



ROAD AND TRANSPORTATION MASTER PLAN

WEST BANK AND GAZA STRIP

TA 2012013 PS 00 F10

Annex 11 - Travel Time Survey

SEPTEMBER 30, 2016





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1. Introduction

Travel time survey was carried out on 8th of February 2016 as a part of the Roads and Transportation Master Plan of West Bank and Gaza Strip project.

The aim of the survey is to collect information on journey duration time and actual travel speeds along the most significant routes within West Bank and Gaza Strip along the main road hierarchies, First Class, Main and Regional road network.

The collected quantitative information is used to support the calibration/validation of the Base macroscopic traffic Model, integrating important additional information such as average delay at temporary and permanent road checkpoints, speed limits, etc.

The report includes the following four chapters:

- Travel Time Survey Details
- Survey Methodology
- Survey Results
- Original Survey Sheets

2. Travel Time Survey Details

Date and Time of Survey

The survey was performed on Monday, February 8, 2016, from 15.15 to 19.15.

Location of the Survey

The survey was done along six routes on both directions, therefore twelve one-way paths in total. Five of the routes are located inside the West Bank and one in Gaza Strip. Each route was divided into shorter paths in order to be monitored in 4 hours.

The Paths are listed below:

- Paths 1 & 2 from Al-Jalama to Silwad-Bir Zayt Intersection and vice versa.
- Paths 3 & 4 from Silwad-Bir Zayt Intersection to Shouafat- Road Number1 Intersection and vice versa.
- Paths 5 & 6 from Shouafat-Road Number1 Intersection to the Southern Checkpoint and vice versa.
- Paths 7 & 8 from Shouafat- Road Number1 Intersection to Jericho East and vice versa.
- Paths 9 & 10 from Tulkarm to Nablus North and vice versa.
- Paths 11 & 12 from Rafah Border Crossing Terminal to Bayt HanounNorthern Border Crossing and vice versa.

The following table shows the detailed information, regarding each path.

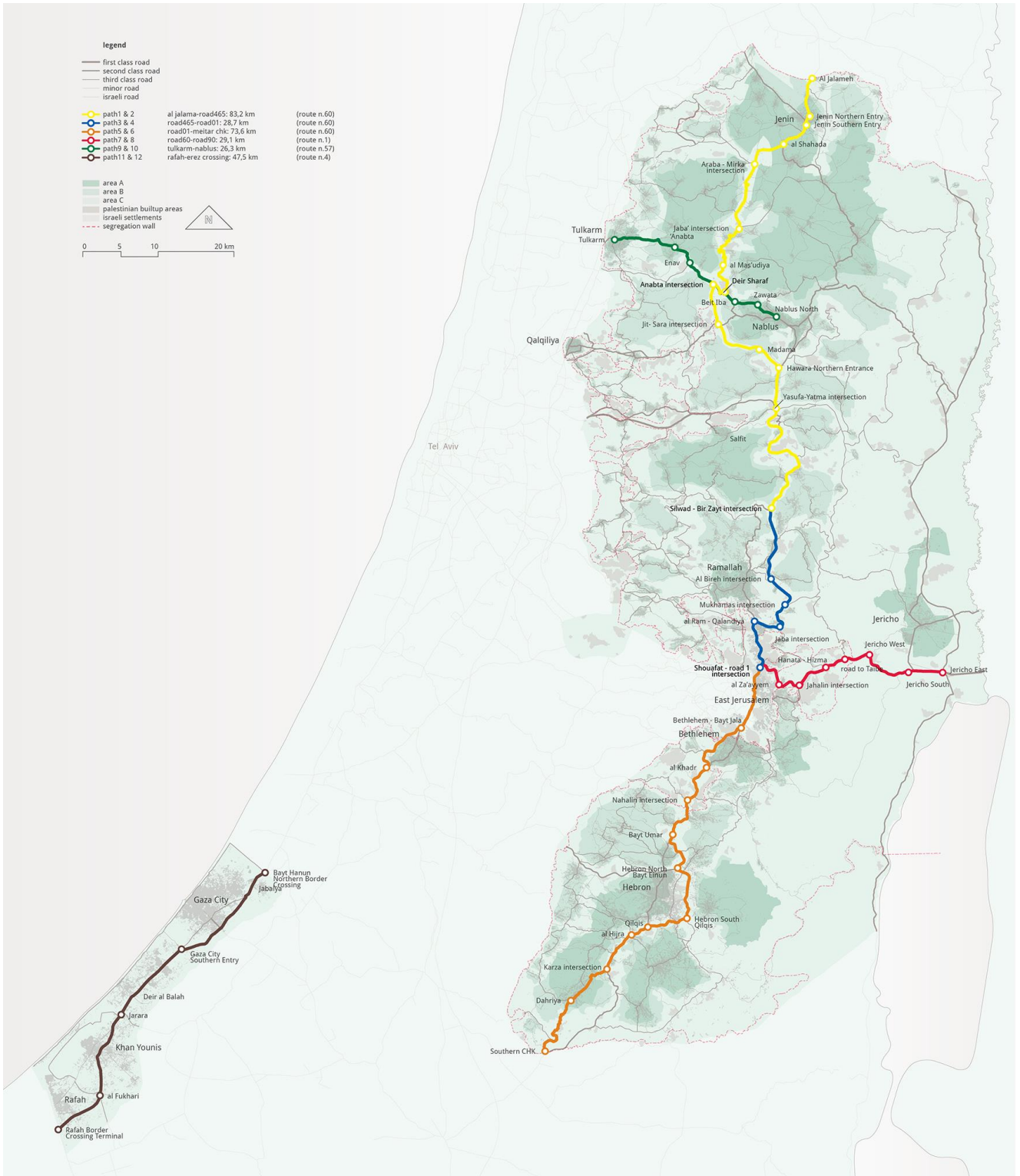


Tab 1. Travel Time Survey Paths Information

Path Number	From - To	Road Number	Length (Round Trip)	Location
1 & 2	Al Jalama - Silwad/ Bir Zayt Intersection	60	83.2km (166.4)	West Bank
3 & 4	Silwad/ Bir Zayt Intersection - Shouafat/Road 01 Intersection	60	28.7km (57.4)	West Bank
5 & 6	Shouafat/Road 01 Intersection - Southern checkpoint (Freijat (Al Dahriya))	60	73.6km (147.2)	West Bank
7 & 8	Shouafat/Road 01 Intersection -Jericho East	01	29.1km (58.2)	West Bank
9 & 10	Tulkarm - Nablus North	57	26.3km (52.6)	West Bank
11 & 12	Rafah B.C. Terminal. - Bayt Hanoun Norther B.C.	04	47.5km (95.0)	Gaza Strip

The following map illustrates the location of the routes.

Figure 1. Travel Time Survey Map





3. Survey Methodology

A team of 17 people was responsible to complete the survey.

Among them 12 people collected the data, 2 persons (driver and operator) for each route per direction. They recorded the time of arrival at each control point predefined earlier. In addition, the team included three coordinators, a professional supervisor and a team leader who was responsible for managing the whole travel time survey.

Prior to the survey, coordination and orientation meetings were held in Ramallah on February 7, 2016.

After the survey, the collected data was verified and checked by team leader and supervisor, no discrepancies were noticed.

Below is a brief description of the information that was recorded by the operators within the sheet boxes provided.

Tab 2. Description of Survey Sheets Information

Date	February 8, 2016
Time	The time of the day during which departure and arrival took place was between 15.15 and 19.15.
Weather	The climatic conditions of the Travel Time Survey period, highlighting causes of slowing down of traffic flows (i.e. rain, snow, fog, strong wind, etc), if any, and taking note of possible changes of the weather during the survey itself, in terms of position (kilometres from the starting point) and time (hour) of such changes.
Control Points - Time	The arrival time (hour) to the intermediate locations of the surveyed path.
Stops or Slows - Location	The location of trip stops or slows, in terms of kilometres from the starting point (or geographic coordinates).
Stops or Slows - Sec Delay	The amount of seconds of trip stops or slows.
Stops or Slows - Cause	The cause of trip stops or slows, choosing between the proposed list : TCP (temporary check points); PCP (permanent check points); S (traffic signals); SS (stop signs); LT (left turns); PK (parked cars); DP (double parking); PED (pedestrians); BP (bus passengers loading or unloading); T (general traffic); or adding the proper cause, if different from the proposed ones.
Trip Length	Total length of the trip (kilometres).
Trip Time	Total duration of the trip (hours and minutes).
Travel Speed	Average speed of the trip (Trip Length/Trip Time).
Stopped Time	Sum of all the delay seconds caused by trip stops (not by trip slows).
Running Time	Total duration of the trip (Trip Time) minus the sum of all the delay seconds caused by trip stops (Stopped Time).
Running Speed	Average speed of the effective trip excluded the delay time caused by stops (Trip Length/ Running Time).
Comments	Any other comment useful to fully describe the trip.
Operator	Name and surname of the Operator.
Driver	Name and surname of the Driver.

4. Survey Results

The following table demonstrates the result of the travel time survey. It shows the locality of the paths, the trip length, time, the average speed, the overall delay, the stopped time and the running speed along each path.

Tab 3. Survey Result

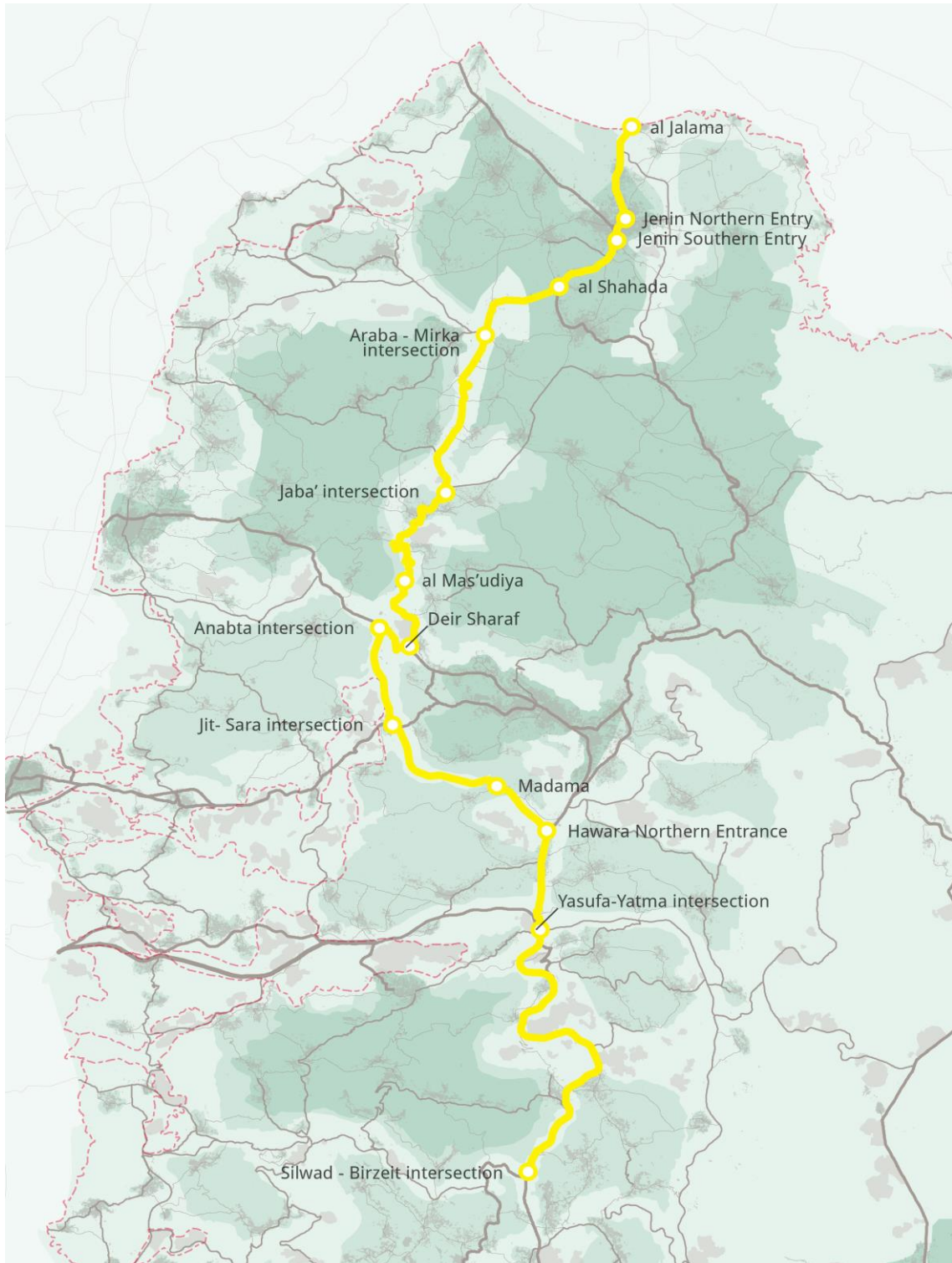
Path Number	Starting Point	Arrival Point	Trip Length (Km)	Trip Time (h:m)	Average Speed (Km/h)	Overall Delay (m:s)	Stopped Time (m:s)	Running Speed (Km/h)
1 - 2	Al Jalama	Silwad- Bir Zayt Intersection	83,4	01:31	55.0	07:55	01:13	55.7
2 - 1	Silwad- Bir Zayt Intersection	Al Jalama	83,4	01:31	55	09:32	04:52	58.1
3 - 4	Silwad- Bir Zayt Intersection	Shouafat-Road1 Intersection	30,3	00:42	43.3	17:28	03:49	47.6
4 - 3	Shouafat-Road 1 Intersection	Silwad- Bir Zayt Intersection	30,3	01:14	24.6	47:48	06:43	27
5 - 6	Shouafat-Road 1 Intersection	Southern Checkpoint	79,3	01:33	51.2	23:56	05:55	54.6
6 - 5	Southern Checkpoint	Shouafat-Road 1 Intersection	79,3	01:33	51.2	23:14	04:42	53.9
7 - 8	Shouafat-Road 1 Intersection	Jericho East	29,9	00:25	71.8	02:00	02:00	78.0
8 - 7	Jericho East	Shouafat-Road 1 Intersection	29,9	00:30	59.8	06:10	06:10	75.3
9 - 10	Tulkarm	Nablus North	27,1	00:28	58.1	00:10	00:00	58.1
10 - 9	Nablus North	Tulkarm	27,1	00:29	56.1	00:40	00:00	56.1
11 - 12	Rafah Border Crossing Terminal	Bayt Hanoun Northern B.C.	45,1	01:16	35.6	30:56	09:13	40.5
12 - 11	Bayt Hanoun Northern B.C.	Rafah Border Crossing Terminal	44,9	01:15	35.9	19:31	08:09	40.3



5. Original Survey Sheets

On the following pages the map, the coordinates of checkpoints and the original survey sheets for each path are shown. Since each two path overlap, only one table for the coordinates of the checkpoints is presented.

Figure 2. Path 1 & 2 Map





Tab 4. Coordinates of Control Points of Path 1 & 2

Control Point	Coordinates
Al Jalama	32°30'35.08"N , 35°18'27.84"E
Jenin Northern Entry	32°28'7.11"N , 35°18'14.37"E
Jenin Southern Entry	32°27'30.20"N , 35°17'59.74"E
Al Shahada	32°25'51.05"N , 35°16'0.30"E
Araba - Mirka Intersection	32°24'28.67"N , 35°13'37.69"E
Jaba' Intersection	32°19'55.13"N , 35°12'16.78"E
Al Mas'udiya	32°16'58.40"N , 35°10'53.92"E
Deir Sharaf	32°15'18.46"N , 35°11'6.34"E
Anabta Intersection	32°15'55.33"N , 35°10'4.73"E
Jit- Sara Intersection	32°12'58.77"N , 35°10'32.87"E
Madama	32°11'18.97"N , 35°13'49.77"E
Hawara Northern Entrance	32° 9'48.43"N , 35°15'43.32"E
Yasufa-Yatma Intersection	32° 6'55.00"N , 35°15'26.11"E
Silwad - Bir Zayt Intersection	31°59'46.81"N , 35°15'1.85"E



Tab 5. Original Survey Sheet Path 1

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 1-2	from: Al Jalama to: Silwad - Bir Zayt Intersection	route: n. 60
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DATE: Monday 8/2/2016

WEATHER: Cloudy

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Al Jalama	3:15	5.7	3:23:50	144	T +DP
Jenin Northern Entry	3:22	11.0	3:32:39	30	T
Jenin Southern Entry	3:30	59.0	4:19:09	73	SS
Al Shahada	3:32	60.3	4:22:20	77	T
Araba - Mirka intersection	3:39	61.9	4:25:20	78	T
Jaba' intersection	3:48	64.4	4:28:38	73	PCP
Al Mas'udiya	4:00				
Deir Sharaf	4:02				
Anabta Intersection	4:05				
Jit- Sara Intersection	4:10				
Madama	4:16				
Hawara Northern Entrance	4:19				
Yasufa-Yatma intersection	4:28				
Silwad - Bir Zayt Intersection	4:46				

TRIP LENGTH: 83.4 Km	STOPPED TIME: 1:13 (m:s)
TRIP TIME: 1:31 (h:m)	RUNNING TIME: 1:29:47 (h:m:s)
TRAVEL SPEED: 55.0 km/hr	RUNNING SPEED: 55.7 (km/hr)

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Hana' Al Ashqar
DRIVER: Mohammad Barham



Tab 6. Original Survey Sheet Path 2

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 2-1	from: Silwad - Bir Zayt Intersection to: Al Jalama	route: n. 60
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DATE: Monday 8/2/2016

WEATHER: Cloudy

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Silwad - Bir Zayt Intersection	4:46	20.6	5:03:40	157	PCP
Yasufa-Yatma Intersection	5:06	22.6	5:08:10	292	T
Hawara Northern Entrance	5:17	37.4	5:24:15	23	LT
Madama	5:19	79.4	6:09:27	100	T+DP
Jit- Sara Intersection	5:24				
Anabta Intersection	5:28				
Deir Sharaf	5:30				
Al Mas'udiya	5:33				
Jaba' Intersection	5:46				
Araba - Mirka Intersection	5:55				
Al Shahada	6:03				
Jenin Southern Entry	6:05				
Jenin Northern Entry	6:11				
Al Jalama	6:17				

TRIP LENGTH: 83.4 Km	STOPPED TIME: 4:52 (m:s)
TRIP TIME: 1:31 (h:m)	RUNNING TIME: 1:26:08 (h:m:s)
TRAVEL SPEED: 55.0 Km/hr	RUNNING SPEED: 58.1 km/hr

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Hana' Al Ashqar
DRIVER: Mohammad Barham

Figure 3. Path 3 & 4 Map





Tab 7. Coordinates of Control Points of Path 3 & 4

Control Point	Coordinates
Silwad – Bir zayt Intersection	31°59'46.81"N , 35°15'1.85"E
Al Bira Intersection	31°54'40.89"N , 35°15'0.49"E
Mukhamas Intersection	31°52'45.85"N , 35°16'7.03"E
Jaba Intersection	31°51'16.00"N , 35°15'43.37"E
Al Ram - Qalandiya	31°51'46.08"N , 35°13'40.86"E
Shouafat-Road1 Intersection	31°48'28.46"N , 35°14'8.64"E



Tab 9. Original Survey Sheet Path 4

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK TRAVEL TIME SURVEY

path: 4-3	from: Shouafat - Road 1 Intersection to: Silwad - Bir Zayt Intersection	theoretical length: 28.7km	route: n. 60
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DATE: Monday 8/2/2016

WEATHER: Showers

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Shouafat-Road1 Intersection	3:15	0.0	3:15:22	51	S
Al Ram - Qalandiya	3:35	0.4	3:16:23	37	S
Jaba Intersection	4:13	1.9	3:20:17	17	DP
Mukhamas Intersection	4:18	2.6	3:21:23	14	PED
Al Bira Intersection	4:24	3.3	3:22:37	25	S
Silwad - Bir Zayt Intersection	4:29	4.7	3:24:08	12	S
		4.7	3:24:49	42	S
		4.8	3:25:18	300	T
		5.4	3:30:49	88	T
		7.2	3:35:09	1320	PCP
		7.9	3:57:22	76	T
		9.3	4:00:27	47	T
		9.4	4:01:35	38	T
		9.4	4:02:19	37	T
		9.5	4:03:06	180	T
		9.6	4:06:17	425	TCP
		11.1	4:13:57	125	T
		30.3	4:29:24	34	LT

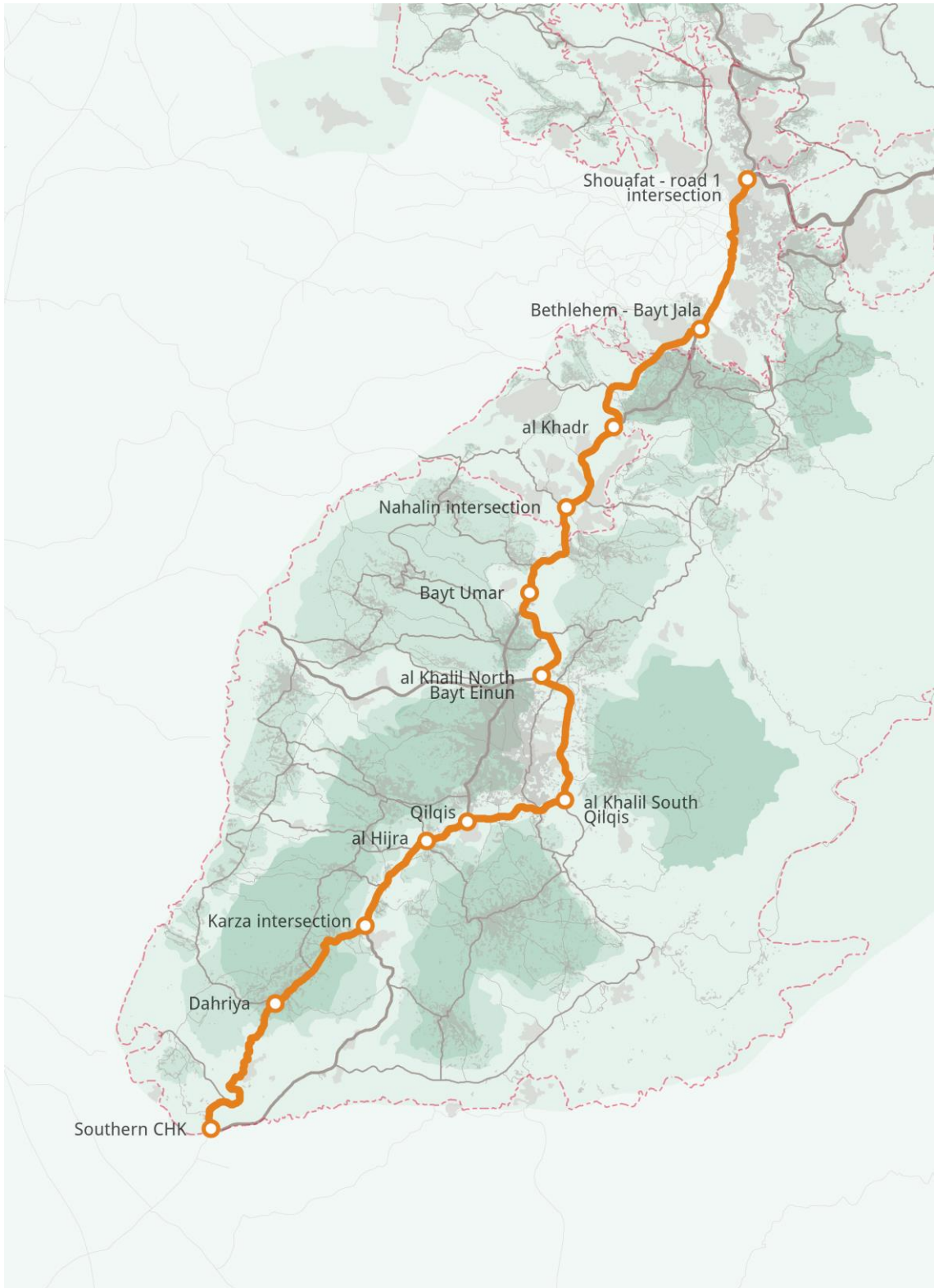
TRIP LENGTH: 30.3 Km	STOPPED TIME: 6:43 (m:s)
TRIP TIME: 1:14 (h:m)	RUNNING TIME: 1:07:17 (h:m:s)
TRAVEL SPEED: 24.6 Km/hr	RUNNING SPEED: 27.0 Km/hr

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Shorouq Balbesi
DRIVER: Ruba Siaj

Figure 4. Path 5 & 6 Map





Tab 10. Coordinates of Control Points of Path 5 & 6

Control Point	Coordinates
Shouafat-Road 1 Intersection	31°48'28.41"N , 35°14'8.40"E
Bethlehem - Bayt Jala	31°43'52.18"N , 35°12'21.35"E
Al Khadr	31°41'9.61"N , 35° 9'33.73"E
Nahalin Intersection	31°38'45.63"N , 35° 7'55.80"E
Bayt Umar	31°36'0.10"N , 35° 6'34.88"E
Hebron North Bayt Einun	31°33'53.12"N , 35° 7'9.48"E
Hebron South Qilqis	31°30'16.77"N , 35° 7'58.13"E
Qilqis	31°29'39.86"N , 35° 4'35.92"E
Al Hijra	31°29'8.84"N , 35° 3'18.64"E
Karza Intersection	31°26'39.75"N , 35° 1'14.90"E
Dahriya	31°24'24.90"N , 34°58'13.07"E
Southern CHK	31°20'44.66"N , 34°56'4.73"E



Tab 11. Original Survey Sheet Path 5

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 5-6	from: Shouafat - Road 1 Intersection to: Southern CHK	route: n. 60
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DATE: Monday 8/2/2016

WEATHER: Cloudy

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Shouafat-Road 1 Intersection	3:15	20.0	3:16	48	S
Bethlehem - Bayt Jala	3:50	21.0	3:18	28	S
Al Khadr	3:52	22.0	3:19	8	S
Nahalin Intersection	4:00	23.0	3:22	30	T
Bayt Umar	4:08	23.9	3:24	139	T
Hebron North Bayt Einun	4:17	24.0	3:26	50	S
Hebron South Qilqis	4:25	24.8	3:28	163	T+S
Qilqis	4:31	25.0	3:32	48	T
Al Hijra	4:35	25.5	3:34	52	S
Karza Intersection	4:40	26.3	3:35	56	S
Dahriya	4:45	27.0	3:38	379	T+S
Southern CHK	4:48	28.0	3:43	15	T
		28.5	3:44	33	S
		29.2	3:45	23	S
		29.7	3:46	30	S
		38.0	3:54	18	S
		43.7	4:00	307	T
		70.3	4:29	9	SS

TRIP LENGTH: 79.3 Km	STOPPED TIME: 5:55 (m:s)
TRIP TIME: 1:33 (h:m)	RUNNING TIME: 1:27:05 (h:m:s)
TRAVEL SPEED: 51.2 (Km/hr)	RUNNING SPEED: 54.6 (Km/hr)

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Majd
DRIVER: Taxi Driver



Tab 12. Original Survey Sheet Path 6

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 6-5	from: Southern CHK to: Shouafat - Road 1 Intersection	route: n. 60
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DATE: Monday 8/2/2016

WEATHER: Cloudy

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Southern CHK	4:59	34.0	5:25	38	SS
Dahriya	5:04	55.0	5:44	15	S
Karza Intersection	5:09	59.3	5:49	35	S
Al Hijra	5:14	62.7	5:52	15	S
Qilqis	5:20	63.9	5:53	131	PCP
Hebron South Qilqis	5:25	68.0	6:00	6	T
Al Khalil North Bayt Einun	5:31	69.1	6:02	16	S
Bayt Umar	5:38	69.2	6:03	5	S
Nahalin Intersection	5:43	71.3	6:05	13	T
Al Khadr	5:51	72.0	6:07	11	T
Bethlehem - Bayt Jala	5:54	72.3	6:08	47	S
Shouafat-Road 1 Intersection	6:32	73.0	6:09	23	S
		73.6	6:11	514	T+S
		74.8	6:20	78	T
		75.2	6:21	43	S
		75.8	6:23	32	S
		76.0	6:24	321	T
		76.8	6:29	51	S

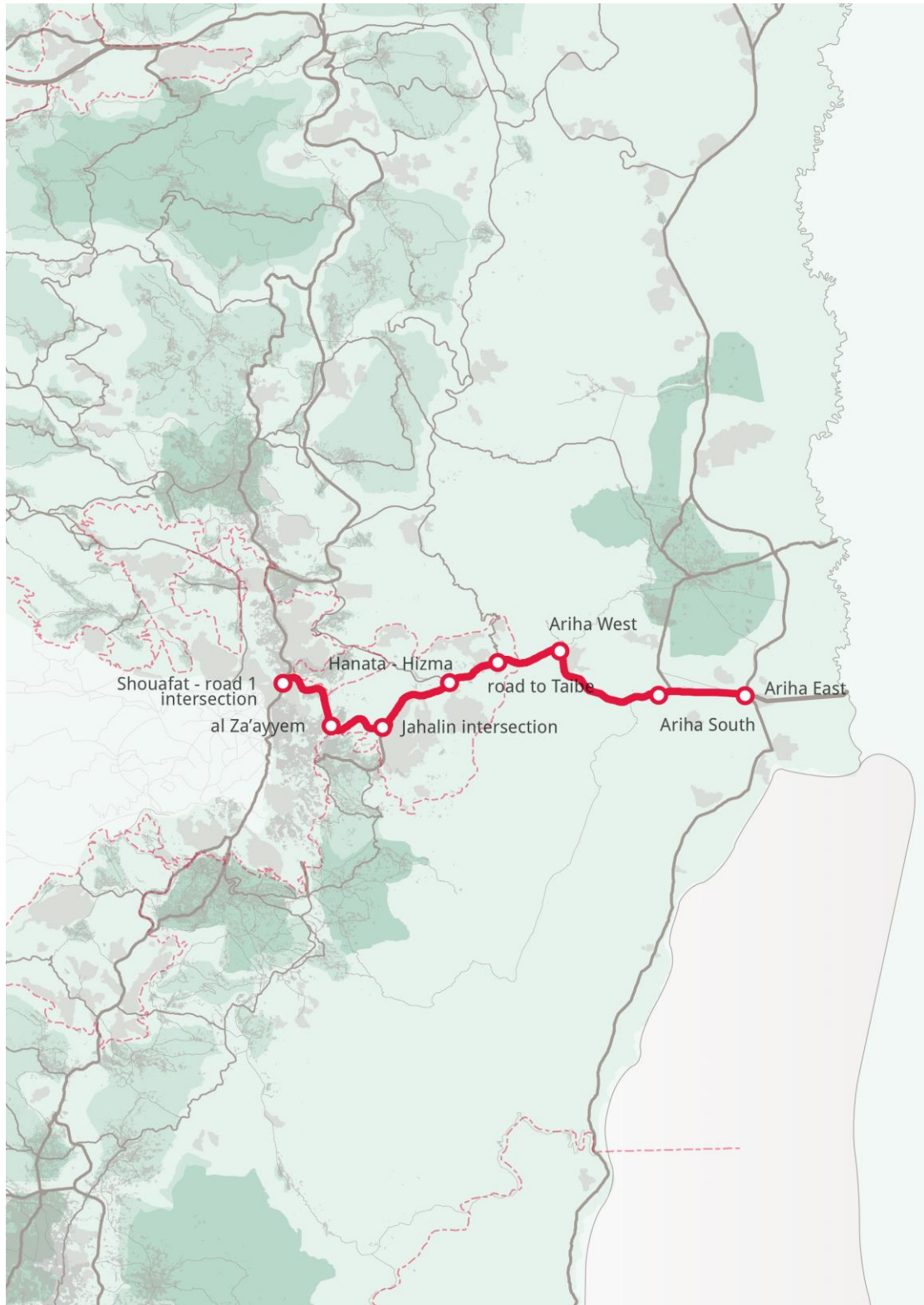
TRIP LENGTH: 79.3 Km	STOPPED TIME: 4:42
TRIP TIME: 1:33 (h:m)	RUNNING TIME: 1:28:18 (h:m:s)
TRAVEL SPEED: 51.2 Km/hr	RUNNING SPEED: 53.9 Km/hr

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Majd
DRIVER: Taxi Driver

Figure 5. Path 7 & 8 Map





Tab 13. Coordinates of Control Points of Path7 & 8

Control Point	Coordinates
Shouafat-Road 1 Intersection	31°48'28.41"N , 35°14'8.40"E
Al Za'ayem	31°47'15.94"N , 35°15'36.23"E
Jahalin Intersection	31°47'2.12"N , 35°17'24.45"E
Hanata - Hizma	31°48'20.98"N , 35°19'35.20"E
Road to Taibe	31°48'51.38"N , 35°20'57.85"E
Jericho West	31°49'7.89"N , 35°23'21.38"E
Jericho South	31°48'4.37"N , 35°26'50.29"E
Jericho East	31°47'56.98"N , 35°29'25.65"E



Tab 14. Original Survey Sheet Path 7

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 7-8	from: Shouafat - Road 1 Intersection to: Jericho East	route: n. 1
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DATE: Monday 8/2/2016

WEATHER: Cloudy

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Shouafat-Road 1 Intersection	3:15	10.5	3:25:08	120	S
Al Za'ayem	3:19				
Jahalin Intersection	3:25				
Hanata - Hizma	3:27				
Road to Taibe	3:29				
Jericho West	3:32				
Jericho South	3:37				
Jericho East	3:40				

TRIP LENGTH: 29.9 Km	STOPPED TIME: 2:00 (m:s)
TRIP TIME: 0:25 (h:m)	RUNNING TIME: 0:23:00 (h:m:s)
TRAVEL SPEED: 71.8 Km/hr	RUNNING SPEED: 78.0 Km/hr

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Alaa'
DRIVER: Feras Nashashebi



Tab 15. Original Survey Sheet Path 8

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 8-7	from: Jericho East to: road 01 (Shouafat - Road 1 Intersection)	route: n. 1
------------------	--	--------------------

DATE: Monday 8/2/2016

WEATHER: Cloudy

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Jericho East	3:41	17.4	3:54:20	10	S
Jericho South	3:44	29.3	4:05:00	360	S
Jericho West	3:49				
Road to Taibe	3:51				
Hanata - Hizma	3:54				
Jahalin Intersection	3:55				
Al Za'ayem	4:00				
Shouafat-Road 1 Intersection	4:11				

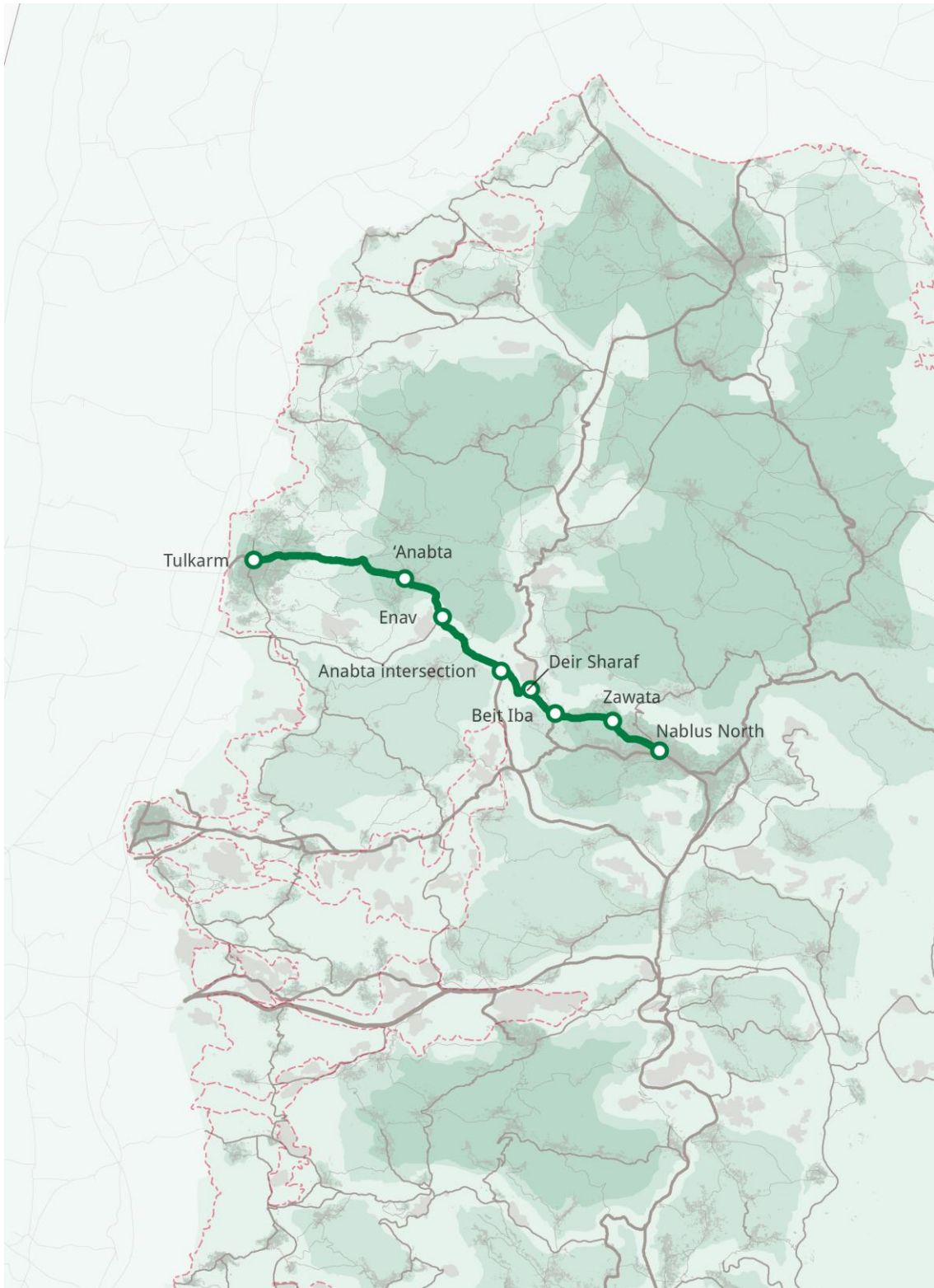
TRIP LENGTH: 29.9 Km	STOPPED TIME: 6:10 (m:s)
TRIP TIME: 0:30 (h:m)	RUNNING TIME: 0:23:50 (h:m:s)
TRAVEL SPEED: 59.8 Km/hr	RUNNING SPEED: 75.3 Km/hr

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Alaa'
DRIVER: Feras Nashashebi

Figure 6. Path 9 &10 Map





Tab 16. Coordinates of Control Points of Path 9 & 10

Control Point	Coordinates
Tulkarm	32°19'2.44"N , 35° 1'45.27"E
'Anabta	32°18'22.47"N , 35° 6'59.36"E
Enav	32°17'25.24"N , 35° 8'8.59"E
Anabta Intersection	32°15'55.30"N , 35°10'4.95"E
Deir Sharaf	32°15'18.47"N , 35°11'6.28"E
Beit Iba	32°14'34.32"N , 35°11'55.27"E
Zawata	32°14'11.13"N , 35°14'0.01"E
Nablus North	32°13'34.32"N , 35°15'19.33"E



Tab 17. Original Survey Sheet Path 9

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 9-10	from: Tulkarm to: Nablus North	route: n. 57
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DATE: Monday 8/2/2016

WEATHER: Clear

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Tulkarm	6:04	1.4	6:06:05	5	T
'Anabta	6:14	26.5	6:30:30	5	T
Enav	6:18				
Anabta Intersection	6:21				
Deir Sharaf	6:23				
Beit Iba	6:25				
Zawata	6:29				
Nablus North	6:32				

TRIP LENGTH: 27.1 Km	STOPPED TIME: 0:00 (m:s)
TRIP TIME: 0:28 (h:m)	RUNNING TIME: 0:28:00 (h:m:s)
TRAVEL SPEED: 58.1 km/hr	RUNNING SPEED: 58.1 km/hr

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Bayan Hawari
DRIVER: Abdallah Abu-Eisheh



Tab 18. Original Survey Sheet Path 10

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 10-9	from: Nablus North to: Tulkarm	route: n. 57
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DATE: Monday 8/2/2016

WEATHER: Clear

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Nablus North	3:25	0.5	3:26:57	20	T
Zawata	3:29	18.4	3:45:45	20	PED
Beit Iba	3:32				
Deir Sharaf	3:34				
Anabta Intersection	3:36				
Enav	3:40				
'Anabta	3:44				
Tulkarm	3:54				

TRIP LENGTH: 27.1 Km	STOPPED TIME: 0:00 (m:s)
TRIP TIME: 0:29 (h:m)	RUNNING TIME: 0:29:00 (h:m:s)
TRAVEL SPEED: 56.1 Km/hr	RUNNING SPEED: 56.1 Km/hr

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR: Bayan Hawari
DRIVER: Abdallah Abu-Eisheh

Figure 7. Path 11 & 12 Map





Tab 19. Coordinates of Control Points of Path 11 & 12

Control Point	Coordinates
Rafah Border Crossing Terminal	31°14'53.18"N , 34°15'27.67"E
Al Fukhari	31°18'9.37"N , 34°18'59.20"E
Jarara	31°23'5.37"N , 34°20'27.39"E
Gaza City Southern Entry	31°27'54.26"N , 34°25'36.43"E
Bayt Hanoun Northern B.C.	31°33'14.54"N , 34°32'2.49"E



Tab 20. Original Survey Sheet Path 11

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK

TRAVEL TIME SURVEY

path: 11-12	from: Rafah Border Crossing Terminal to: Bayt Hanoun Northern Border Crossing	route: n. 4
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DATE: Monday 8/2/2016

WEATHER: Clear

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Rafah Border Crossing Terminal	4:46	2.1	4:48:14	10	TCP
Al Fukhari	4:55	4.5	4:49:10	12	PED
Jarara	5:10	6.3	4:54:21	17	T
Gaza City Southern Entry	5:27	7.9	4:58:10	12	TCP
Bayt Hanoun Northern B.C.	6:02	8.2	4:59:35	6	S
		8.6	5:00:15	4	S
		9.1	5:01:10	16	T
		10.4	5:02:17	40	T
		11.2	5:03:05	8	T
		12.0	5:03:55	13	PED
		12.5	5:05:10	50	T
		13.8	5:07:15	75	T
		17.7	5:09:08	15	PCP
		18.1	5:09:45	12	T
		18.8	5:14:05	8	S
		19.3	5:16:10	10	S
		19.5	5:17:00	10	S
		20.1	5:17:45	75	T
		21.8	5:18:50	12	PED
		22.3	5:19:10	30	T
		23.1	5:20:05	20	T
		23.8	5:20:40	15	TCP
		24.1	5:21:10	20	T
		25.6	5:22:00	220	T
		30.1	5:26:00	15	PCP
		31.3	5:28:00	35	T
		32.6	5:29:00	240	T
		34.5	5:33:50	20	T
		34.9	5:34:50	180	T
		35.3	5:39:15	11	PCP
		36.8	5:39:35	60	T
		37.5	5:41:10	30	T
		38.0	5:42:00	10	T
		38.3	5:42:45	7	S
		38.6	5:43:10	120	T
		39.7	5:45:20	8	T
		40.1	5:46:00	6	T
		40.8	5:46:20	60	T
		41.5	5:47:55	20	T
		41.8	5:48:55	10	S
		42.1	5:49:50	12	PED



		42.3	5:50:10	10	T
		42.5	5:51:00	120	T
		42.8	5:53:10	7	T
		43.1	5:54:00	7	T
		43.5	5:54:50	120	T
		44.2	5:57:15	5	T
		44.6	5:58:00	8	T
		44.9	5:58:40	25	T

TRIP LENGTH: 45.1 Km	STOPPED TIME: 9:13 (m:s)
TRIP TIME: 1:16 (h:m)	RUNNING TIME: 1:06:47 (h:m:s)
TRAVEL SPEED: 35.6 Km/hr	RUNNING SPEED: 40.5 Km/hr

SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS / SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED: PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR:
DRIVER:



Tab 21. Original Survey Sheet Path 12

ROAD TRANSPORTATION MASTER PLAN - GAZA AND THE WEST BANK TRAVEL TIME SURVEY

path: 12-11	from: Bayt Hanoun Northern Border Crossing to: Rafah Border Crossing Terminal	route: n. 4
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DATE: Monday 8/2/2016

WEATHER: Clear

CONTROL POINTS		STOPS OR SLOWS			
LOCATION	TIME	LOCATION [Km from start]	TIME [h/m/s from start]	SEC DELAY	CAUSE
Bayt Hanoun Northern B.C.	3:17	0.1	3:18:18	5	T
Gaza City Southern Entry	3:50	1.8	3:20:00	120	T
Jarara	4:09	2.2	3:24:07	5	T
Al Fukhari	4:22	2.7	3:25:15	30	T
Rafah Border Crossing Terminal	4:32	3.4	3:26:45	40	T
		5.2	3:28:08	110	T
		5.6	3:31:19	25	T
		5.8	3:32:04	34	PED
		6.3	3:33:48	4	T
		6.6	3:35:27	16	T
		6.7	3:36:12	7	S
		6.8	3:36:48	3	T
		6.9	3:37:10	11	T
		7.1	3:38:17	8	PCP
		9.6	3:40:13	310	T
		12.5	3:48:11	50	S
		13.4	3:49:35	25	T
		13.9	3:50:10	13	S
		14.1	3:52:21	8	PCP
		14.6	3:54:04	5	T
		15.1	3:55:27	31	T
		15.8	3:56:39	120	TCP
		17.5	3:59:47	7	S
		22.1	4:00:32	10	T
		23.1	4:01:52	60	T
		25.2	4:05:08	15	S
		28.4	4:10:16	45	T
		30.1	4:11:42	12	PCP
		32.6	4:14:16	5	T
		35.6	4:16:23	7	S
		36.1	4:17:39	4	S
		41.5	4:23:15	11	T
		45.3	4:28:08	8	BP
		47.2	4:29:06	7	PED

TRIP LENGTH: 44.9 Km	STOPPED TIME: 8:09 (m:s)
TRIP TIME: 1:15 (h:m)	RUNNING TIME: 1:06:51 (h:m:s)
TRAVEL SPEED: 35.9 Km/hr	RUNNING SPEED: 40.3 Km/hr



SYMBOLS OF CAUSE:

TCP: TEMPORARY CHECK POINTS / PCP: PERMANENT CHECK POINTS / S: TRAFFIC SIGNALS
/ SS: STOP SIGNS / LT: LEFT TURNS / PK: PARKED CARS / DP: DOUBLE PARKING / PED:
PEDESTRIANS / BP: BUS PASSENGERS LOADING OR UNLOADING / T: GENERAL

COMMENTS:
OPERATOR:
DRIVER: