

PAPER NO. 230

**THE SCENARIO OF PUBLIC
TRANSPORTATION IN KHUZDAR**

BY

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By

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1- ABSTRACT

During last 10-15 years the population of Khuzdar an important city of Balochistan has increased rapidly because of mass immigration of people from surrounding areas and the available civic facilities of this city not been expanded/improved with the same pace of immigration especially road network and traffic flow in the city. During course of time the mobility of people of this commercial and business centre has increased. The number of Motor Cars, Motor Cycles, Taxies, Wagons, Coaches, Goods Trucks has increased tremendously and side by side the traffic regulation in the city has been badly disturbed. This research study is made on existing scenario of public transportation mode within the city illustrating traffic volume at important intersection, traffic congestion / bottleneck, effect of irregular parking, census/volume of traffic at important intersections of the city. The findings of research provide proposals for proper regularization of city traffic.

2- INTRODUCTION

About 25-30 years back Khuzdar a valley in central Balochistan was gaining a shape of town/ city through settlement of people in clusters based upon cast, tribes, kins, religion, surname etc. come from villages situated in between series of hills in the vicinity. In fact Khatan River, a wide seasonal channel, runs through Khuzdar valley and the fertile agriculture lands along its banks is the main cause of settlement.

During 1980-1990, being divisional headquarter the offices of Federal and Provincial Governments, Autonomous Bodies and Corporations have been established. A number of residential colonies by Govt. and private organizations has been constructed..

Construction of Highway an important link of Khuzdar with Karachi and Quetta improved the movement of Merchants, Traders, Sellers considerably which gave boom to markets, bazars and business centres in the city. Old residential colonies, markets, bazars has been expanded, new ones constructed. Offices of Federal and Provincial Govt. as well as of NGOs has been increased.

Establishment of Cantonment, Engineering University, Govt., Degree College, Govt. and

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Private Schools made social development of this city.

A lot of mud houses transferred into concrete houses and still this transformation is continued. This rapid development of the Khuzdar city attracted the villagers in the vicinity and a mass immigration to the city held during 1990-2000 and is still continuous. This effected badly on the existing municipal/civic facilities among which the very vital and visible is the traffic system. There was a time when people of limited population walk along rough streets of this city of nearer boundaries. Afterwards donkey carts were brought for conveyance and goods transportation. At present the Private Motor -Cars, Taxies, Vehicles of Govt. Department, Pickups, Air-conditioned Coaches, Goods Trucks etc. run over internal roads of the city. This tremendous increment in vehicular traffic has been made during 1992-2000.

Today the congestion and bottlenecks of traffic at intersections, irregular traffic flow, unwanted parking on will and wish of drivers un-managed speed is very common.

Taking into consideration the unregulated disturbing vehicular traffic over internal roads of Khuzdar city. A research oriented programme has been designed to develop proposals for alteration/modifications /improvements in the existing traffic system and the road.

This paper provides a basis for further research in the area of Public Transportation for Khuzdar and other towns of Balochistan.

3- OBJECTIVES

Objectives of this research study are:

- A- To count vehicular traffic volume at important selected intersections of Khuzdar city.
- B- To make site observation about parking, congestion etc.
- C- To recommend solution to existing problems of traffic.

4- METHODOLOGY

- A- Manual counting of traffic by a group of final year students of Bachelor of Civil Engineering at BUET Khuzdar under the supervision of authors. (Continued for 10 hours from 8.30 AM to 6.00 PM) for one week of November 1999.
- B- Data entry on proforma Annex-C 1 - C9
- C- Physical site observation over intersections and portion of road between intersection.
- D- At each intersection the outgoing volume of traffic was counted that automatically defines incoming volume of adjacent intersection

E- Interviews with officers of local Town Committee and of local Police Department about available facilities and persons for regulation of traffic, present and future planning of road network in the city.

F- Analysis and conclusion.

5- SCOPE AND LIMITATIONS

Scope and limitations of research are given under:

A- Selected Intersections of Khuzdar city on the basis of physical observation during last 5-6 years. These are listed under:

- 1- Chamrok T-Section
- 2- D .C Office T-Section
- 3- Chandni Intersection
- 4- Siddique Akbar T-Section
- 5- Markaz-e-Azadi Intersection
- 6- Jillam Y-Section
- 7- National Bank T-Section
- 8- Sect-at Intersection
- 9- Gazgi Intersection

B- Counting of traffic is made from 8:00 AM to 6:00 PM. for one week of November 1999.

C- All findings and recommendations are based on average volume of traffic as well as physical site observations.

D- At each intersection outgoing volume of traffic was counted.

6- VOLUME AT INTERSECTION

See Annexure- A. C-1 to C-9.

7- VOLUME OVER ROAD SECTION

See Annexure —B.

8- SITE OBSERVATIONS

See Annexure-D

9- FINDINGS

Field data and site observation conclude the findings as under:

Fact finding field surveys, reflecting actual site conditions, has not been conducted neither by any Govt. Dept. nor by any NGO. Therefore the existing data of traffic volume and site environmental conditions are not known.

- Due attention for changes/alteration/modification/improvement in traffic system, based upon city expansion rate . not been paid by local Administration or traffic Police Department
- Planning is pre-requisite for any development. No specific planning, to cater for immediate needs as well as future expansion, is available with local administration.
- No traffic control system on regular basis. One person of traffic police stands at Seerat Intersection and one at Merkze Azadi, but in fact they do not have effective control over traffic.
- Sufficient number of persons in traffic police are not available to be deputed on all intersections.
- Improper parking by drivers on their will and wish without paying due attention over bottleneck/ congestion problem for rest of the traffic. In routine people park the vehicle over an intersection. The reason for undue parking are:-
 - 1- A restaurant operative all over the day.
 - 2- Stores' godowns of merchants (The goods truck park for a long time aside the road for unloading and loading)
 - 3- Most of the mosques of city are aside the main roads thus at prayer time people park their vehicles in an irregular manner without considering possible hindrance and congestion of traffic.
- No specified "Parking Areas" developed by the administration.
- Bottleneck of traffic because of insufficient road width related with the volume of traffic.
- Congestion of traffic at most of the intersections because of non availability of traffic police.
- Based upon average traffic volume (Annex C-1 to C-9).
 - Maximum volume of traffic (533) exist on road connecting National Bank and Seerat Intersection. See Annexure —B.

- Maximum volume of traffic (1056) at Markaz-e-Azadi intersection. See Annexure A, C-1 to C 9.

The main bazaar of the city is between Seerat and Markaze Azadi intersection where people walk Over the road in addition to vehicular traffic.

ANNEXURE-A

VEHICULAR VOLUME AT INTERSECTIONS
(Volume = Number of vehicles per hour)

A. Chamrok Intersection

| | |
|---------------------|--------------|
| Towards Quetta | = 168 |
| Towards Chandini | = 211 |
| Towards D.C. Office | = 99 |
| Total Volume | = 478 |

B. D.C. Office Intersection

| | |
|------------------------|--------------|
| Towards Chamrok | = 10 |
| Towards Siddique Akbar | = 162 |
| Towards Karachi | = 146 |
| Total Volume | = 318 |

C. Chandni Intersection

| | |
|----------------------|--------------|
| Towards Maraze Azadi | = 206 |
| Towards Khund | = 253 |
| Towards Govt. Colony | = 69 |
| Towards Chamrok | = 252 |
| Total Volume | = 780 |

D. Siddique Akbar Intersection

| | |
|-----------------------|--------------|
| Towards Markaze Azadi | = 65 |
| Towards Govt. Colony | = 56 |
| Towards D.C. Office | = 116 |
| Total Volume | = 297 |

E. Markaz-e-Azadi Intersection

| | |
|------------------------|---------------|
| Towards Gazgi | = 169 |
| Towards Seerat | = 249 |
| Towards Siddiqui Akbar | = 384 |
| Total Volume | = 1056 |

F. Jillani Y-Section

| | |
|------------------------|--------------|
| Towards Hospital | = 170 |
| Towards Town Committee | = 192 |
| Towards National Bank | = 183 |
| Total Volume | = 545 |

G. N.B.P. T Section

| | |
|------------------------|--------------|
| Towards Town Committee | = 176 |
| Towards Seerat | = 180 |
| Towards Jillani | = 243 |
| Total Volume | = 599 |

H. Seerat Intersection

| | |
|---------------------------|--------------|
| Towards Gazgi | = 294 |
| Towards Irrigation Colony | = 209 |
| Towards National Bank | = 353 |
| Total Volume | = 856 |

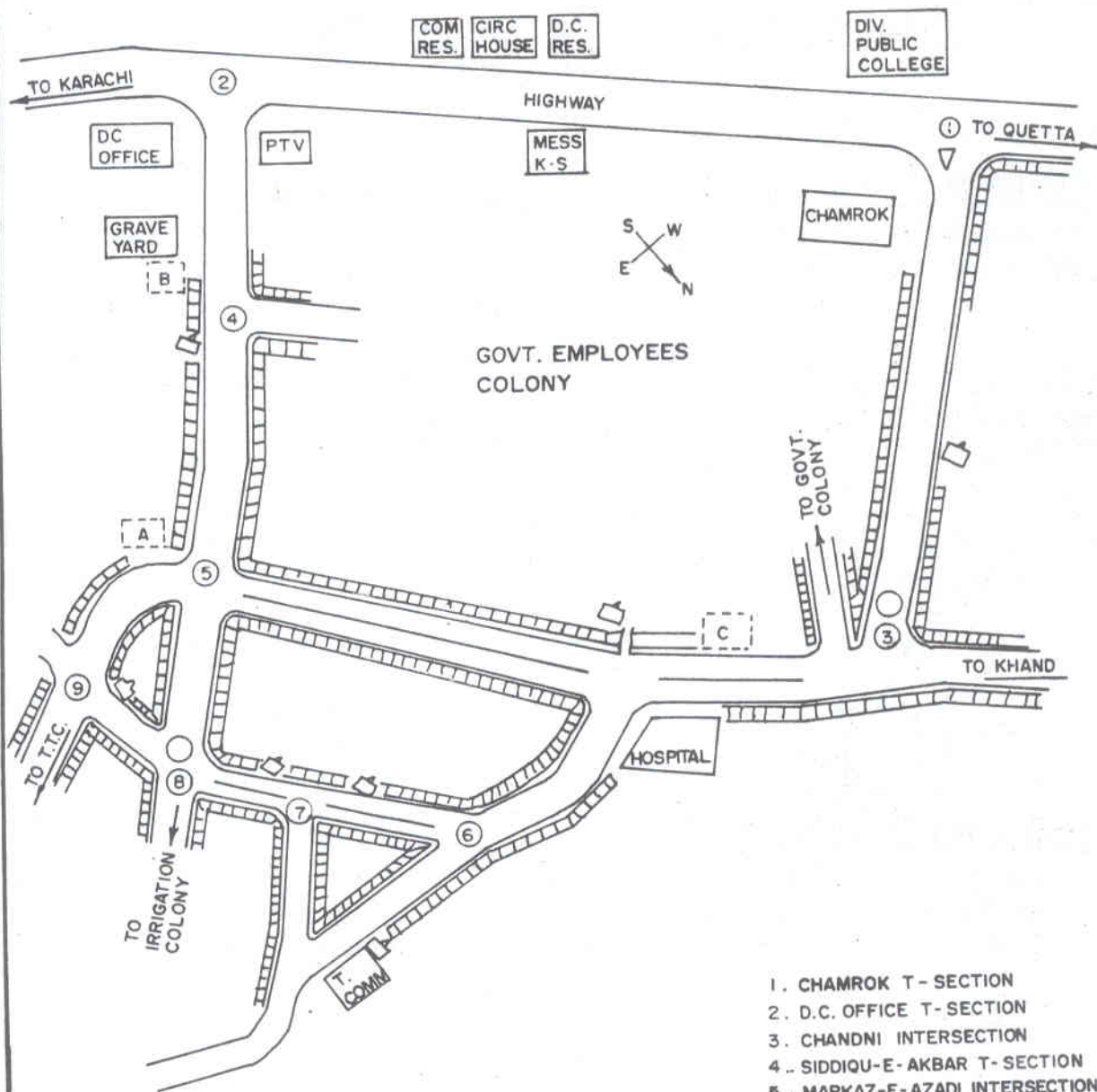
I. Gazgi Intersection

| | |
|-----------------------|--------------|
| Towards Markaze Azadi | = 81 |
| Towards Seerqat | = 93 |
| Towards T.T.C. | = 144 |
| Total Volume | = 318 |

A terminus for Buses. Coaches. Trucks. Wagons etc. "Jhalawan Complex" has been constructed.

10- RECOMMENDATIONS

- 1- Goods trucks be restricted to enter the city after 7:00 PM. loading and unloading between 7:00 P.M and 10:00 PM
- 2- The city is growing as a commercial centre therefore the number of vehicles will obviously increase and parking will simultaneously become more and more. Specific areas be defined as "Pat-king Area". Through charged parking a sufficient amount of earning will be received by the local administration. The proposed locations are given under.



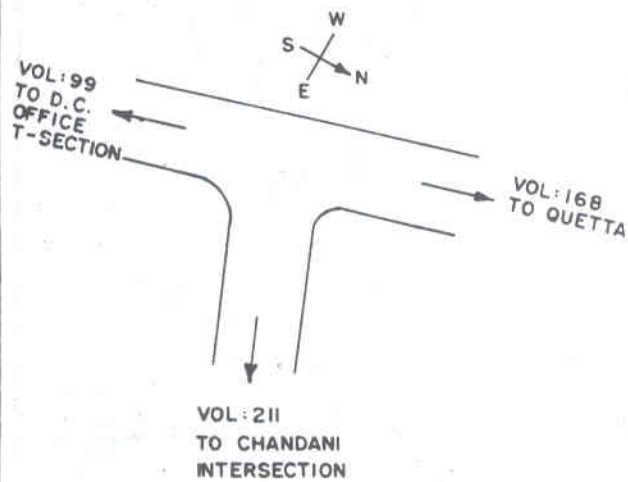
1. CHAMROK T-SECTION
2. D.C. OFFICE T-SECTION
3. CHANDNI INTERSECTION
4. SIDDIQU-E-AKBAR T-SECTION
5. MARKAZ-E-AZADI INTERSECTION
6. JILLANI Y-SECTION
7. N.B.P. T-SECTION
8. SEERAT INTERSECTION
9. GAZGI INTERSECTION

INTERNAL ROAD NETWORK PLAN OF KHUZDAR

SCHEMATIC VIEW OF INTERSECTIONS SHOWING
TRAFFIC VOLUME AND DIRECTION

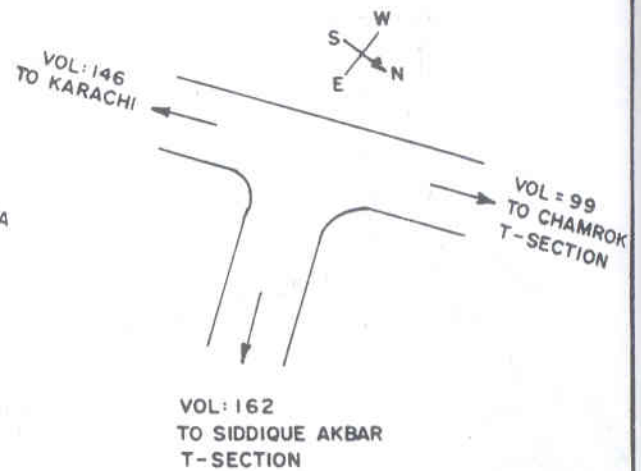
CHAMROK T-SECTION

FOR BEARING OF NUMBER OF VEHICLES
ANNEX-B 3-a



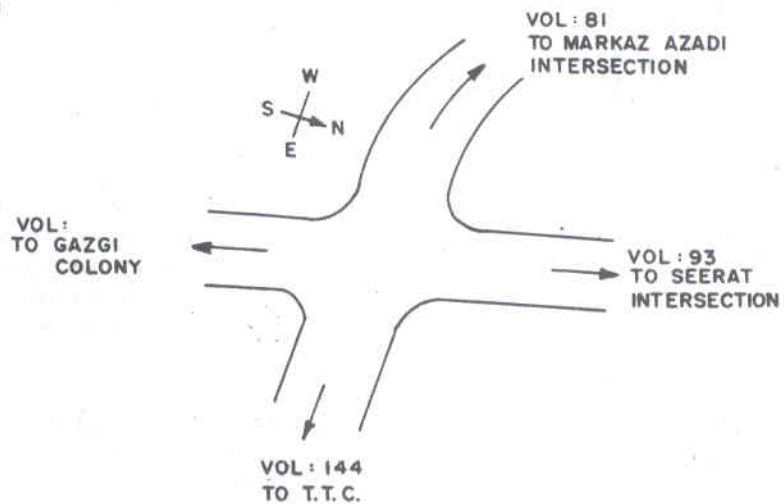
D.C. OFFICE T-SECTION

FOR BREAKUP OF NUMBER OF VEHICLES
ANNEX-B 4-a



GAZGI INTERSECTION

FOR BREAKUP OF NUMBER OF VEHICLES
ANNEX-B II-a



- i) Open space behind self made taxi stand, **location 'A' on map.**
 - ii) Open space adjacent to graveyard, location 'B' on map.
 - iii) 3- Open space opposite to hospital, location 'C' on map.
- 3- Parking he restricted on the roads of greater volume so that smooth flow of traffic may be achieved, like IVlarkaz-e-Azadi-Seerat, **Seerat — Gazgi, Gazgi-Markaz-e-Aiadi, National Bank — Seerat, Jillani- National Bank**
 - 4- Buses. Couches. Wagons, Trucks, Tractors etc. strictly be prohibited on the road between Seerat and Markaz-e--Azadi intersections.
 - 5- Number of constables in traffic Police Department are to be increased.
 - 6- A master plan he prepared for road development for a period of at least next ten (10) years showing phasing of implementation.
 - 7- The traffic data has been collected for one week of November. The data fOr other months of years also he collected therefore variation of volume due to seasonal changes also he noted.
 - 8- All heavy vehicles be restricted to terminate at "Jhalawan Complex".

11- **ACKNOWLEDGMENT**

The authors pay tribute to 4th year Bachelor of Civil Engg students(year 1999) specially Engr.Farooq Ahmed at BUET Khuzdar on counting the vehicular traffic at selected intersection Khuzdar city and assistance in setting up this paper.

12- **REFERENCES**

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ANNEXURE-B

VEHICULAR VOLUME OVER A ROAD SECTION

| ROAD SECTION | DIRECTION | | VOLUME | TOTAL VOLUME |
|---------------------------------|---------------|----------------|--------|--------------|
| | FROM | TO | | |
| Chamrok - D.C. Office | Chamrok | D.C. Office | 99 | |
| | D.C. Office | Chamrok | 99 | |
| | | | | 198 |
| Chamrok Chandni | Chamrok | Chamrok | 211 | |
| | Chandni | Chandni | 252 | |
| | | | | 463 |
| D.C. Office- Siddiq-Akbar | D.C. Office | Siddiq-Akbar | 162 | |
| | Siddiq-Akbar | D.C. Office | 191 | |
| | | | | 353 |
| Chandni- Markaz-Azadi | Chandni | Siddiq-Akbar | 206 | |
| | Markaz-Azadi | Markaz-Azadi | 254 | |
| | | | | 460 |
| Markaz-Azadi- Siddiq-Akbar | Markaz-Azadi | Siddiq-Akbar | 384 | |
| | Siddiq-Akbar | Markaz-Azadi | 65 | |
| | | | | 449 |
| Markaz -Azadi- Gazgi | Markaz-Azadi | Gazgi | 169 | |
| | Gazgi | Markaz-Azadi | 81 | |
| | | | | 250 |
| National Bank Seerat | National Bank | Seerat | 180 | |
| | Seerat | National Bank | 353 | |
| | | | | 533 |
| National Bank Jillani | National Bank | Jillani | 243 | |
| | Jillani | National Bank | 183 | |
| | | | | 426 |
| Seerat Gazgi | Seerat | Gazgi | 294 | |
| | Gazgi | Seerat | 93 | |
| | | | | 387 |
| Markaz-Azadi Seerat | Markaz-Azadi | Seerat | 249 | 249 |
| Jillani- Town Committee | Jillani | Town Committee | 192 | 192 |
| National Bank Town Committee | National Bank | Town Committee | 176 | 176 |

ANNEXURE-C-1

AVERAGE NUMBER VEHICLES PER HOUR

Location: CHAMROK T-SECTION
Period: One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10 Hours
 Daily
Vehicles per Day: Vehicles for 7-Days / 7 Days
Vehicles per Hour: Vehicles per Day / 10 Hour

Towards Chandini IntersectionTowards Quetta

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|---------|-------------------|------------------|
| 1 | Bicycle | 190 | 1 | Bicycle | 147 |
| 2 | Moto Cycle | 708 | 2 | Moto Cycle | 617 |
| 3 | Motor Car /Jeep | 275 | 3 | Motor Car /Jeep | 223 |
| 4 | Taxi | 107 | 4 | Taxi | 83 |
| 5 | Pick Up /Carrier | 372 | 5 | Pick Up /Carrier | 282 |
| 6 | Donkey /Carts | 68 | 6 | Donkey /Carts | 39 |
| 7 | Wagon / Coaster | 102 | 7 | Wagon / Coaster | 90 |
| 8 | Bus /Coach | 48 | 8 | Bus /Coach | 19 |
| 9 | Truck | 91 | 9 | Truck | 124 |
| 10 | Tractor | 54 | 10 | Tractor | 55 |

Total Vehicles = 2015
Vehicles per hour = 211

Total Vehicles = 1679
Vehicles per hour = 168

Towards: D.C. Office Intersection

| Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|
| 1 | Bicycle | 190 |
| 2 | Moto Cycle | 708 |
| 3 | Motor Car /Jeep | 275 |
| 4 | Taxi | 107 |
| 5 | Pick Up /Carrier | 372 |
| 6 | Donkey /Carts | 68 |
| 7 | Wagon / Coaster | 102 |
| 8 | Bus /Coach | 48 |
| 9 | Truck | 91 |
| 10 | Tractor | 54 |

Total Vehicles = 992

Vehicles per hour = 99

ANNEXURE-C-2

AVERAGE NUMBER VEHICLES PER HOUR

Location: D.C. OFFICE T-SECTION

Period: One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10
Hours Daily

Vehicles per Day Vehicles for 7-Days / 7 Days

Vehicles per Hour Vehicles per Day / 10 Hour

Towards Siddiq-Akbar Intersection

Towards Karachi

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|---------|-------------------|------------------|
| 1 | Bicycle | 129 | 1 | Bicycle | 81 |
| 2 | Moto Cycle | 737 | 2 | Moto Cycle | 556 |
| 3 | Motor Car /Jeep | 307 | 3 | Motor Car /Jeep | 254 |
| 4 | Taxi | 87 | 4 | Taxi | 83 |
| 5 | Pick Up /Carrier | 225 | 5 | Pick Up /Carrier | 245 |
| 6 | Donkey /Carts | 23 | 6 | Donkey /Carts | 22 |
| 7 | Wagon / Coaster | 27 | 7 | Wagon / Coaster | 32 |
| 8 | Bus /Coach | 10 | 8 | Bus /Coach | 12 |
| 9 | Truck | 64 | 9 | Truck | 121 |
| 10 | Tractor | 15 | 10 | Tractor | 39 |

Total Vehicles = 1624

Total Vehicles = 1445

Vehicles per hour = 162

Vehicles per hour = 146

Towards: Chamrok T-Section

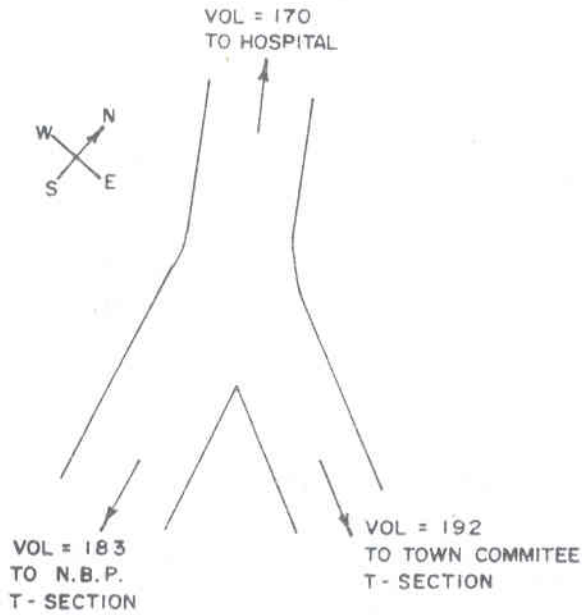
| Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|
| 1 | Bicycle | 78 |
| 2 | Moto Cycle | 297 |
| 3 | Motor Car /Jeep | 238 |
| 4 | Taxi | 26 |
| 5 | Pick Up /Carrier | 172 |
| 6 | Donkey /Carts | 13 |
| 7 | Wagon / Coaster | 20 |
| 8 | Bus /Coach | 10 |
| 9 | Truck | 96 |
| 10 | Tractor | 38 |

Total Vehicles = 988

Vehicles per hour = 10

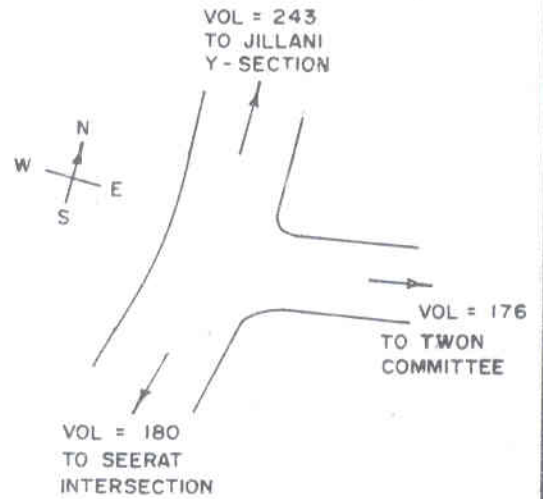
JILLANI Y-SECTION

FOR BREAKUP OF NUMBER OF VEHICLES ANNEX - B 8 - A



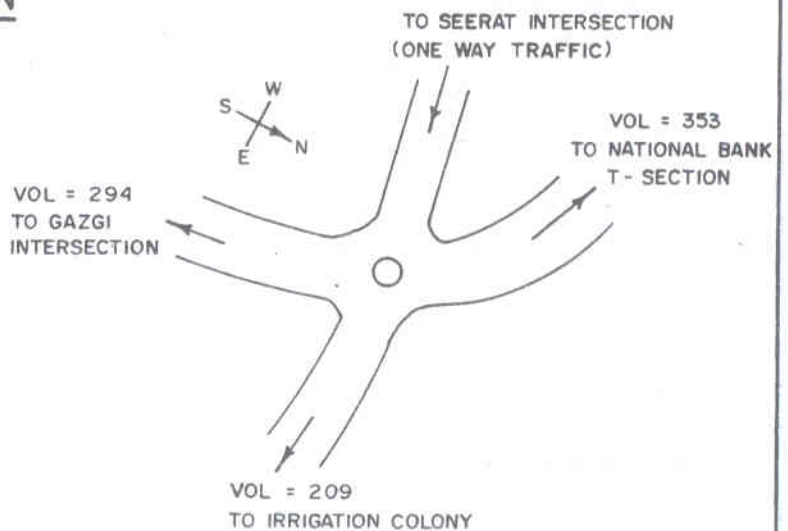
NATIONAL BANK T-SECTION

FOR BREAKUP OF NUMBER OF VEHICLES ANNEX - B 9 - A



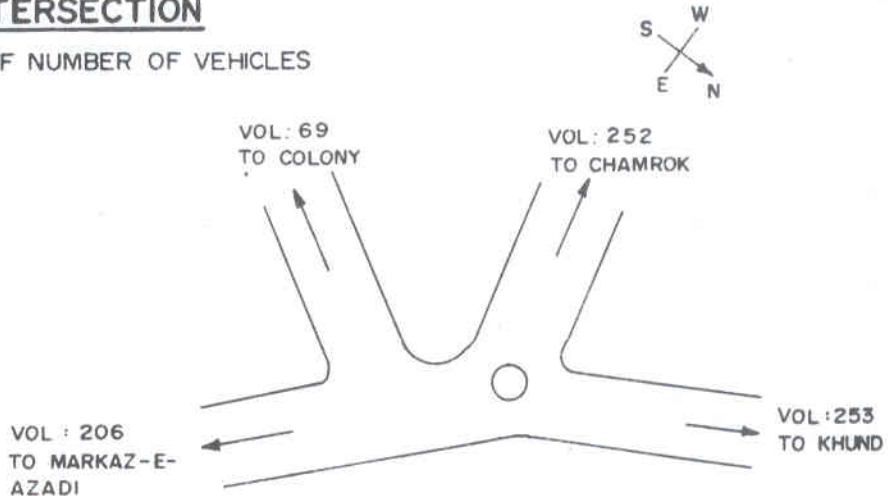
SEERAT INTERSECTION

FOR BREAKUP OF NUMBER OF VEHICLES ANNEX-B 10 - A



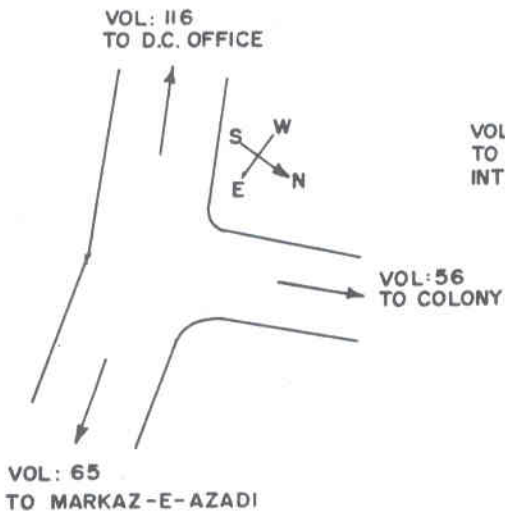
CHANDNI INTERSECTION

FOR BREAKUP OF NUMBER OF VEHICLES
ANNEX-B5-A



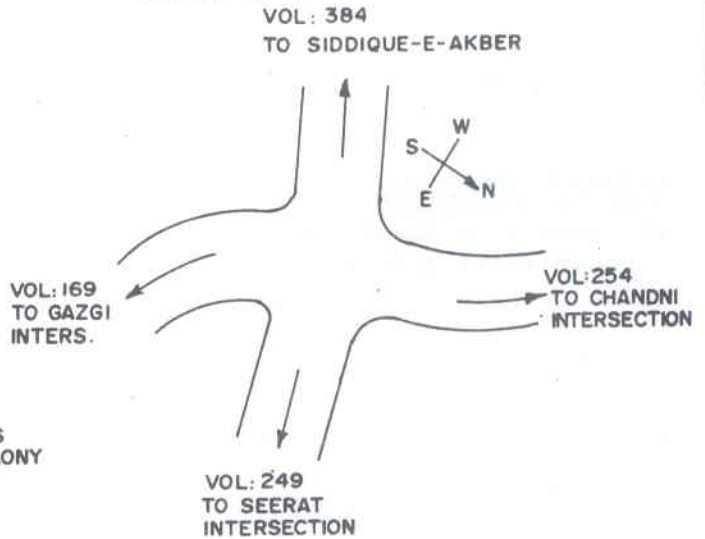
SIDDIQUE-E-AKBAR T-SECTION

FOR BREAKUP OF NUMBER OF VEHICLES
ANNEX-B6-A



MARKAZ-E-AZADI INTERSECTION

FOR BREAKUP OF NUMBER OF VEHICLES
ANNEX-B7-A



ANNEXURE-C-3

AVERAGE NUMBER VEHICLES PER HOUR

Location: CHANDINI INTERSECTION -
 Period: One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10 Hours Daily
 Vehicles per Day: Vehicles for 7-Days / 7 Days
 Vehicles per Hour: Vehicles per Day / 10 Hour

Towards Markaz-e-Azadi Intersection

Towards Khund

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|---------|-------------------|------------------|
| 1 | Bicycle | 268 | 1 | Bicycle | 441 |
| 2 | Moto Cycle | 872 | 2 | Moto Cycle | 1044 |
| 3 | Motor Car /Jeep | 250 | 3 | Motor Car /Jeep | 215 |
| 4 | Taxi | 100 | 4 | Taxi | 115 |
| 5 | Pick Up /Carrier | 306 | 5 | Pick Up /Carrier | 298 |
| 6 | Donkey /Carts | 104 | 6 | Donkey /Carts | 244 |
| 7 | Wagon / Coaster | 63 | 7 | Wagon / Coaster | 72 |
| 8 | Bus /Coach | 19 | 8 | Bus /Coach | 15 |
| 9 | Truck | 48 | 9 | Truck | 59 |
| 10 | Tractor | 28 | 10 | Tractor | 25 |

Total Vehicles = 2058 Total Vehicles = 2528
 Vehicles per hour = 206 Vehicles per hour = 253

Towards Government Colony

Towards Chamrok

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|---------|-------------------|------------------|
| 1 | Bicycle | 193 | 1 | Bicycle | 441 |
| 2 | Moto Cycle | 2324 | 2 | Moto Cycle | 1044 |
| 3 | Motor Car /Jeep | 82 | 3 | Motor Car /Jeep | 215 |
| 4 | Taxi | 16 | 4 | Taxi | 115 |
| 5 | Pick Up /Carrier | 10 | 5 | Pick Up /Carrier | 298 |
| 6 | Donkey /Carts | 44 | 6 | Donkey /Carts | 172 |
| 7 | Wagon / Coaster | 12 | 7 | Wagon / Coaster | 72 |
| 8 | Bus /Coach | 01 | 8 | Bus /Coach | 15 |
| 9 | Truck | 03 | 9 | Truck | 59 |
| 10 | Tractor | 04 | 10 | Tractor | 34 |

Total Vehicles = 2689 Total Vehicles = 2465
 Vehicles per hour = 69 Vehicles per hour = 252

ANNEXURE-C-4

AVERAGE NUMBER VEHICLES PER HOUR

Location: **SIDDIQUE-AKBAR T-SECTION**
 Period: **One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10 Hours Daily**
 Vehicles per Day **Vehicles for 7-Days / 7 Days**
 Vehicles per Hour **Vehicles per Day / 10 Hour**

Towards Markaz-e-Azadi Intersection**Towards: Government Colony**

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|---------|-------------------|------------------|
| 1 | Bicycle | 139 | 1 | Bicycle | 140 |
| 2 | Moto Cycle | 337 | 2 | Moto Cycle | 265 |
| 3 | Motor Car /Jeep | 41 | 3 | Motor Car /Jeep | 54 |
| 4 | Taxi | 16 | 4 | Taxi | 12 |
| 5 | Pick Up /Carrier | 46 | 5 | Pick Up /Carrier | 37 |
| 6 | Donkey /Carts | 43 | 6 | Donkey /Carts | 40 |
| 7 | Wagon / Coaster | 10 | 7 | Wagon / Coaster | 02 |
| 8 | Bus /Coach | 02 | 8 | Bus /Coach | 01 |
| 9 | Truck | 04 | 9 | Truck | 08 |
| 10 | Tractor | 11 | 10 | Tractor | 02 |

Total Vehicles = 649
Vehicles per hour = 65

Total Vehicles = 561
Vehicles per hour = 56

Towards: D.C. Office T-Section

| Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|
| 1 | Bicycle | 395 |
| 2 | Moto Cycle | 714 |
| 3 | Motor Car /Jeep | 130 |
| 4 | Taxi | 39 |
| 5 | Pick Up /Carrier | 122 |
| 6 | Donkey /Carts | 453 |
| 7 | Wagon / Coaster | 07 |
| 8 | Bus /Coach | 08 |
| 9 | Truck | 14 |
| 10 | Tractor | 25 |

Total Vehicles = 1907
Vehicles per hour = 191

ANNEXURE-C-5

AVERAGE NUMBER VEHICLES PER HOUR

Location: MARKAZ-AZADI INTERSECTION
 Period: One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10 Hours Daily
 Vehicles per Day: Vehicles for 7-Days / 7 Days
 Vehicles per Hour: Vehicles per Day / 10 Hour

Towards Gazgi Intersection

Towards: Seerat Intersection

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|-------------------|-------------------|------------------|-------------------|-------------------|------------------|
| 1 | Bicycle | 433 | 1 | Bicycle | 524 |
| 2 | Moto Cycle | 816 | 2 | Moto Cycle | 1286 |
| 3 | Motor Car /Jeep | 52 | 3 | Motor Car /Jeep | 234 |
| 4 | Taxi | 18 | 4 | Taxi | 53 |
| 5 | Pick Up /Carrier | 57 | 5 | Pick Up /Carrier | 167 |
| 6 | Donkey /Carts | 302 | 6 | Donkey /Carts | 173 |
| 7 | Wagon / Coaster | 04 | 7 | Wagon / Coaster | 24 |
| 8 | Bus /Coach | 01 | 8 | Bus /Coach | 04 |
| 9 | Truck | 04 | 9 | Truck | 08 |
| 10 | Tractor | 05 | 10 | Tractor | 14 |
| Total Vehicles | | = 1692 | Total Vehicles | | = 2487 |
| Vehicles per hour | | = 169 | Vehicles per hour | | = 249 |

Towards: Siddique-Akbar T.Section

Towards: Chandni Intersection

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|-------------------|-------------------|------------------|-------------------|-------------------|------------------|
| 1 | Bicycle | 556 | 1 | Bicycle | 441 |
| 2 | Moto Cycle | 1400 | 2 | Moto Cycle | 1044 |
| 3 | Motor Car /Jeep | 347 | 3 | Motor Car /Jeep | 215 |
| 4 | Taxi | 87 | 4 | Taxi | 115 |
| 5 | Pick Up /Carrier | 293 | 5 | Pick Up /Carrier | 298 |
| 6 | Donkey /Carts | 247 | 6 | Donkey /Carts | 172 |
| 7 | Wagon / Coaster | 28 | 7 | Wagon / Coaster | 72 |
| 8 | Bus /Coach | 12 | 8 | Bus /Coach | 15 |
| 9 | Truck | 58 | 9 | Truck | 59 |
| 10 | Tractor | 09 | 10 | Tractor | 34 |
| Total Vehicles | | = 3837 | Total Vehicles | | = 2541 |
| Vehicles per hour | | = 384 | Vehicles per hour | | = 254 |

ANNEXURE-C-6

AVERAGE NUMBER VEHICLES PER HOUR

Location: JILIANI Y-SECTION
 Period: One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10 Hours Daily
 Vehicles per Day Vehicles for 7-Days / 7 Days
 Vehicles per Hour Vehicles per Day / 10 Hour

Towards: Hospital

Towards: Town Committee

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|---------|-------------------|------------------|
| 1 | Bicycle | 433 | 1 | Bicycle | 395 |
| 2 | Moto Cycle | 816 | 2 | Moto Cycle | 714 |
| 3 | Motor Car /Jeep | 53 | 3 | Motor Car /Jeep | 130 |
| 4 | Taxi | 18 | 4 | Taxi | 39 |
| 5 | Pick Up /Carrier | 57 | 5 | Pick Up /Carrier | 134 |
| 6 | Donkey /Carts | 302 | 6 | Donkey /Carts | 453 |
| 7 | Wagon / Coaster | 05 | 7 | Wagon / Coaster | 07 |
| 8 | Bus /Coach | 03 | 8 | Bus /Coach | 08 |
| 9 | Truck | 04 | 9 | Truck | 14 |
| 10 | Tractor | 05 | 10 | Tractor | 25 |

Total Vehicles = 1696
 Vehicles per hour = 170

Total Vehicles = 1919
 Vehicles per hour = 192

Towards: National Bank of Pakistan Intersection

| Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|
| 1 | Bicycle | 580 |
| 2 | Moto Cycle | 838 |
| 3 | Motor Car /Jeep | 72 |
| 4 | Taxi | 10 |
| 5 | Pick Up /Carrier | 63 |
| 6 | Donkey /Carts | 246 |
| 7 | Wagon / Coaster | 10 |
| 8 | Bus /Coach | 01 |
| 9 | Truck | 04 |
| 10 | Tractor | 01 |

Total Vehicles = 1825
 Vehicles per hour = 183

ANNEXURE-C-7

AVERAGE NUMBER VEHICLES PER HOUR

Location: NATIONAL BANK OF PAKISTAN T-SECTION
 Period: One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10 Hours Daily
 Vehicles per Day: Vehicles for 7-Days / 7 Days
 Vehicles per Hour: Vehicles per Day / 10 Hour

Towards: Town CommitteeTowards: Jillani T-Section

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|---------|-------------------|------------------|
| 1 | Bicycle | 550 | 1 | Bicycle | 444 |
| 2 | Moto Cycle | 718 | 2 | Moto Cycle | 1079 |
| 3 | Motor Car /Jeep | 69 | 3 | Motor Car /Jeep | 209 |
| 4 | Taxi | 43 | 4 | Taxi | 64 |
| 5 | Pick Up /Carrier | 90 | 5 | Pick Up /Carrier | 344 |
| 6 | Donkey /Carts | 253 | 6 | Donkey /Carts | 223 |
| 7 | Wagon / Coaster | 17 | 7 | Wagon / Coaster | 21 |
| 8 | Bus /Coach | 13 | 8 | Bus /Coach | 19 |
| 9 | Truck | 09 | 9 | Truck | 22 |
| 10 | Tractor | - | 10 | Tractor | - |

Total Vehicles = 1762
 Vehicles per hour = 176

Total Vehicles = 2425
 Vehicles per hour = 243

Towards: Seerat Intersection

| Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|
| 1 | Bicycle | 580 |
| 2 | Moto Cycle | 838 |
| 3 | Motor Car /Jeep | 72 |
| 4 | Taxi | 10 |
| 5 | Pick Up /Carrier | 63 |
| 6 | Donkey /Carts | 224 |
| 7 | Wagon / Coaster | 03 |
| 8 | Bus /Coach | - |
| 9 | Truck | 14 |
| 10 | Tractor | - |

Total Vehicles = 1804
 Vehicles per hour = 180

ANNEXURE-C-8

AVERAGE NUMBER VEHICLES PER HOUR

Location: SEERAT INTERSECTION
 Period: One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10 Hours Daily
 Vehicles per Day Vehicles for 7-Days / 7 Days
 Vehicles per Hour Vehicles per Day / 10 Hour

Towards: Gazgi IntersectionTowards: Irrigation Colony

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|---------|-------------------|------------------|
| 1 | Bicycle | 468 | 1 | Bicycle | 617 |
| 2 | Moto Cycle | 1366 | 2 | Moto Cycle | 877 |
| 3 | Motor Car /Jeep | 216 | 3 | Motor Car /Jeep | 106 |
| 4 | Taxi | 135 | 4 | Taxi | 39 |
| 5 | Pick Up /Carrier | 175 | 5 | Pick Up /Carrier | 118 |
| 6 | Donkey /Carts | 533 | 6 | Donkey /Carts | 300 |
| 7 | Wagon / Coaster | 13 | 7 | Wagon / Coaster | 19 |
| 8 | Bus /Coach | 04 | 8 | Bus /Coach | 01 |
| 9 | Truck | 21 | 9 | Truck | 11 |
| 10 | Tractor | 04 | 10 | Tractor | 04 |

Total Vehicles = 2935
 Vehicles per hour = 294

Total Vehicles = 2092
 Vehicles per hour = 209

Towards: National Bank of Pakistan Intersection

| Sr. No. | Mode of Transport | Vehicles Per Day |
|---------|-------------------|------------------|
| 1 | Bicycle | 986 |
| 2 | Moto Cycle | 1587 |
| 3 | Motor Car /Jeep | 202 |
| 4 | Taxi | 46 |
| 5 | Pick Up /Carrier | 186 |
| 6 | Donkey /Carts | 468 |
| 7 | Wagon / Coaster | 18 |
| 8 | Bus /Coach | 04 |
| 9 | Truck | 25 |
| 10 | Tractor | 07 |

Total Vehicles = 3529
 Vehicles per hour = 353

ANNEXURE-C-9

AVERAGE NUMBER VEHICLES PER HOUR

Location: GAZGI INTERSECTION
 Period: One Week, November 1999 (From 8:00 A.M. to 6:00 P.M.) 10 Hours Daily
 Vehicles per Day: Vehicles for 7-Days / 7 Days
 Vehicles per Hour: Vehicles per Day / 10 Hour

Towards: Markaz Azadi Intersection

Towards: Serpat Intersection

| Sr. No. | Mode of Transport | Vehicles Per Day | Sr. No. | Mode of Transport | Vehicles Per Day |
|-------------------|-------------------|------------------|-------------------|-------------------|------------------|
| 1 | Bicycle | 220 | 1 | Bicycle | 224 |
| 2 | Moto Cycle | 354 | 2 | Moto Cycle | 401 |
| 3 | Motor Car /Jeep | 46 | 3 | Motor Car /Jeep | 110 |
| 4 | Taxi | 16 | 4 | Taxi | 31 |
| 5 | Pick Up /Carrier | 49 | 5 | Pick Up /Carrier | 35 |
| 6 | Donkey /Carts | 112 | 6 | Donkey /Carts | 114 |
| 7 | Wagon / Coaster | 05 | 7 | Wagon / Coaster | 06 |
| 8 | Bus /Coach | 01 | 8 | Bus /Coach | 02 |
| 9 | Truck | 02 | 9 | Truck | 05 |
| 10 | Tractor | 03 | 10 | Tractor | 01 |
| Total Vehicles | | = 805 | Total Vehicles | | = 929 |
| Vehicles per hour | | = 81 | Vehicles per hour | | = 93 |

Towards: T.T.C.

| Sr. No. | Mode of Transport | Vehicles Per Day |
|-------------------|-------------------|------------------|
| 1 | Bicycle | 280 |
| 2 | Moto Cycle | 573 |
| 3 | Motor Car /Jeep | 76 |
| 4 | Taxi | 28 |
| 5 | Pick Up /Carrier | 85 |
| 6 | Donkey /Carts | 335 |
| 7 | Wagon / Coaster | 13 |
| 8 | Bus /Coach | 15 |
| 9 | Truck | 26 |
| 10 | Tractor | 10 |
| Total Vehicles | | = 1441 |
| Vehicles per hour | | = 144 |

SITE OBSERVATIONS

| INTERSECTION | ROAD WIDTH | | PARKING CAUSE | CONGESTION | TRAFFIC DIRECTION |
|---|--------------|---------------------|---------------|--|-----------------------|
| | Total Meters | Carriage Way Meters | | | |
| Chamrok Towards Quetta Towards D.C. Office Towards Chandni | 13.0 | 7.3 | 7.3 | Bottleneck 5 Minutes / Hour | Both Way No Median |
| | 13.0 | 7.3 | 7.3 | | |
| | 23.0 | 7.3 | 7.3 | | |
| D.C. Office Towards Chamrok Towards Karachi Towards Siddique-Akbar | 13.0 | 7.3 | 7.3 | No Bottleneck | Both Way No Median |
| | 13.0 | 7.3 | 7.3 | | |
| | 22.2 | 9.0 | 7.3 | | |
| Chandni Towards Chamrok Towards Khand Towards Markaz Azadi Towards Government Colony | 26.0 | 7.3 | 6.0 | 8:00 to 10:00 20Min/Hr 10:00 to 12:00 15 Min/Hr 15:30 to 18:00 15 Min/Hr | Both Way No Median |
| | 11.0 | 5.2 | 5.2 | | |
| | 7.6 | 7.6 | 6.0 | | |
| | 10.7 | 3.7 | 3.0 | | |
| Siddique-Akbar Towards Markaz Azadi Towards Govt. Colony Towards D.C. Office | 13.7 | 8.6 | 7.0 | 9:00 to 12:30 10Min/Hr 16:00 to 18:00 20 Min/Hr | Both Way No Median |
| | 11.9 | 3.8 | 3.8 | | |
| | 13.9 | 6.7 | 6.7 | | |

| INTERSECTION | ROAD WIDTH | | | PARKING CAUSE | CONGESTION | TRAFFIC DIRECTION |
|--|--------------|---------------------|------------------|--|--|---|
| | Total Meters | Carriage Way Meters | Effective Meters | | | |
| Markaz-e-Azadi Towards Siddique Akbar Towards Hospital Towards Seerat Towards Gazgi | 12.0 | 8.2 | 7.0 | Parking throughout the day Offices of Coaches, Wagons Number of Restaurants Auto-mechanic Shops Self made taxi pickup Stand Customer Service PTCL | Severe bottleneck throughout day average : 20 Min/Hr | Both Way Median of 1.5 Metter towards Chandni No Median in other Direction |
| | 22.5 | 15.4 | 15.4 | | | |
| | 8.2 | 8.2 | 8.2 | | | |
| | 13.0 | 6.0 | 6.0 | | | |
| Jillani Towards Hospital Towards Town Committee Towards Seerat | 9.2 | 6.0 | 4.0 | Number of Restaurant Shops of Domestic Items, Medical Store. Auto-mechanic Shops Petrol Pump and Service Sation | 8:30 to 12:30 20 Min/Hr. 12:30 to 16:30 6 Min/Hr. 18:30 to 18:00 15 Min/Hr | Both Way No Median |
| | 7.8 | 7.8 | 5.5 | | | |
| | 8.5 | 8.5 | 7.5 | | | |
| National Bank Towards Jillani Towards Seerat Towards Town Committee | 18.2 | 18.2 | 15.0 | Banks A Mosque aside the road Food, Vegetable, Seller Carts Shops of Domestic item Restaurant | 8:30 to 12:30 10Min/Hr 10:00 to 18:00 15 Min/Hr | Both Way Median of 1.2 M to Seerat and Jillani |
| | 18.2 | 18.2 | 15.0 | | | |
| | 9.9 | 9.9 | 8.5 | | | |
| | | | | | | |
| Seerat Towards National Bank Towards Irrigation Colony Towards Gazgi Towards Markaz-E-Azadi | 18.2 | 18.2 | 15.0 | Series of Domestic Shops Food, Vegetables Seller carts Shops of domestic item A mosque aside the road | 8:30 to 13:00 15Min/Hr 15:00 to 18:00 20 Min/Hr. | One way Traffic from Markaz-e-Azadi to Seerat All others, no Median Both way |
| | 6.4 | 6.4 | 5.0 | | | |
| | 9.5 | 9.5 | 6.5 | | | |
| | 6.5 | 6.5 | 6.5 | | | |
| | | | | | | |
| Gazgi Towards Markaz-e-Azadi Towards Seerat Towards T.T.C. | 18.0 | 7.0 | 7.0 | Stores, Godwn, Trucks Pards almost for whole day Shops of whole seller A number of Restaurant Three flour mills | 8:30 to 12:30 20Min/Hr 16:00 to 18:00 15 Min/Hr | Both Way No Median |
| | 9.5 | 9.5 | 6.5 | | | |
| | 17.8 | 4.9 | 4.0 | | | |
| | | | | | | |