfaction of the enhanced shuttle services, as can be seen from Chart 3 76% were either satisfied or very satisfied with the improved shuttle service:

Chart 3: Level of Satisfaction with the Improved Shuttle Service



Perhaps more significant is the increase in the number who implied that were it not for the shuttle service they would not work in Atidim:

Chart 4: If the shuttle service didn't exist how would you get to Atidim?



Car Sharing App

Use of Satidim, the dedicated Atidim Park car sharing app which was in operation from March 2015 was monitored by the app developer. As of May 2015 there were 248 users registered and a potential 8000 yearly trips but only 2 trips were actually carried out.

Dissemination – The information campaign commenced on the 1st of December 2014 to coincide with the new shuttle services. Since there was a shuttle service in operation prior to the implementation of the new schedule and the enhanced service the increase in use of the shuttle service can be said to be in all probability due to the information campaign but cannot be definitely attributed to the information campaign. However, the car sharing app was new and the 248 registered users (not actual trips) can be definitely attributed to the information campaign and the brochure.

Assessing Changes to the Modal Split

Comparing the results of the travel habits' survey carried out in May-June 2015 with the results of the travel habits' survey carried out prior to implementation of the measure in May-June 2013 we see that:

Table 5: Modal Split to Atidim 2013/2015

Mode of Travel	2013	2015
Private Car (includes motorcycles*)	57	52
Bus	24	19
Train + Shuttle	14	22
Non-motorised	5	7

*** Both in 2013 and in 2015 motorcycles make-up 2% of the modal split**

As can be seen from Table 5 the actual results attained from the enhanced shuttle service are significantly better than forecast by the adapted transport model. Shuttle use is up overall by 8% and non-motorised modes have also increased by 2%, while private car usage is down by 5%. Bus usage is also down by 5% but the increased use of shuttles is not solely at the expense of bus usage.

Conclusion

The quantifiable objective of this measure was that at least 10% of the target users would use the tailor made service created as a consequence of the initiative. With an increase of 20% in the use of the improved shuttle service this has definitely been achieved. More importantly, even though there has been a decrease in the use of buses overall there has been a shift of 5% in the modal split for Atidim towards more sustainable modes of transport.

With regards to the dedicated car sharing app while there was an initial spurt of registration for the service generating a potential of 8000 trips yearly this was not realised.