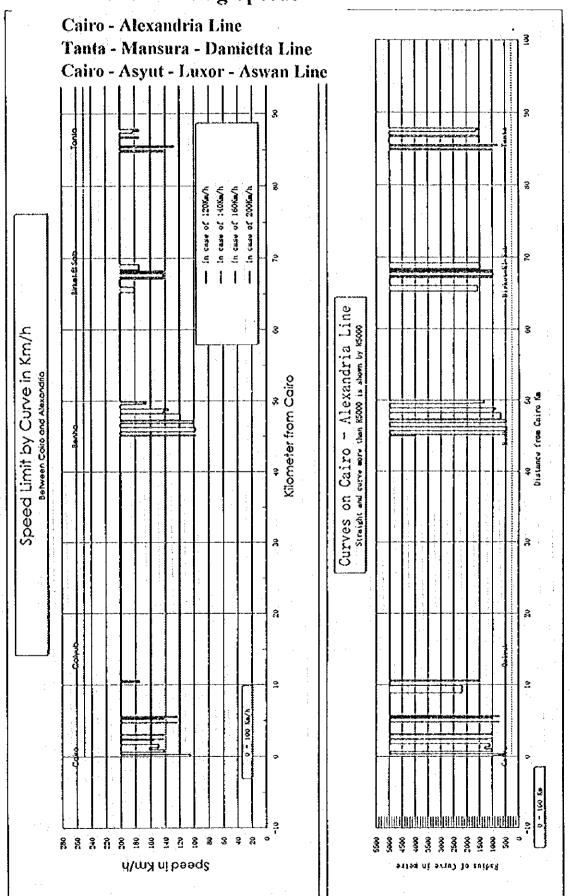
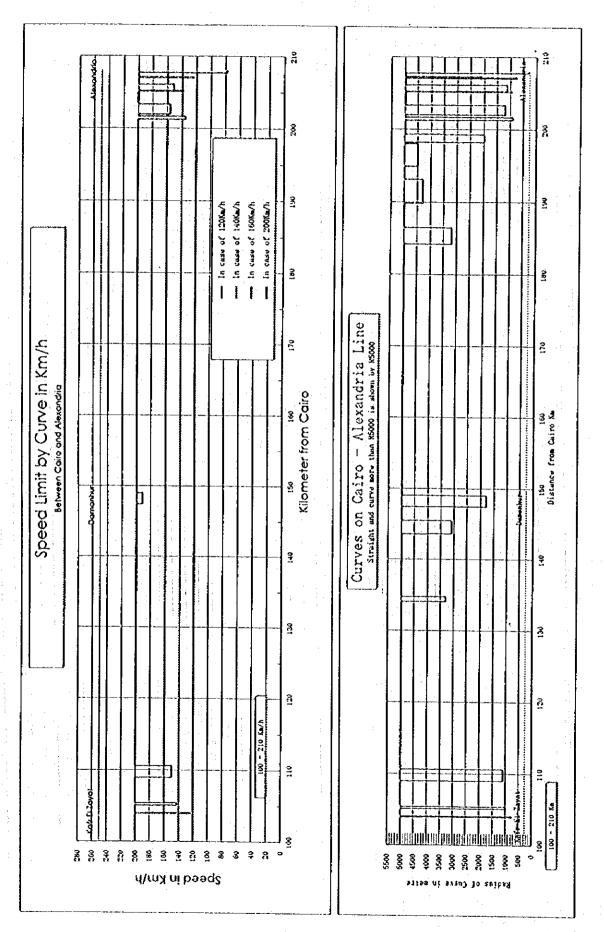
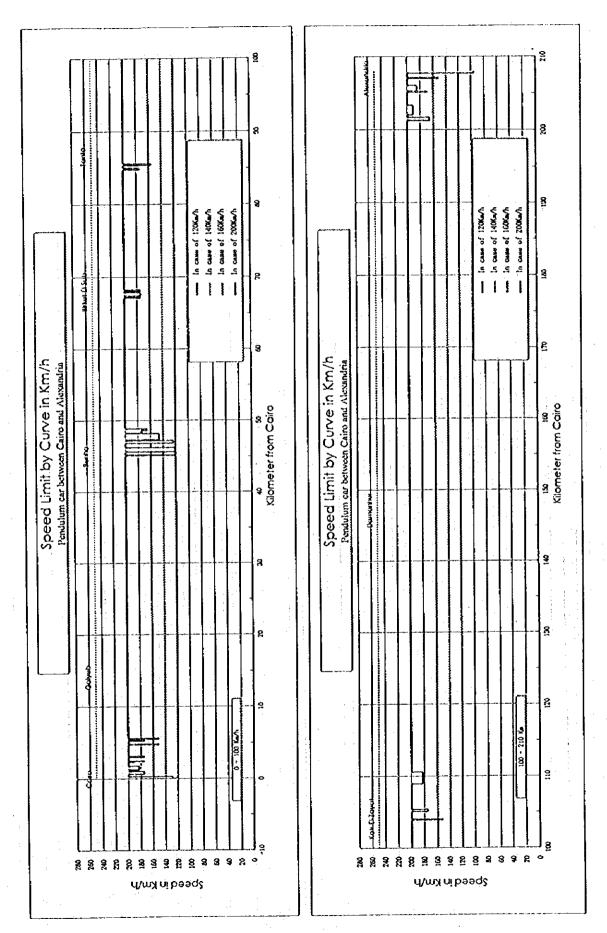
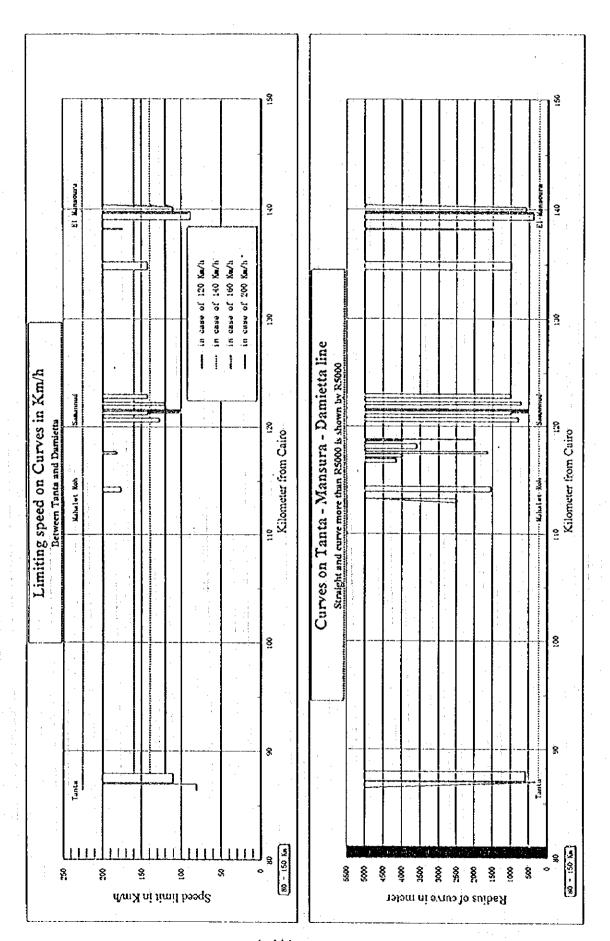
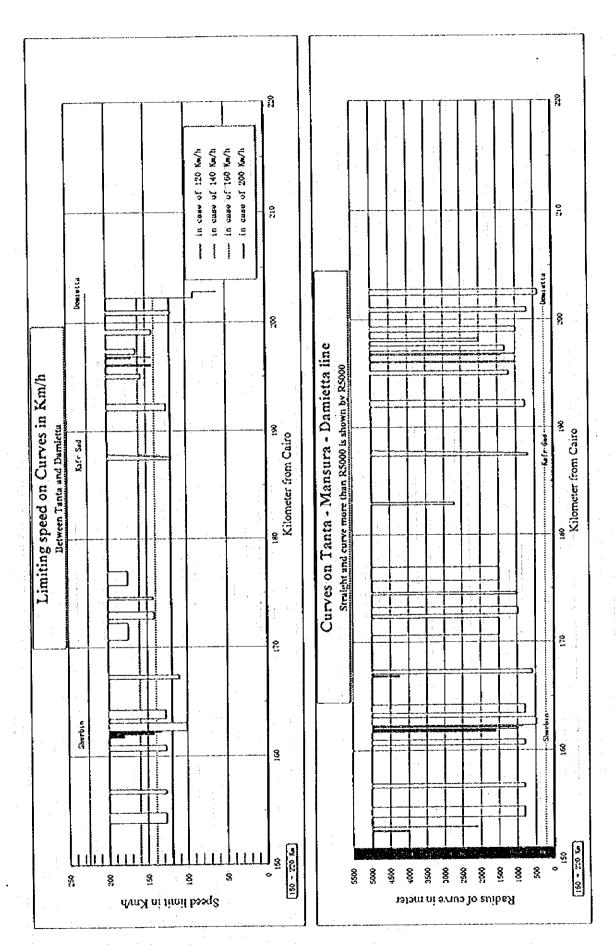
Curves and Limiting Speeds

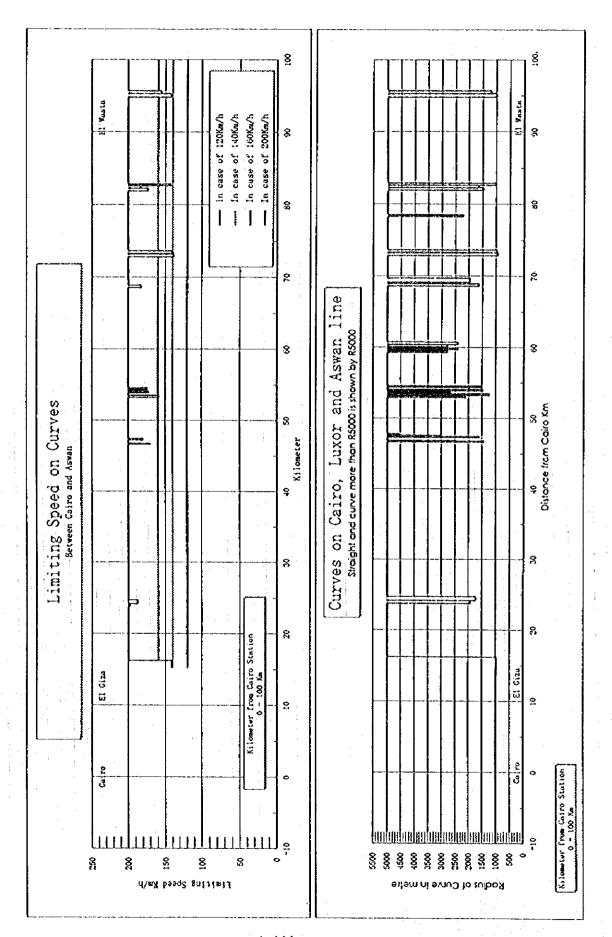


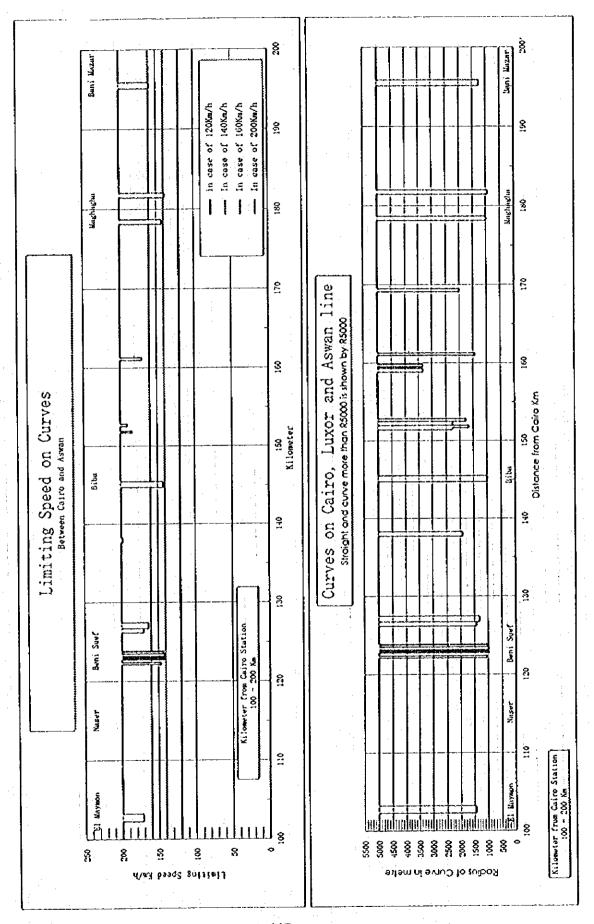


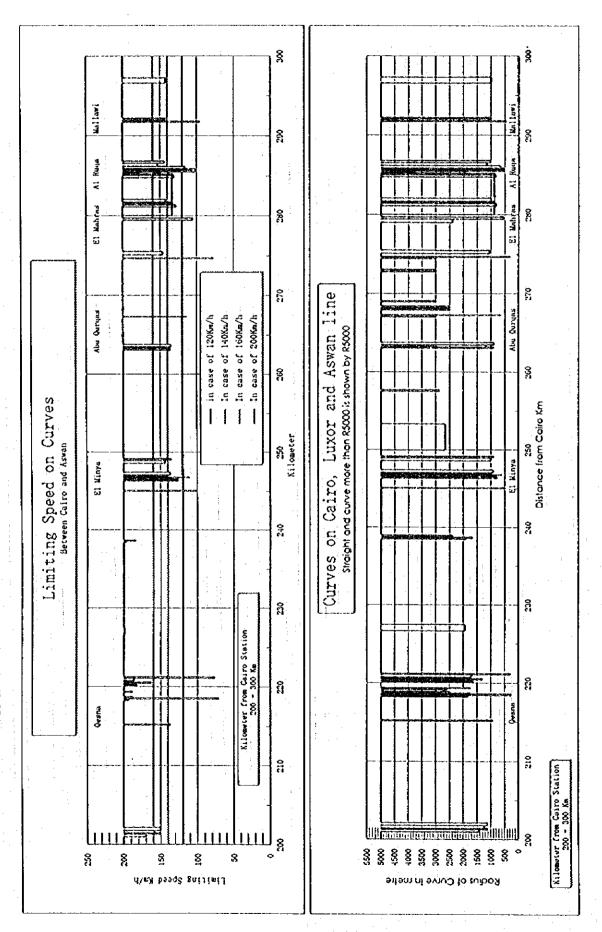


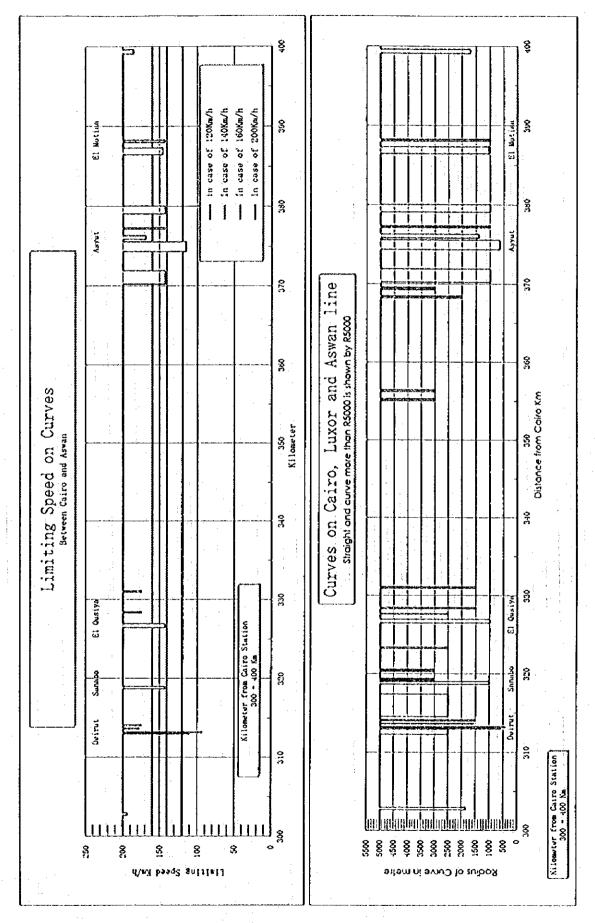


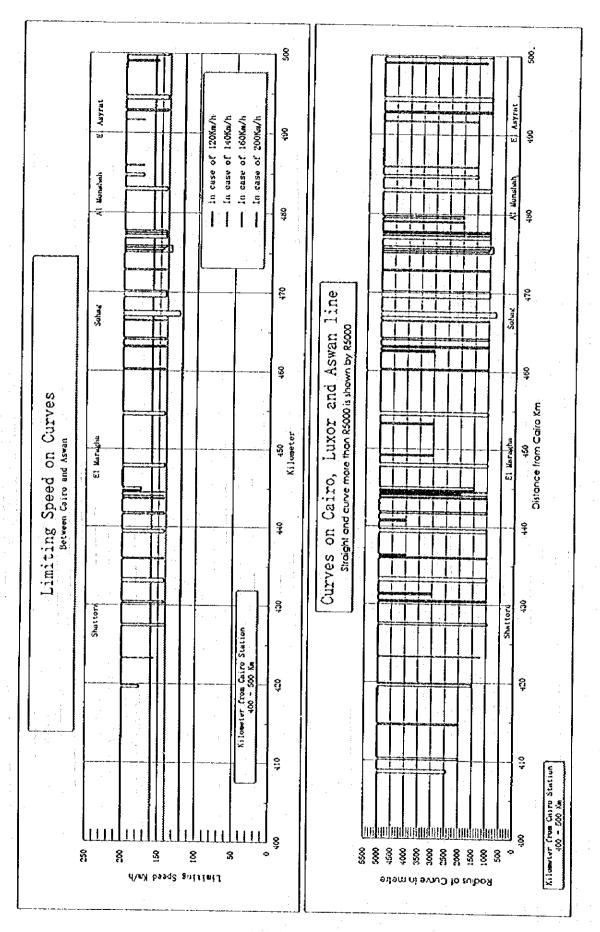


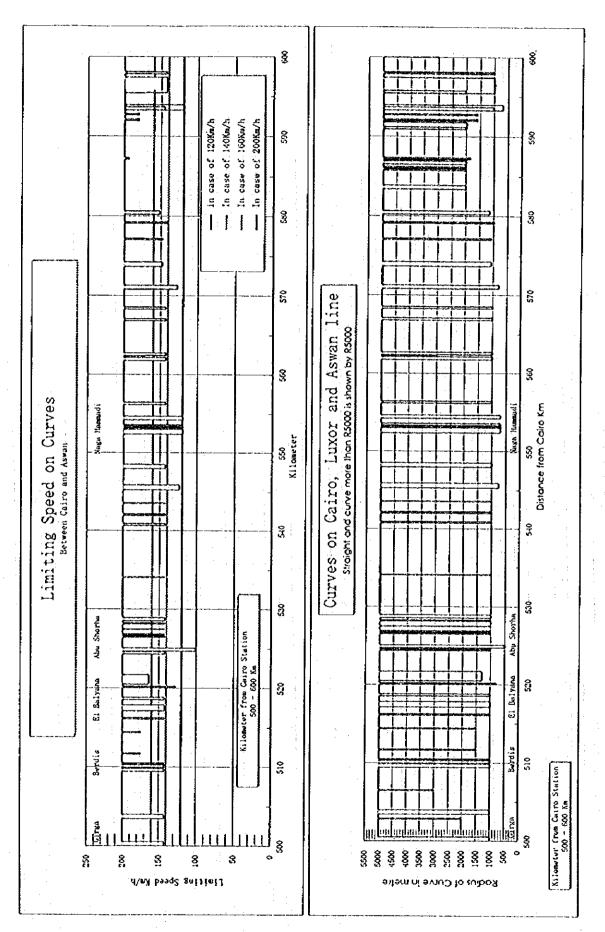


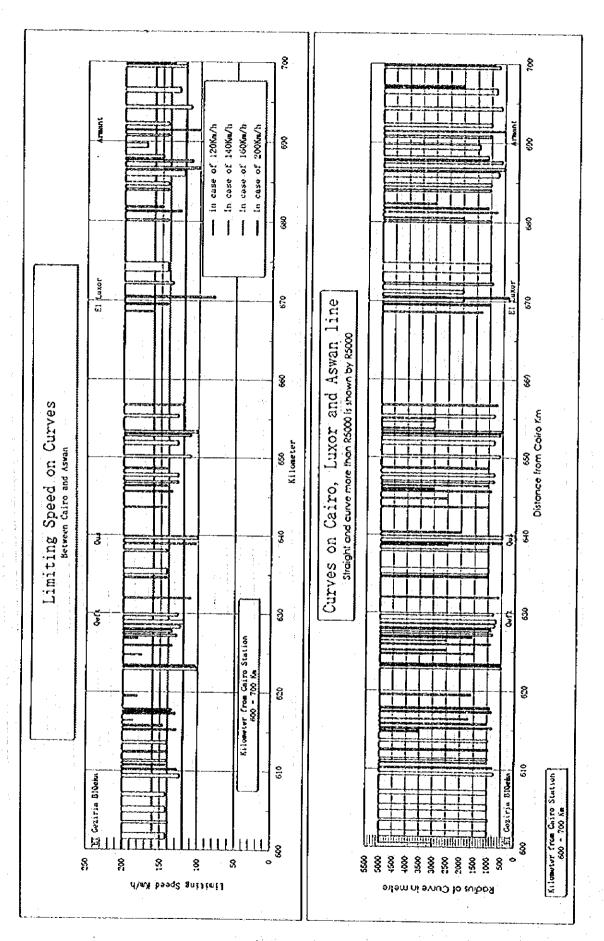


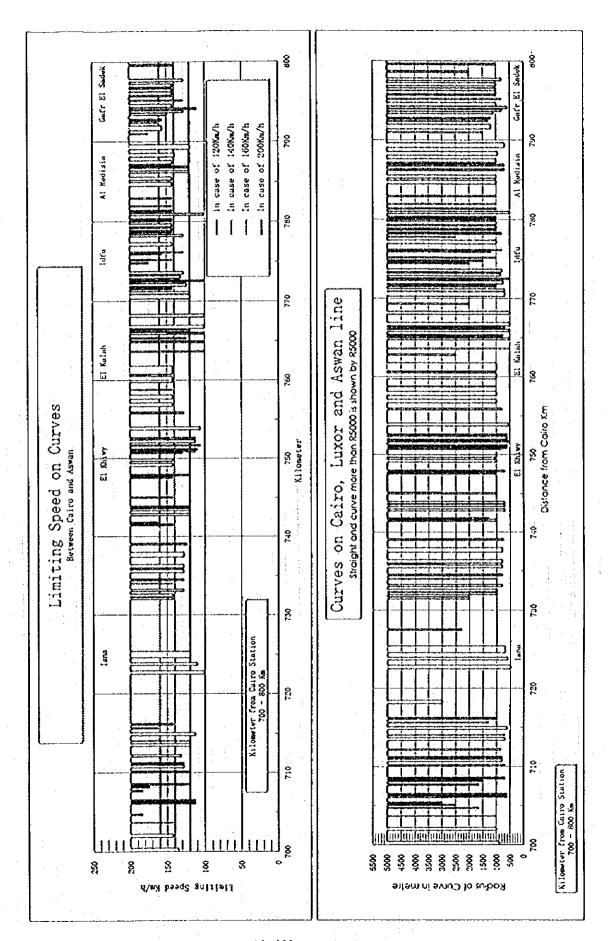


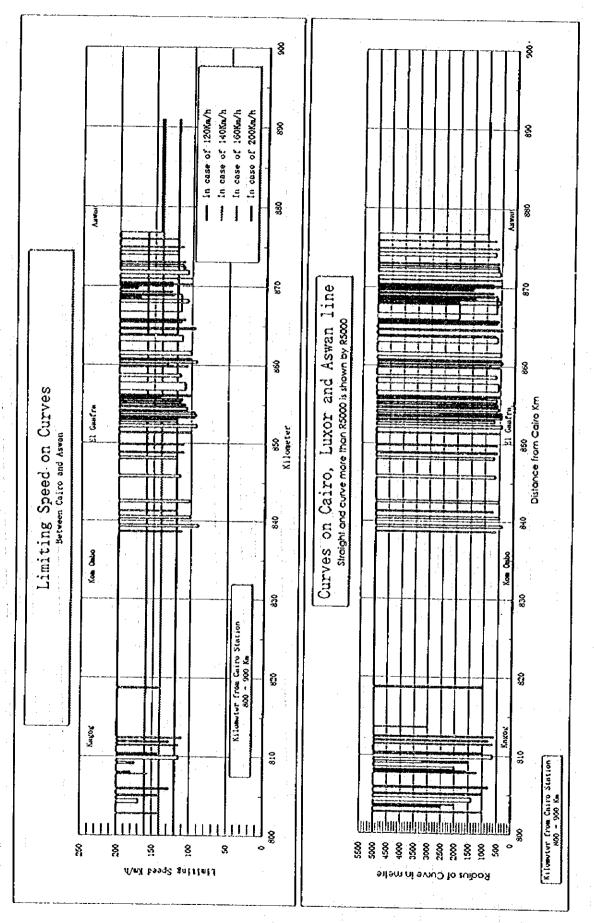




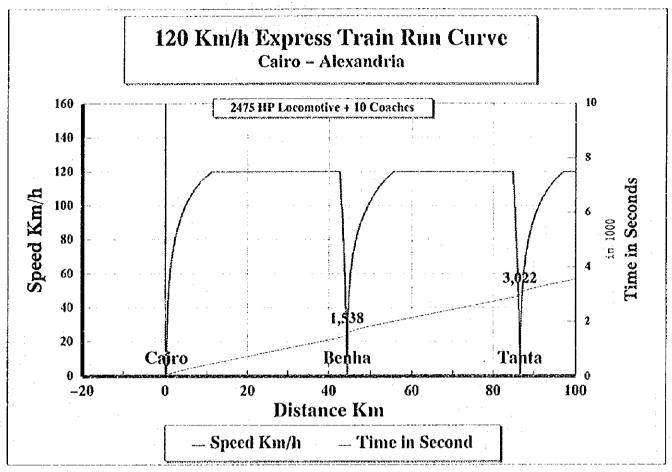


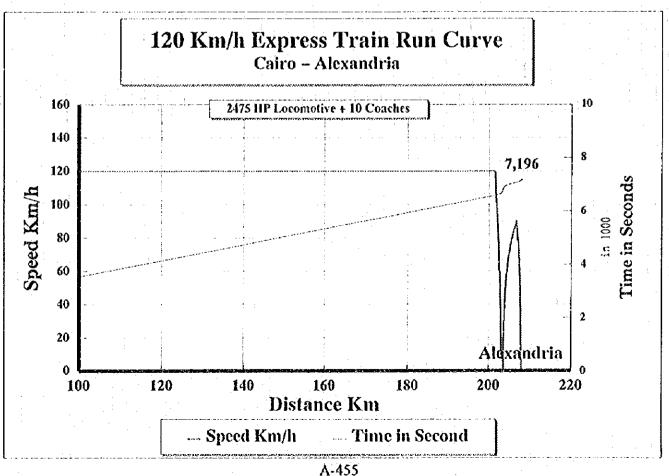


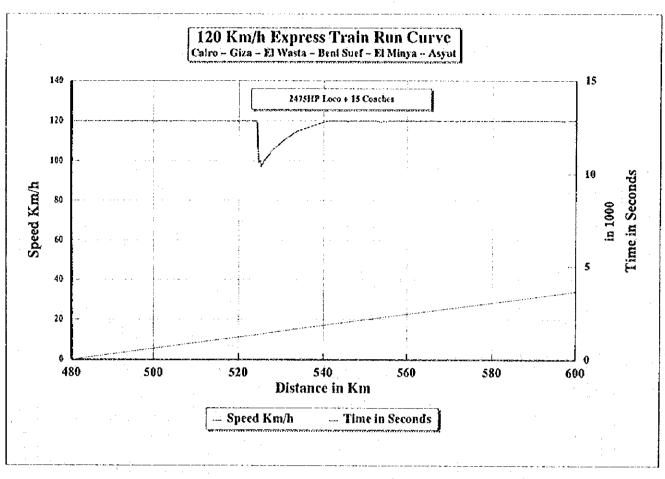


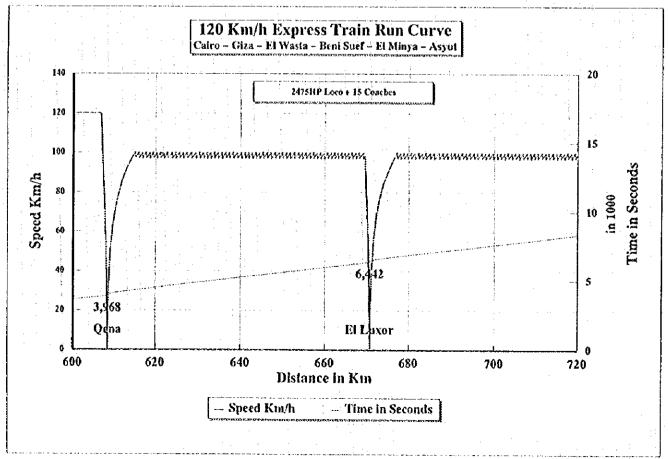


Appendix 7.4
Simulation of Train Running Curve

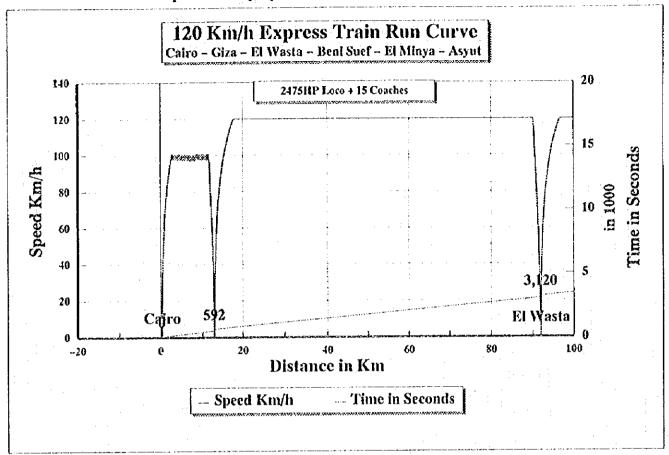


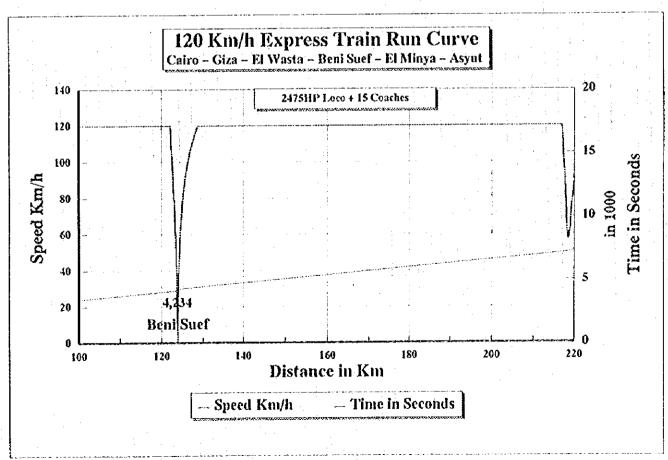


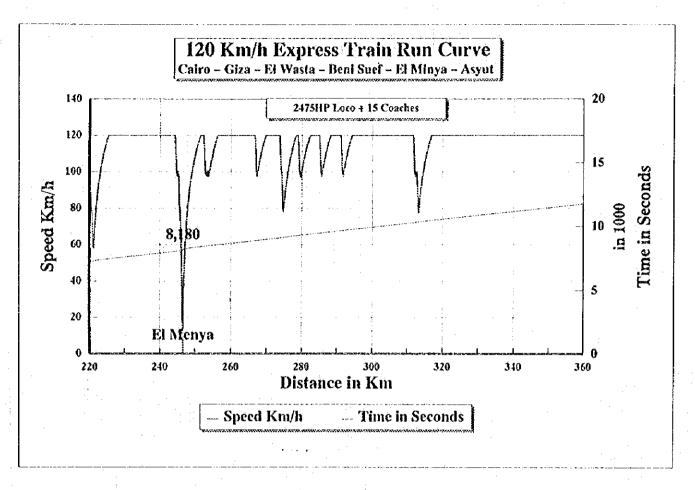


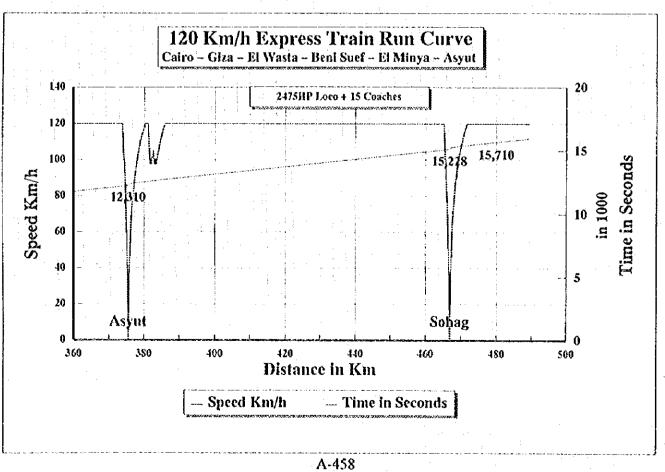


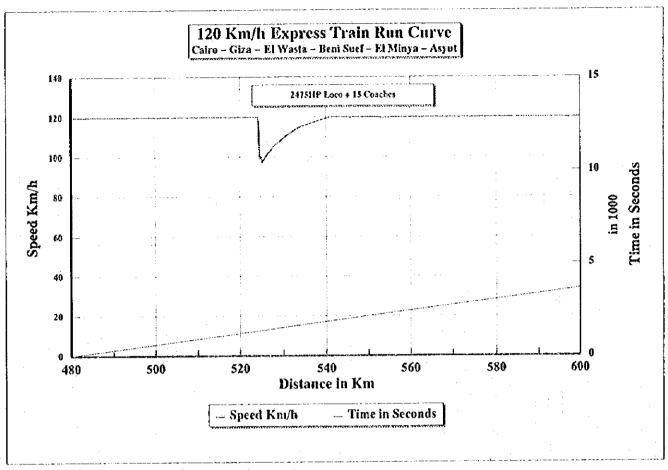
Express Train of 15 Coaches hauled by 2475 HP Locomotive In case of 120 Km/h operation by speed limit

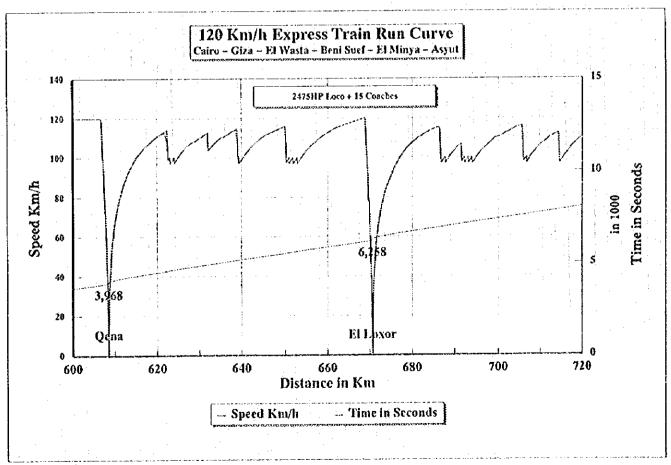


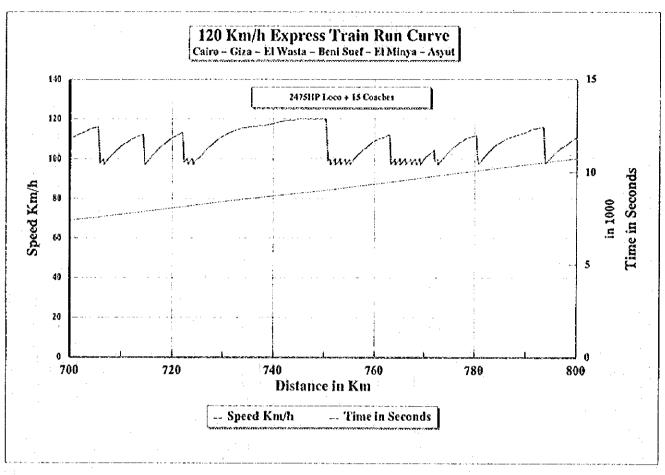


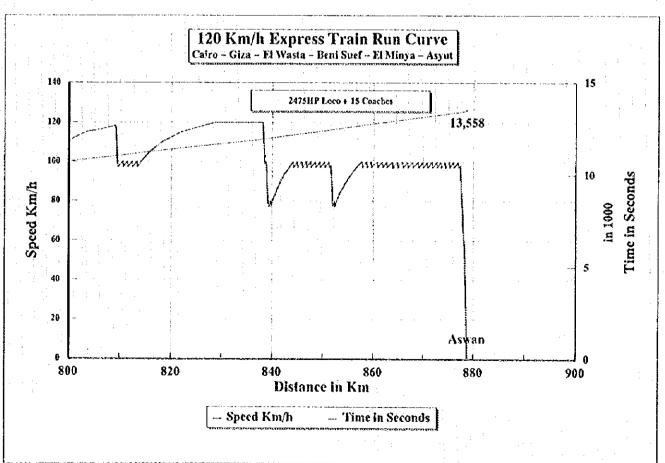




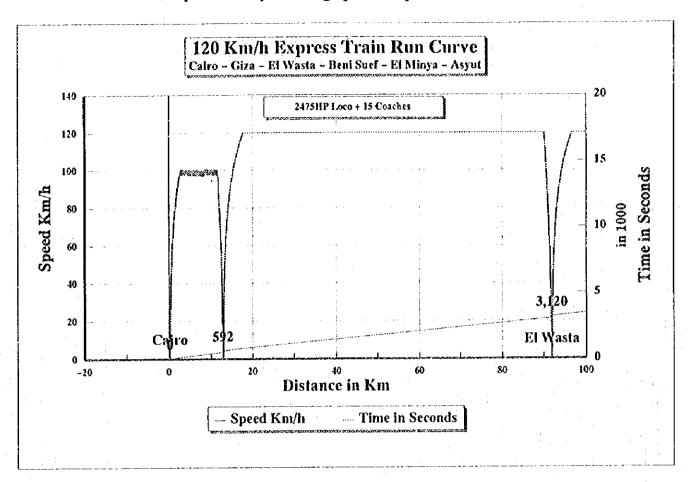


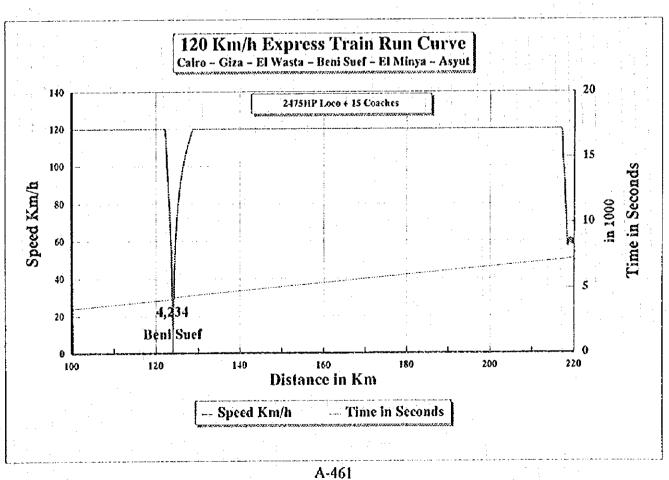


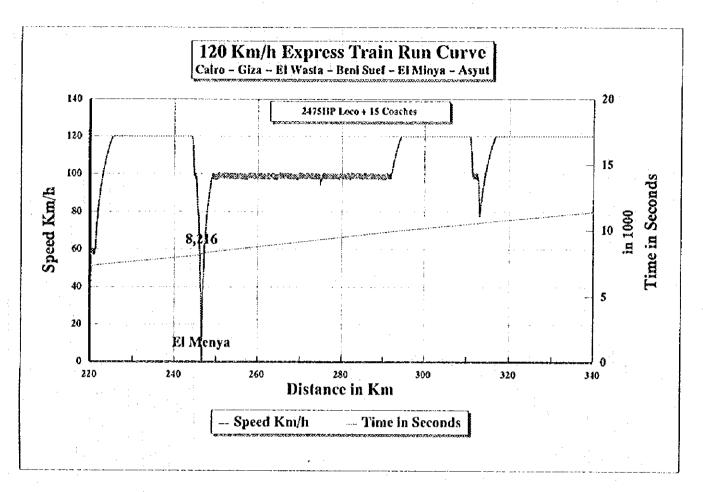


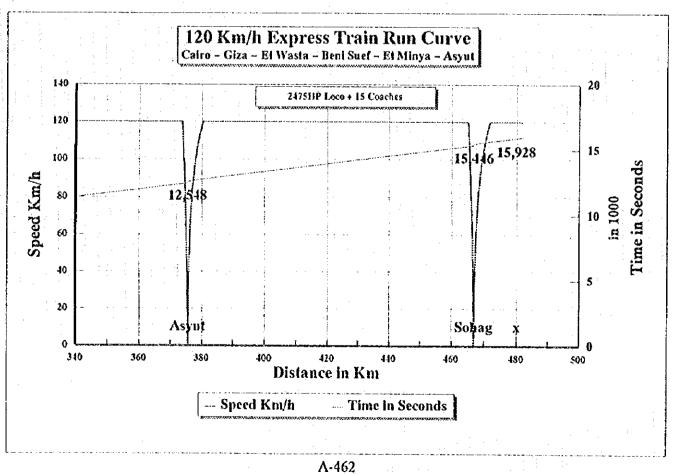


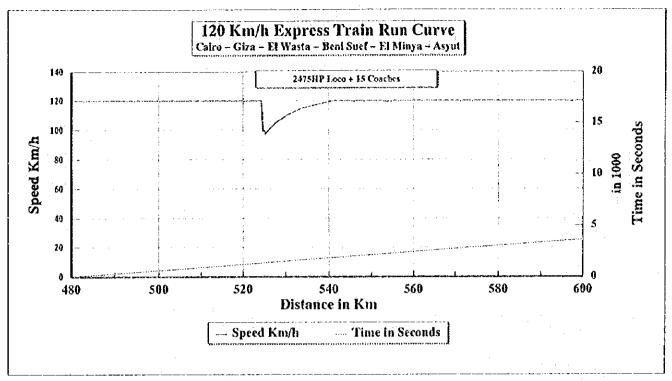
In case of 120 Km/h operation by limiting speed on partial sections

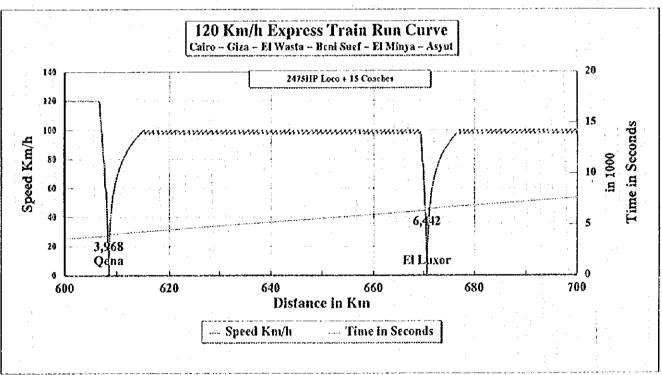


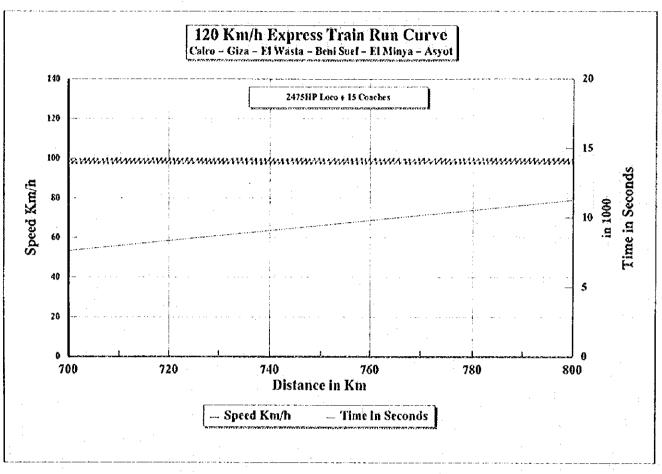


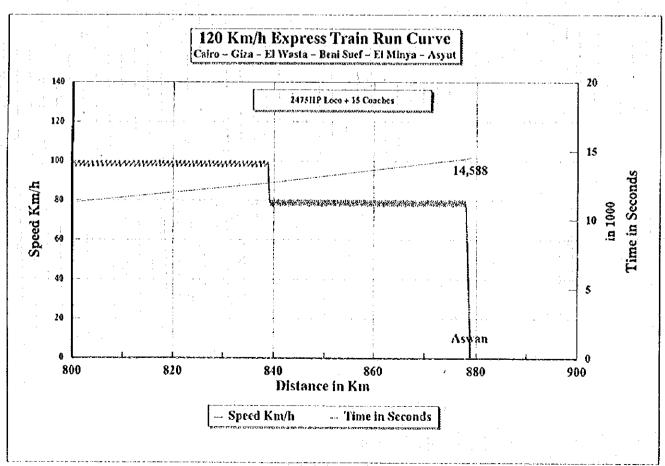












Survey Sheet
Interview
ailway Passenger
pendix S 6. 1. (1) Raily
Ap

SHEET NO.	Thinking about all the transport mode that.	VAW 1160	First Alternative	Second Afternative
DAY: DATE: MONTH:	you can use for the same travel you can use for colouring are going to 60, pleasar anewer the following questions.	CHARGO		
RECORDED BY:	Please seried one choice of all the other allerne, the transport mode that you can vee for the 1 summerrane you are dong today despite.	You choose the railway today.	1, No. Attennative 2. Bus	2. Shared Tad A. Private Car
ORIGINATED STATION OF THIS TRANS. DESTINED STATION OF THIS TRANS. DEPARTURE TIME:	Here you share to don't be the same trained of today?	1, Yes How many brees did you Live the raining ourng the pest One month? 7	1, yes How many times dd you Lee the but caring the are the rite for 1	1, Yee 2 Mo from many times did you use first List during the pale one month 7
NO. OF	Please arount the departure but terrinal 3) and the tast spot that you usual/possibly Luss for the same forms of locar.		Stabon	Tad god
3. Ordinary & Other			(John S. Colonia)	(Tak good
	5 How long is the travel time between the transformed about 100 to 100 t	hour manutes	1 hour mnutee 2 Don't snow	1 hour minutes 2 Dent know
COVERNORATE	(hierarce of partment)		5 mon. d. 9 mon. e. 12 mon. e. 2,000km, b. 3,000km	km. c. 5,000km. e. 10,000km. 6,00ke
ORGINATED CITY:	How much is the normal travel late for the section of the section	E. pound/person	1 E. poundiperson 2 Dentishow	1 E. poundperson 2. Don't know.
		1. Averable Al Times	5. Conven	ands with regard to tame table and transferring to other tran of modes.
DEPARTURE STATION	to decide to use the railway as the transport mode for the same travel of today ?	2. Travel Cost (the cost a responsore in comparator 3). There is no other alternatives. 4. Travel Three the travel time is faster and suitable.	Î	. Confort (meet, air conditioning, no amoting car, , lass bumping and etc.) 8, Onean
ARRIVAL STATION	How would you	! 1[# # [
DESTINED GOVERNORATE:	transport mode for the 2, Travel Time same travel of today		11	Fund faces footway
ופונא נ	with respect to each 9 of the usted dema? 3. Convenience of	-]!];	
TRIP PURPOSE (Please solect one purpose) 1, Home to work B. Own business. 7. Work to home 9. Work to home		: [[]]		
7 t	that best describe of travel your opinion			_ [] 3
8, Other to work 12, Recreational 7, Shopping 13, Others	The state of the s	0	as C	
Outo Deconoral MATTER	Assume that all the conditions are the tame de-	1, 10% mare 2, 25% more 3, 50% more 4, 75%, mare 5, 100% more 6, Will use other mode	Please Anguer when you choose No. 6 1, Will use 2, Will not use	Section 1
	The maximum for feetway ? Please select the Order.	ŧ	First Atemative First Attendance	Second Attentitive Second Alenative
1, Main 2, Person	taw spot ?	K <	ie Car	2 private car 7, Vans 3, Lass 8, Cheru
	that you usually/pomed		4, bue 9, Don't know.	4. bus 9. Dan't know 5. transcer
2. Farmer of a service 3. Farmer of a service of a servic		,	1. walk 6. subway 2 private dat 7, tran	1, wask 6, subwey 2 private car 7, than 3, than
4. Selfbusinese (peddier, etc.) 8. Employee (secondary industry)	12 Please answer the major transport mode that you usually/possibly use from the arrival station/lenning.	A.bus 9. Don't know		
E. Employee (tertary Industry)	place to the departure station/terminal/axi apol ?	S, trem car	5, Vam car	
7, Covernment official 8, Studente: 9, Other(Now much was your income per month?	13) How much is the usual travel cost from the ongo, place to the departure station/leminal/ [tail spot ?	E. staundriserson	1 E. poundiperson 2. Don't know	E. poundiperson 2 Don't trades
1, 2, 3, 4, 5, 6, What is the total household income per month?	14. How much is the usual treve cost from the enfinal stational spot terminal to the final destination ?	1 E paindiperson 2 Don't know	E. poundberson 2. Don't know	1 E. poundiperson 2. Don't know
1, 2, 3, 4, 5, 6, 6, 2400 CAR OWERSHER SAFE	15, How much to the usual traves time from the origin place to the departure station/laminal/aut oper 7	hour manutes	1 hour minutes 2 Dentitinow	1 hour menutes 2. Don't brider
PRESENT PROVINCE:	16 How much is the usual travel ume from the entire istabilities that spot to the final destination?	hour minutes 2 Don't know	1 hour munutes 2, Don't know	1 hour manutes 2, Don't know
RESIDENCE (DISTRICT)				

Appendix S 6. 1. (2) Railway Passenger Origin Destination Survey Sheet

DAY:	DATE:	MONTH:					SHEET NO.
RECORDED BY:			· · · · · · · · · · · · · · · · · · ·				
ORIGINATED STA	non of this ti	RAIN:					<u> </u>
DESTINED STATIC	N OF THIS TRA	N:					
DEPARTURE TIME	.	AM/PM;			· · · · · · · · · · · · · · · · · · ·		
TRAIN NO.:		NO. OF TRAIN	CARS:				<u></u>
TYPE OF TRAIN: CLASS OF SEAT:	1. Turbo		Exp. Markaz 2nd,A/C	4. Ordinary		A 14-15-1	<u></u>
TOTAL NUMBER OF			2110,A/C	4. 1st	5. 1st, A/C	6. Unified	
NUMBER OF INTERV	IEWED PASSENG	ERS IN THE CAR:					1
TRAVEL ORIGINATED PLACE	GOVERNORA	TE:			·		
DEPARTURE STATION	MARKAZ:		·				<u>-</u>
ARRIVAL STATION							
DESTINED PLACE	GOVERNORA	TE:	·	· · · · · · · · · · · · · · · · · · ·			·
	MARKAZ:						
How much is the nor Seasonal ticket ?	mal travel fare for Y N	the each transport	modes ?		E. pound		
Kilometer ticket ? How long is the usua	Y N	from the origin pla	va to the departs	ira stationde	rminalitari snot?		hour minutes
How long is the waith			hour	minutes		<u></u>	
How long is the trave	time between the	station/terminal/ti	xi spots ?		hour mir	iutes	·
How long is the usua	l travel time from t	he arrival station/t	erminal/taxl spot	to the final d	estination ?	hour	minutes
TRIP PURPOSE (Ple	asa select ona pur	pose)		:		· · · · · · · · · · · · · · · · · · ·	,,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,, ,, ,, ,
1. Home to work 2. 8. Own business 9. I	Work to home 3. I	formato school 4	School to home	5. Other to	home 6. Other to	o work 7. Shoppi	ing
	R PERSONAL M	4. 1. 1. 1.	Personal and St		12. Recreational		<u> </u>
'00'	i i i i i i i i i i i i i i i i i i i						
		, Others , Female	*	•			
Aga:	. 1872:05	_years old					
Type of Job: 1. Unemployed 2. H	oueauda 2 Force	roched lichamae	. A Colf buelone	e (naddice of			
5. Employee (second						S	
9, Other					·		
How much was yo	nt jucome bet w	onth?					
1. 2. 3. What is the total h	4. 5. 6.	ner month 2	 				
1, 2. 3.	4. 5. 6.	pos monas r			_		
CAR OWERNERSHIP:	No Car 1 ca	r 2+cars					
PRESENT	GOVERNOR	ATE					
RESIDENCE:	MARKAZ						
What is the method			······································				
1, Ticket 2. Cond	[nal] I month [] 6 month [] 12 month]3 month []9 month [1. Kilometer 2,000 5,000	3,000 3,000		
l		·				-, 	

Appendix S 6. 2. (1) Bus Passenger Interview Survey Sheet

DAY: DATE: MONTH:	Theraing about all the transport mode that you can use for the same trains to the confident of the same trains the tollowing questions.	s na	First Alternative	Second Alternative
RECORDED BY: SIYE:	Please select one choice of all the other allerne- tive bransport mode that you can use for the 1 serne travel you are doing today despite offerent travel conditions (one intra-etc)	You choose the bus today.	1, No. Memetive 2. Refusy	3. Shared Tad 4. Physia Cer
DESTINED PLACE OF BUS: OEPARTURE TIME: AMPH	Have you ever used the other attentione. It benoon node for the series traves. Of today 7.	1, Vee How many times dd you one the terminary during the plast one month ? the second times	1, Yes How many times did you use Just but a during the one month ? drives	1 Yes 2 No Hos many times dd you use the task dufting the past one morth??
	Please alrever the Departure reversy station 3 and the tax spot that you usually/posebly use for the same traver of locky.		NOTERS.	Там врск
1, Bigliong detends) 2, Ordinary 3, Minbus Class of tide 1, Detent 2, Express 3, Ordinary	Please an aver the arrival rainess station 4 and the tax soci that you usually possibly use for the serve travel of today.		Station	Test epot
STABONBACO	the statistics stemmingstand words to the statistics stemmingstand words to the statistics of the stat	hour minutes 1. Carn 2. Conductor 3. Sessional 4. 1 mon. 1b. 2 mon. c.	1 hour minutes 2 Dant lateur 1 4 fullameter 4. Fullameter 4.5 mon. 4.9 mon. 4.2000m. 5.3000m.	1 hour minutes 2 Don't know 5. Private Car Use 10.000km. 6. 00mer 6. Other
TRAVEL ORIGINATED PLACE	7 How much is the name revellers for the section than section that and the section that the section is the section that the se	E. poundiperson	E. poundiperson	E. pound/person
DEPARTURE STATION	6 Virtual of the lated are dominant research to decide to use the type as the transport mode (for the sample toward of folday ? Present most review has one items	1. Avelable Al Times 2. Trevel Cost (the cost is casednable in combartion 3. Three is no other services with the cost of the c	5. Convenience with regal in compatition with other modes) 6. Sale. 7. Convenience and convenience of convenience and convenience and convenience and convenience of the convenience and convenience of the convenience and co	5. Convenience with regard to time table and transferring to other train or modes. 5. Safe. 7. Confort (seed, air conditioning, no enquing car., less bumping and elc.) 6. Others. 6. Others.
STATION STATION DESTINED COVERNORATE PLACE CITY	-, 4	} <u> </u>		
TRIP PURPOSE (Please select one purpose) 1, forms to work 8, Own business, 2, Work to home 9, Employer's business 3, forms to action 10, Officials 4, Stored to home 11, Personal and Social 5, Other to work 11, Personal and Social 7, Stoopping 13, Others	9 of the listed fama? 3. Conventioned of frequency peases mark			
YOUR PERSONAL MATTER	Assume that all the conditions are the service as 10 the present, how much are you willing to pay at the maximum for the 7 Places assert one choice.	1. 10% more 2. 25% more 3. 50% more 4. 75% more 5. 100% more 6. Will use other more 7. Will never use and mode	are unen you choose No. 6 2, VM not use musive. Fing Alternative	Januar whan you b Of Alemadore
Nedonality; 1, Egypten 2, Others Sect. 1, Male 2, Female Append 2, Female Append 2, Female Append 4, Male 2, Female Append 4, Chemipleyed 1, Chemipleyed 4, Chemipleyed 5,	How so you come to the depance statecharmal that spot? 11 Research the mujor transport mode in you usually toestly use from the origin place to the opportunities instructional raise spot.		1, waik 2 private car 7, fram 2 private car 7, fram 3, task 4, bue 9, Don't know 5 fram car	1. walk 2. private car 7. Usen 3. chan 6. bis 5. Usen car 5. Usen car
2. Houseworks 2. Ferman cylinds deharman 4. Saiffourness (peciding, etc.) 5. Employee (excondary) industry) 6. Employee (excondary) industry) 7. Employee (secondary) industry)	How do you go to the destination blaze from arrived terminal/kaonikas agod 7. 12. Please answer the major transport mode that you usually/possibly use from the emval autoin/kammal place to the departure station/kammal mode.	L walk G albusy 2 private car 7 train 7 train 4, bus 9, Dent know	1. walk 8. autoway 2. powde car 7. fram 2. tau 6. cohen- 4. bus 9. Don't know 5. fram car	1, water 6, exchange 2, private car 7, year 3, taxt 6, 00 ever 6, 00 ever 6, bus 5, train car 5, train car
7. Government official 8. Skuderna - 6. Other() How much was your income per month?	13 How much is the Visual Vavial cost from the origin place to the departure stabon hamminal/ tac oper ?	E. pointiperan	1 E. poundourson 2. Don't know	1 E poundiparson 2 Don't snow
1, 2, 3, 4, 5, 6. What is the total household income per month?	14 How much is the usual travel cost from the arrival statement to the final destination ?	1 E poundiperson 2 Don't lance	1 E. poundiparien 2. Don't know	1 E. poundbarson 2 Don't brow
1, 2, 3, 4, 5, 6, CAR OWERNERSHIP, 1, Zaro Cer 1 cer 2 +cere	15 How much is the usual travel time-from the chigh place to the departure station/erminal/aut apot ?	hour	1 hour minutes 2 Contiknow	1 hour minutes 2. Don't know
PRESENT GOVERNORETE: RESIDENCE ; CITY	16 How much is the usual travel trainform the armusi station/eminalflax; spot to the final desiruation ?	hour menutes 2. Don't strow	1 hour 2. Don't know	1 hour manies 2, Oort know

Appendix S 6. 2. (2) Taxi Passenger Interview Survey Sheet

DAY: DATE: MONTH:	Thinking about all the University mode that you can use to the sense travelyou "" are going to do, prease answer the rotowing questions.	SHARED TAXI	Firet Alternative	Second Alternative	
RECORDED BY: SITE:	Please assets one choice of all bis ober allena- tive trespor mode that you can use for the same travel you are dong today despite off arent travel conditions (one) and etc.	You choose the taxt today.	1. No. Alternative 2. Rativery	3. Sus	
DESTINED PLACE OF TAXI: DEPARTURE TIME: AMPM	Have you ever used the other attending 2 transport mode for the series travel of today 7	1, Yes How may times dd you une the callage during the plate une month ? three	1, Vac How many times did you use the bus during the one month: 7	1. Verr 2. No. How many times dd you use the Last curing the pear. the month ?	
NAME OF TAXI TYPE OF TAX	Please answer the departure transitiation and the bus terrieral that you usually/possibly use for the same travel of foday.		Chalch	, T	Tax spoc
1. Biglong distance) 2. Ordinary.	Please answer the server rates y station A and the bue terrained that you usually possibly live for the same trained of locksy.		(Metalon)S	7	Tax apor
	Sylve interest of the balance of the state o	hour minutes	hour menuta 2 Don't know A, Allometer	1 hour minutes 2. Don't to	Cont mos
GOVERNORATE:	(Method of payment)	4 I mon. b.2 mon. c.6 mon.	non, d.9 mon. e. 12 mon. e. 2,000km, b. 3,000km,	Oum, c.5,000icm, e. 10,000icm, 6,00em	
ORIGINATED CITY:	/ How much is the normal traval lare for the each transport mode ?	E poundipurem	1 E poundipareum 2 Don't know	1 E. poundberson	2. Don't know
DEPARTURE	6 Which of the listed are dominant resignation to to decide to use the task as the transport mode.	Times (the cost is reasonable in comparison	5. Convenience with reg	Convenience with regard to time table and transferring to other train or moder Sales.	or modes.
	for the same travel of today?	mathem. Himsespingtor and suitable	7. Comfort (seed, air con your travel purpose) 8. Others	ditioning, no ambling car. , less bumping and etc.)	 ਦੁ
APRIVAL TAXI SPOT DESTINED GOVERNORATE:	How would you want don't have come would you would be about the same about to be 2. Travel Three same trees of follows.	101			3.∭ 3
out.	9 of the listed starte ? 3, Convenience of	[]]			<u>.</u>
<u> </u>					
6, Other to home 8, Other to work 7, Shopping 7, Shopping 13, Other	S. Safety) \$ a]	1 [
YOUR PERSONAL MATTER	Assume that all the conditions are the same as 10 the present, how much are you willing to pay at	3.50% 6.70% up	Please answer when you choose No, 6 1, Will use 2, Will not use	a answer when you choose No.6	
nathy: 1. Egyption 2. Others		5	Milye Firs	Second Alternative Second Atternative 1, wate; 6, subway	
1, Male . 2. Female yeure old	tax spot? 11 Presse answer the major transport mode. That you usually/possibly use from the origin.		5)	
1. Chamployed		3	A 20	ð	
	from arrival terminal-Matici-Asia spot 7. 12. Preses arraw the major transport mode that you	10 CBC	2, private car 7, train 3, taxi	2, private car 7, than 3, taxi.	
6. Employee (expendery industry) 9. Employee (tentary industry)	usually/possibly use from the arrival station/remained place to the departure station/lamines/aux spot ?	4. bus 9. Dant know 5. tram car	4, bus 9, Continuos 5, vam car	4, bus 9, Don't lines 5, yam car	Ц
()	15 How much is the usual traval cost from the congrit place to the departure stadon terminal/ tas spot 7	E. poundiperen	1 E. pound/person 2. Don't know	1 E poundperson 2 Do	2 Don't know
2, 3, 4, 5, 6, Is the total household income per month?	14 How much is the usual fravil cost from the antival. Itabon/kas spot termnal to the final destination ?	1 E. poundiperson 2. Don't know	1 E poundiparson 2 Don't know	1 E poundipareon 2.00	2. Dan't know
5. Car 7.cars	15 How much is the usual travel time from the crigin place to the departure station/terminal/taxl apol ?	Nour Manutae	1 hour minutes 2 Don't know	1 hour mayisse 2, Don	2. Don't know
PRESENT GOVERNORETE:	16 How much is the usual travel time from the arrival stationization apol to the final destination ?	hour rrentles 2. Don't knoe	1 hour merutee 2 Don't know	1 Nov minutes 2.00	2, Don't know

