

**Report of Evaluation Study on  
Centralised Accident & Trauma  
Services(CATS)**

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## **AN EVALUATION STUDY ON CENTRALISED ACCIDENT AND TRAUMA SERVICES (CATS).**

### **I. INTRODUCTION**

Accidents are one of the major causes of death in the world. The first few moments after the accident are very precious and crucial. Many lives can be saved and disabilities prevented by providing timely proper care i.e. by providing immediate treatment to the victim of accident or of sudden illness, before medical help is obtained.

The total number of vehicles registered in Delhi has increased from 17.65 lakh in 1990 to 32.10 lakh as on 31.03.1999. This number is more than that of other three Metros put together. Poor traffic conditions, bad roads coupled with reck-less driving and complete disregard to traffic rules lead to high accidents and accident related mortality rates. In Delhi about 2000 lives are lost every year due to accidents alone. The total number of accidents (Fatal, injury and non-injury) has increased from 7697 (Fatal-1559) in 1990 to 10,217 (Fatal 2065) in 1998. On an average 76% of accidents cause injury and 20% fatal. This is a great national loss in terms of production of goods & services. According to a study by Sh. B.N. Mahajan of the Plg. Commission Govt. of India (1988) the economic cost of a fatal accident is Rs. 2 lac, that of an injury accident is Rs. 1 lac and is about Rs. 3000 for minor accident. (Source : study of cost assessment for CATS, Jan. 2000 by Rakesh singh Co.). Thus for 2000 fatal accidents the economic cost of accident is Rs. 40 crores. Also due to increase in population, industrialisation, poor socio-economic conditions, violence is increasing alongwith other social evils. Mob violence, riots and police action are common which also lead to human loss.

## **CENTRALISED ACCIDENT AND TRAUMA SERVICES (CATS)**

### **AIMS & OBJECTIVES AND STRUCTURE**

With the objective of providing first aid and emergency services to the patient, quick and safe transportation of patient to the hospital, to involve, liaise with other organisations such as Delhi Police, Delhi Fire Service and the care of the accident victims, the Centralised Accident and Trauma Services (CATS) was conceptualised in Delhi as a plan scheme in 1984 during the 6<sup>th</sup> Five Year Plan. The scheme was to be implemented under the aegis of All India Institute of Medical Science (AIIMS).

The scheme was launched in 1989 but was effective only from 1991 on receipt of 14 ambulances from Delhi Fire Service. Since the service required multisectoral coordination, it was later decided that the scheme may be implemented by a society.

Consequently, CATS society was formed by the then Delhi Administration as a Registered Society in June 1988. The Health Minister, Government of Delhi is the President and Chief Secretary, Govt. of Delhi is the Vice President of CATS general body. The Administrative Secretary in the department of Health & Family Welfare, Govt. of Delhi is the Chairman of the Governing Body and Project Administrator CATS as member Secretary. Delhi is the only metro to have launched this type of service, which is proving to be very beneficial particularly to the trauma victims.

Till 1997, CATS was running six centers/ stations, 4 centers from West Delhi (Moti Nagar, Deen Dayal Upadhaya Hospital, Sanjay Gandhi Memorial Hospital, Rohini Primary Health Centre), one centre from Sarai Kale Khan and one centre from the Institute of Human Behaviour & Allied Sciences, Shahadara. Since Ambulances were taking a lot of time to reach the site of accident from these six stations, it was decided that Ambulances should be stationed at strategic points throughout the NCT of Delhi. At present, there are 21 CATS Ambulances which are standing at 21 location/ points scattered all over Delhi. The ambulances are equipped with wireless equipment and other sophisticated first-aid equipments like collapsible stretcher-cum-trolley, manual suction pump, medical antishock trousers, inflatable air-splints pneupacs, oxygen cylinder, resuscitation bags, first-aid kits etc. Each Ambulance is manned by two-interchangeable Assistant Junior Ambulance Officers (AJAOs). Each Ambulance works on two shifts of 12 hours per day. The AJAOs are graduate who has been trained in multidisciplinary skills of first aid, emergency management, wireless communication and driving. The Control Room of CATS is now shifted in the Trauma Centre at Metcalf Road, Delhi, from the Deen Dayal Upadhyay Hospital Complex and is fitted with wireless equipments alongwith 10 MTNL lines of 1099. Recently the emergency telephone no. 102 have also been placed at the service of CATS. At present the reaching time to the accident site in the city is between 10-20 minutes in majority of cases.

## **II. NEED OF THE EVALUATION STUDY**

CATS is a grant-in-aid plan scheme of Delhi Government. An amount of Rs. 1000 lakhs has been approved for 9<sup>th</sup> Five-Year Plan (1997-2002) and approved outlay during 1999-2000 for CATS was Rs. 1300 lakhs, which included Rs. 1000 lakhs as external aid. During the release of second quarterly instalment of grant-in-aid amounting to Rs. 75 lakh during 1999-2000, to CATS the Planning Department, while examining the performance of CATS for the last three years i.e. 1996-97, 1997-98 and 1998-99, the expenditure incurred for recurring and non-recurring items and the details of calls attended/received by CATS during last 8 years, was of the view that most of the grant had been utilised for establishment expenses and the utilisation of ambulances appeared under utilised. The Finance Department asked for assessment of

the performance of CATS, and for making suggestions to bring down the cost per call without sacrificing the preparedness and effectiveness of the CATS. Subsequently the then Pr. Secretary (Finance/Planning) directed the Planning Department to conduct an evaluation study of the functioning of CATS to find out the cost effectiveness of the systems.

### **III. METHODOLOGY ADOPTED FOR THE STUDY**

At present there are 21 ambulances standing at 21 location/points scattered all over Delhi. It was approved to cover all the 21 ambulances stations for the survey work. One questionnaire was approved for canvassing from Assistant Junior Ambulance Officers for obtaining various informations about the functions / services rendered by CATS Ambulance (Annexure-II).

It was reported that in the last three years, average number of beneficiaries comes to 40 per day i.e. about 2 beneficiaries per ambulance per day. It was decided to cover 10 beneficiaries (5 beneficiaries free and 5 beneficiaries paid) from each ambulance station during the survey. For eliciting information directly from the patients/beneficiaries, another questionnaire was approved for canvassing amongst them (Annexure-III). Thus relevant data was collected both from the Ambulance stations and the beneficiaries selected on simple random basis. Care has been taken to cover the beneficiaries representing all the Ambulance Stations.

### **FIELD SURVEY**

The actual field survey for obtaining the information from Ambulance Stations & beneficiary's etc. was started in the month of October 1999 and was completed by December 1999. The beneficiaries were selected in such a manner that each Ambulance Station and each geographical zone of Delhi, i.e. East, West, North, South & Central are covered. For this purpose for each Gama i.e. Ambulance station, the beneficiaries were classified in 5 geographical zones and then by simple random sampling, beneficiaries were selected proportionately for paid & free calls separately. Due to large number of beneficiaries it was decided to select 20 beneficiaries (10 paid & 10 free) from each Gama i.e. 440. Out of these 440 beneficiaries, 210 beneficiaries i.e. 5 paid and 5 free from each Gama were targeted for canvassing for questionnaire no. II However due to practical problems like wrong addresses, non-availability of beneficiaries etc only 144 beneficiaries could be covered. Besides this all the 21 Gamas were also canvassed for questionnaire N0. II A list of Gamas, their prime time location base station coverage of area and the name of the hospital where patients are generally taken for treatment by the CATS Ambulance is annexed at Annexure-I

#### IV. Findings of the survey

**Table No.1**

**Summarised Picture of Beneficiaries (Patients ) covered during survey.**

CATS Amb. Service Called Due to

Area	Road Accident	Medical Emergency.	Just to return home from the Hospital	Total No. of Patients/Informants Covered
1	2	3	4	5
North	11	33	2	46
South	4	13	1	18
East	12	16	4	32
West	11	17	5	33
Central	6	7	2	15
*Total	44	86	14	144
% to total cases	(30.56%)	(59.72%)	(9.72%)	100%

\*No.of patient/informant covered/ call category wise.

It is observed from the above table that out of 144 beneficiaries covered during the survey 44 (30.56%) beneficiaries were road accident victims, 86 (59.72%) were medical emergency cases who needed medical aid immediately and 14(9.72%) were those who availed the services of CATS just to return home after being discharged from the hospital.

**Table No.2****Beneficiary (Patient)'s Position during the survey.**

No. of Patients

Alive	Dead	Total
115 (79.86%)	29 (20.14%)	144

It is seen from the table that out of 144 beneficiaries who availed CATS services, 115 (79.86%) were alive and 29 (20.14%) were dead. This shows that CATS services are very useful.



**Table No.3.**  
**First-Aid service by CATS**

No of patient not required First-Aid	No of patients required First-Aid		CATS Ambulance was not used	Total
	First-Aid Given	First-Aid not given		
96. (66.67%)	36(25%)	08 (5.55%)	04(2.78%)	144

From the above table it is seen that out of 144 beneficiaries surveyed, 96 (66.67%) beneficiaries did not require first aid as the kind of injury/disease was not of such nature i.e. fracture in body, burn cases , delivery cases etc.

36 (25%) beneficiaries were given first-aid, 8 (5.55%) beneficiaries required first-aid but the same could not be given since it was necessary to admit the patient immediately in the hospital due to seriousness of the case. Also 4 persons did not avail the services of CATS as by the time CATS Ambulance reached the site, 2 victims had already expired one had left for the hospital by hiring private Taxi and one refused to avail the services as the accident was only of minor nature.

**Table No. 4****Time taken by CATS to reach the site of happening/hospital based on the selected patients**

Time	To reach the site of happening	To reach the hospital from the site of happening	To Reach the hospital, just to deliver the discharged person at home
Up to 10 minutes	34 (26.15%)	16 (12.70%)	01
10-20 minutes	58 (44.62%)	50 (39.68%)	03
20-30 minutes	25 (19.23%)	29 (23.02%)	01
Above than 30 min.	05 (3.85%)	27 (21.43%)	09
Could not respond	08 (6.15%)	04 (3.17%)	-
Total	130 @	126(x)	14

It is observed that in 34(26.15%) cases CATS Ambulance reached at the site of happening with in 10 minutes and in 58(44.62%) the Ambulance took 10-20 minutes time to reach at the site of happening

In 25(19.23%) cases CATS Ambulance reached between 20 to 30 minutes of call and only for 3.85% cases it was considerably late i.e. beyond 30 minutes as in these cases the ambulance were busy in attending to previous cases.

Further it is observed that in 16(12.70%) cases the time taken by Ambulance to reach from the site of happening to hospital was less then 10 minutes, in 50 (39.68%) cases it was between 10-20 minutes, in 29(23.02%) cases it was between 20-30 minutes and in 27(21.43%) cases it was above 30 minutes .It indicates that in large number of cases the time taken by Ambulance either for reaching to the site of happening or for reaching from the site of happening to the hospital is 10-20 minutes.

@ Out of the total number of 144 beneficiaries surveyed, 14 needed services of the CATS only for reaching home after discharge from the hospital.

(x) Out of 130 cases, 4 did not avail the services of CATS as explained in Table No. 3

**Table No.5**

**Category wise and Region wise Road accident cases out of sample Beneficiaries**

Area	Category wise				Total/ Percentage
	Pedestrian	Cyclist/ Cyclerickshaw	Scooterist/ TSR/Motor Cycle	Motorist	
North	03	01	03	04	11(25%)
South	-	01	01	02	04(9.09%)
East	06	-	01	05	12(27.27%)
West	02	01	08	-	11(25%)
Central	01	01	03	01	06(13.64%)
Total injured Person/benefi ciaries	12(27.27%)	04(9.09%)	16(36.37%)	12 (27.27%)	44(100%)

It is seen from the survey that the maximum percentage (36.37%) among road accidents was of scooterist followed by pedestrian (27.27%) and motorist (27.27%). It may also be noted that the cyclist/cyclerickshaw were 9.09% in road accidents, Region wise data indicate that the maximum (50%) road accident cases under pedestrian category occurred in East Delhi. Also overall percentage of road accident was also maximum (27.27%) in East Delhi. While it was minimum (9.09%) in South Delhi. This may be due to poor traffic and road conditions and high density of population in East Delhi as compared to other districts.

**Table 6.****Area wise different type of Medical Emergency cases**

## Type of Medical Emergency

Area Disstt. Wise	Brain, heart related & Paralytic strokes etc.	Fractures in any part of Body	Stabbing, fire and water related	Others (delivery)etc.	Total
North	09	08	02	14	33
South	01	02	01	09	13
East	07	05	-	04	16
West	06	05	02	04	17
Central	01	04	01	01	07
Total	24 (27.91%)	24(27.91%)	06(6.98%)	32(37.20%)	86

It is clear from the above table that CATS attended cases under medical emergency equally i.e. (27.91%) for brain, Heart, Paralytic strokes related cases and fractures related cases. However, maximum percentage (37.20%) of beneficiaries under medical emergency related to 'other' i.e. delivery cases, high fever, vomiting & dysentery etc.

It is also observed that maximum number of cases under medical emergency were from North Delhi i.e. 33 out of 86 (38.37%) and Central Delhi had least number of such cases i.e. 7 out of 86 (8.14%).

**Table 7.****Area wise and age group wise classification of total sample beneficiaries.**

Area	Age Group					Total
	0-6 yrs.	6-18 yrs.	18-40 yrs.	40-60 yrs.	60 years & above	
North	02	02	14	18	10	46
South	01	02	08	04	03	18
East	02	01	08	09	12	32
West	-	03	15	06	09	33
Central	-	03	05	05	02	15
Total	05	11	50	42	36	144
	3.47 (11.11%)	7.64 %	34.72 % (88.89%)	29.17%	25.00%	

From the above table it is observed that 88.89% beneficiaries were above 18 years of age and the remaining 11.11% up to 18 years of age, However, the maximum percentage (34.72%) of beneficiaries were found to be from 18 to 40 years age group.

**TABLE NO. 8****Areawise/sexwise victims under different type of cases**

Area/Disstt	Accident victims		Medical Emr.		Just to return home		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
North	10	1	18	15	1	1	29	17
South	4	-	8	5	1	-	13	5
East	12	-	3	13	2	2	17	15
West	11	-	6	11	2	3	19	14
Central	5	1	3	4	1	1	9	6
Total	42	2	38	48	7	7	87	57

This table reveals that out of 144 beneficiaries 87 (60.42%) were males and 57 (39.58%) were females i.e. male beneficiaries were more than females. Maximum beneficiaries i.e. 86 were under medical emergency category i.e. brain, fracture, stabbing, fire or water related problems. Out of these 86 cases as many as 48 were female & 38 males. Further there were 44 road accident victims out of which maximum i.e. 42 are males and only 2 females. Out of 44 road accident victims maximum number i.e. 12 belongs to East Delhi and least number i.e. 4 belong to South Delhi. This may be because road and Traffic conditions are poor in East Delhi as compared to other areas of Delhi.

**Table No. 9****Staff structure in CATS**

S.No.	Designation	No. of Post Sanctioned	No. of Posts in Position.	Vacant
1.	Ambulance Station Officer	20	04	16
2.	Asstt. Jr. Ambulance Officer	198	164	34
3.	Multi Purpose Attendant	23	17	6
Total		241	185	56

Above table indicates that out of total of 241 sanctioned posts, 56 (23.23%) posts under CATS are lying vacant. It is significant percentage which may affect the essential services of CATS adversely. Specially, the post of AJAOs, since AJAOs are posted on CATS ambulance and provide first-aid medical assistance and other services to the victims on the spot as the circumstances warrant.

**Table No. 10(i)****Expenditure at a Glance**

Expenditure			(Rs. In Lakhs)
Year	Revenue	Capital	Total
1996-97	116.98 (97.13%)	3.46 (2.87%)	120.44
1997-98	180.00 (91.84%)	16.00 (8.16%)	196.00
1998-99	236.71 (84.43%)	43.65 (15.57%)	280.36

The above table shows that the %age expenditure under Revenue Head is above 84% during these years. However it is decreasing every year i.e. 97.23% in 1996-97 to 91.84 in 1997-98 and further to 84.43% in 1998-99 . During 1998-99 the cost of operation works out to Rs. 11.27 lac.

The above analysis also indicates that much more attention is needed for allocation and deployment of funds for purchasing of medical and non-medical equipments like, wireless sets etc. to maintain and improve the services the CATS.



**Table No. 10(ii)****The item wise bifurcation of expenditure under capital Head:-**

(Rs.in lakhs)

	Head of Account	1996-97	1997-98	1998-99
(i)	Furniture & fixtures	0.25 (7.23%)	3.34 (20.87%)	0.97 (2.22%)
(ii)	Medical equipments	0.05 (1.44%)	0.87 (5.44%)	0.52 (1.19%)
(iii)	Office equipments	0.38 (10.98%)	11.36 (71.00%)	2.59 (5.93%)
(iv)	Vehicle	2.65 (76.59%)	-	32.59 (74.66%)
(v)	Communication equipments	0.13 (3.76%)	0.23 (1.44%)	3.61 (8.27%)
(vi)	Handlooms Textiles	-	0.20 (1.25%)	-
(vii)	Battery/Battery Charger	-	-	0.12 (0.28%)
(viii)	Becon/Siren	-	-	0.48 (1.10%)
(ix)	Stretchure	-	-	2.77 (6.35%)
	Total	3.46 (100.00%)	16.00 (100.00%)	43.65 (100.00%)

**Table No. 10(iii)****Details Regarding call charges**

Year	Free Call	Paid Call	Total No. of Calls	No. of Accident	Expenditure (in Rs.)	Expenditure per call (in Rs.)	Income from paid call (in Rs.)
1	2	3	4	5	6	7	8
1996-97	5896 (0.77)	1852 (0.24)	7748 (1.01)	11315	12044000	1554.46	186983
1997-98	8659 (1.13)	2421 (0.32)	11080 (1.45)	10957	19600000	1768.95	234775
1998-99	14229 (1.86)	2022 (0.26)	16251 (2.12)	10217	28036000	1725.18	211525
1999-2000			21034 (3.74)				

Fig. In brackets indicates number of calls per day per Ambulance.

The above analysis indicates that the average number of calls (both free and paid) per ambulance per day increased from 1.01 in 1996-97 to 2.12 in 1998-99. The analysis also shows that a total number of calls received is more than the number of accidents during 1997-98 and 1998-99 which may mean that besides covering all accident cases CATS attended to other emergency cases. Still intensive and wide publicity is needed to popularize the ambulance services of CATS for optimum utilization of Ambulance of 21 fleets.

It is seen that expenditure incurred per call is very high. During 1996-97 expenditure per call was Rs.1544 approximately, which increased to Rs. 1769 per call during 1997-98 . During 1998-99 the expenditure was about Rs. 1725 per call . Earnest efforts may be made to reduce the revenue expenditure. Also efforts may be made to popularise the scheme and if the number of call increases substantially the per call expenditure can be reduced. This being a welfare scheme, the expenditure may not be criteria for continuation/success of the scheme. However earnest efforts may be

made to explore the following possibilities to improve the financial position of CATS and reduce the dependence on Delhi Government.

- (a) Receive grant-in-aid / financial assistance in cash from Govt. of India, State Govts. , Union Territories , Charitable Institutions/ Trusts, individual and Industries etc.
- (b) Receive with the prior approval of Central Govt. , Monetary assistance from foreign services including International Organizations.

Besides providing free ambulance services to the victims of accidents and trauma, a paid Ambulance Service for transportation of non-emergency patients was started w.e.f. 25/11/92.

Existing charges w.e.f. 1/12/1998 against the paid call are as under: -

S.NO.	DISTANCE IN K.M.	AMOUNT(Rs.)
1.	Less than 20 k.m..	75.00
2.	20 k.m. to less than 35 k..m.	125.00
3.	35 k.m. to less than 50 k..m.	150.00
4.	50 k.m. and above	200.00

Because of increase in petrol, salary of the staff the existing charges of paid calls may be increased suitably, to the extent of 50% increase in each slab.

### **Functioning of St. John Ambulance Brigade**

It is a voluntary Humanitarian organization – a sister concern of Red Cross Society of India, which works for the relief of sick and injured. The Brigade's Ambulances help in transportation of serious patients to hospitals free of cost on receipt of telephone call. It has only one telephone no. located at their main building in the Red Cross Society of India. It has permanent first aid posts at various important points in Delhi like ISBTs at Kashmere gate, Sarai Kale Khan & Anand Vihar, Bijwasan village, Shahbad Mohammadpur village & Burari Village etc. At present it has only six ambulances which remain normally stationed at their Headquarters Building unlike the CATS Ambulances which are stationed at pre-decided strategic prime locations. During 1998-99, it transported 4560 sick and injured persons to various hospitals and medical complexes. Thus average no. of serious cases attended to comes to 2.11 per day per ambulance. CATS may explore the possibility of working in co-ordination with the ST. John Ambulance Brigade for better utilization for Ambulance services.

## **V.- OBSERVATIONS AND RECOMMENDATIONS**

1. Each Gama (Ambulance) is manned by two inter changeable Assistant Junior Ambulance Officer (AJAO). The AJAOs are graduates who have been trained in multi-disciplinary skills of first aid, emergency management, wireless communication and driving. The two AJAOs, posted on a Gama, therefore, have to provide multitype of services e.g. driving, wireless communication, first-aid and even cleaning the ambulance (in case of vomiting or excess bleeding etc.) Sometime two AJAOs find difficult in handling seriously injured road victims. Patient Assessment Performa, Vehicle Assessment Performa, Paid call book, log book etc are also maintained by AJAOs . In such circumstances it is not possible to reduce the Manpower .
2. In case of sudden leave/absence of a AJAO the concerned Gama has to go to Central Control Room (TRAUMA CENTRE) now located at Bela road near Metcalf House to receive the substitute AJAO from the reserve staff to ensure at least two AJAOs at a time on a Gama. This sometimes causes delay in attending to serious Patients. Central control Room should arrange to send AJAO directly to the Gama station.
3. According to the present functioning system of CATS, in the event of admission of a patient in a private hospital or clinic, it becomes a paid call automatically. In case of even a serious accident the AJAO therefore avoid taking the patient to the private hospital which is nearby and take him in the Govt hospital even if that hospital is far away and the patient is in a very serious condition and needs medical help immediately. All hospitals/Nursing Homes may be directed not to refuse admission to such serious, unconscious and alone patient outside his/her home, brought by CATS. Such cases should be treated as free calls. In case of admission of such cases in a private hospital, the charges for first aid and just survival should be waived off by the private hospital. This condition should be incorporated as mandatory while issuing license to private hospitals/nursing homes. This condition may be applicable to the existing ones also. CATS/DHS may take necessary action accordingly.
4. CATS services are also requisitioned by hospitals for transfer of serious patients from one hospital to another instead of taking the service of their own ambulances. Mostly doctors don't accompany the serious patients which creates problems for AJAOs as there may be chance of collapse of patient on route. It should be made mandatory to accompany one doctor in the ambulance in such cases.

5. Hospitals take a lot of time in completing formalities regarding admission of the patient. As CATS ambulance cannot leave the hospital till the time the patient is admitted, a lot of time is wasted in staying unnecessarily in the hospital. Clear instructions may be issued to the hospitals to free the CATS ambulance and its staff within 5 minutes or so.
6. The hospital may also be connected with wireless facilities so that AJAOs can inform before hand the nature of casualty of the patient they are bringing, which may enable the hospital to be ready for the treatment without loss of time. Fire Station and Police Control Room (PCR) should also be connected with wireless communications for networking with CAT services. This also sometimes, avoids duplication of efforts especially by Traffic Police.
7. The total number of calls received during 1997-98 and 1998-99 is more than the total number of accidents in Delhi and hence CATS caters to other emergency cases also. Still the average number of calls received per ambulance per day was 2.12 during 1998-99. Thus at this stage there is no justification enhance the number of ambulance vehicles.
8. A limited field survey on operation of private ambulance was conducted during the first week of July 2000. It is found that the private operators charge Rs. 400-500 within their surrounding areas only. Further a number of persons as well as the staff of the Nursing Homes like Spring Meadows Hospital, East of Kailash and Parnami Ortho Hospital, Shalimar Bagh were not aware of existence of CATS and their call umbers, 1099 and 102.

This indicates the lack of awareness about ambulance services of the CATS. Intensive and wide publicity is required. There should be hoarding at some prominent places, particularly near OPDs of hospitals, institutions, Railway Stations and ISBTs etc. to popularise the services of CATS for optimum utilization of vehicles.
9. CATS may explore the possibility of involvement of NGO's like ST John Ambulance Brigade in operation of Ambulance Services under the overall control and guidance of CATS.
10. Sometime CATS ambulance when taking the patient to the hospitals find stretchers not available at the casualty of the hospital and as such precious time is wasted. There should be sufficient number of stretchers in the hospitals.

11. Many GAMA stations do not have proper place for the staff as well as for parking the ambulance . Like Fire stations, GAMA stations should be provided suitable space particularly in non-congested areas.
12. Medical gloves should be provided to each GAMA for use by the AJAOs to avoid any type of infection.
13. CATS staff may be provided uniform.

### **Conclusion**

The scheme is very beneficial and essential for the metropolitan city like Delhi where the accidents are very common.. Efforts may be made to explore the possibility of getting grants/Financial assistance from Govt. of India, charitable institutions, Trusts. Individuals, Industries etc. This provision is already included in the preamble of CATS.

It should be mandatory for private hospitals/nursing homes to provide medical aid for CATS patients-such calls should also not automatically be treated as paid calls by CATS.

It may not be possible and proper either to reduce the staff or to effect substantial cut in the expenditure of the scheme to reduce the cost per call. However the existing rate against paid call may be increased at least to the extent of 50% of the existing slab rates. Further more expenditure should be made on purchase of medical, communication equipments to provide prompt and effective ambulance services to the general masses than expenditure on other miscellaneous items.

**ANNEXURE-1****Gamas their Prime Time Location, Location Point, Area Covered and Name of Hospital, where patient are generally taken for treatment by CATS Ambulance.**

Gama No.	Prime time Location Point	Name of Location Point	Area Covered	Hospital where Patient are taken for treatment
1.	Sanjay Gandhi Transport Nagar Crossing	Babu Jagjeevan Ram Hospital, Jahangir Puri.	Singhu Border, Narela, Jahangir Puri, Samey Pur, Badli to Bawana, Sant Nirankari, Kingsway Camp, Lampur Border, Azadpur, Model Town.	LNJP Hospital, Hindu Rao Hospital, Trauma Centre, Metcaff Road, Delhi.
2.	Peera Garhi Crossing	Sanjay Gandhi Memorial Hospital, Mangolpuri.	Sultanpuri, Nangloi, Kanjhawla, Ghewra, Tikri Border.	Deen Dayal U. Hospital.
3.	I.I.T. Crossing	Malviya Nagar Colony Hospital, Malviya Nagar.	Chattarpur, Mehrauli, Gurgaon Road, Mehrauli Proper & Rural Belt.	AIIMS, Safdarganj Hospital etc.
4.	Nehru Place Crossing	Kalkaji Colony Hospital, Kalkaji.	Ambedkar Nagar, M.B.Rd., to Badarpur Border, Asharam to Okhla.	AIIMS, Safdarganj Nursing Home Private Hosp.
5.	Cannaught Circus	Required Location near about Cannaught Circus.	New Delhi Rly. Station to India Gate-I, Pragati Maidan to Gole Market.	RML Hospital, Lady Harding Hospital, LNJP, ALLMS.
6.	Asharam Chowk Crossing	Sarai Kale Khan Dispensary, Sarai Kale Khan.	Asharam, Bhogal, Jaitpur, Badarpur, Pragati Maidan, Lajpat Nagar, Sarita Vihar.	Safdarganj Hospital, other AIIMS.
7.	Raja Garden Crossing	Moti Nagar colony Hospital, Moti Nagar.	Rama Road, Ramesh Nagar, Jakhira Flyover, Raghbir Nagar, Punjabi Bagh, Rajauri Garden, Mayapuri.	Deen Dayal U. Hospital.
8.	Wajirpur Depot, Ring Road	Primary Health Centre, Rohini.	Rohini, Saraswati Vihar, Ashok Vihar, Shahbad.	Hindu Rao Hospital, DDU Hosp.
9.	Bara Hindu Rao Crossing	Bara Hindu Rao Hospital, MCD. Delhi.	Timarpur, Azad Market, Idgah, Old Delhi Rly. Station, Model Town, Wazirabad & Delhi University etc.	Hindu Rao, LNJP Hosp. & Trauma Centre.



10.	Noida Point	Lal Bahadur Shastri Hospital, Kalyanvas, East Delhi.	From Noida T Point to UP Border, near Gajipur, from Noida T Point to Noida Border,(Ashok Nagar) within 30 K.M.	Swami Daya Nand Hosp. Shahdara, GTB Hosp. Shahdra.
11.	Shidharta Hotel Crossing	Patel Hospital, Patel Nagar.	Patel Hospital Colony, East Oatek Nagar Inderpuri, Naraina Vihar, Kirti Nagar, Ranjeet Nagar, Baljit Nagar, Shadipur Tank Road, Panchquian Zhandewalan, Dev Nagar.	RML, LNJP, DDU, Hindu Rao, Kalawati Hosp. Lady Harding Hosp.
12.	Shastri Nagar Crossing	Malviya Dispensary, Padam Nagar.	Tri Nagar, Inder Lok, Ashok Vihar, Gulabi Bagh.	Hindu Rao, RML Hosp. LNJP & Trauma Centre.
13.	I.T.O. Crossing, Vikas Minar	LNJP. Hospital.	Yamuna Bazar Hanuman Mandir to Pragti Maidan, Hauzquasi to Gandhi Nagar, Pustha.	DDU, Hindu Rao, GTB Hosp. Swami Dayanand, AIIMS, Safdarjang.
14.	Distt. Centre Vikas Puri	DDU Hospital Hari Nagar.	Janakpuri, Hari Nagar, Uttam Nagar, Nawada, Vishnu Garden, Tilak Nagar, Vikaspuri, Mahhviri Enclave, Dabri.	DDU Hospital, RML, Safdarjang Hosp.
15.	Loni Chowk Crossing	IHBAS. Shahdara.	Loni Border to Bhopura, Apsra Border to Annad Vihar, Karkardooma to Seelampur Khazoori to Loni Border.	GTB. Hospital, Swami Dayanand Hospital.
16.	Shakarapur Crossing	Delhi Govt. Dispensary, Yamuna Vihar.	Ashok Nagar to Wazirabad Pul, Seelampur to UP Border, Vikas Marg, Shakarapur, Laxmi Nagar, Krishna Nagar, Ganesh Nagar, Jagatpuri, Karkardooma, Geeta Colony, Annand Vihar.	GTB. Hospital, Swami Dayanand Hospital.
17.	ISBT. Crossing	Trauma Centre, 9 Metcaulf.	Wazirabad to Lal Quila, Baraf Khana to Shastri Park, Usmanpur.	LNJPH., Hindu Rao Hosp. Trauma Centre.
18.	AIIMS Crossing	Malviya Nagar Colony.	Sarojni Nagar, Defence Colny, Safdarjang Enclave, South Extn.	AIIMS, Safdarjung Hospital.

19.	Mahipalpur Crossing	Required Location near Palam.	Airport, Kapashera, Bijwasan, Vasant Kunj, Delhi Cant, Palam Crossing.	DDU, RML, ALLMS, Safdarjung, R.R. Hospital.
20.	Najafgarh Crossing	Primary Health Centre Najafgarh.	Kakrola Nala to Rohtak Road, Bakkarwala Village to Bijwasan, Jaharothan Kalan to Dhansa Road, Gurgoan Border, Dhalu Border.	Safdarjung Hospital, DDU Hospital.
21.	Dhaura Kuan Crossing	Charakpalikal Hospital NCMC Moti Nagar.	Ridge Road, S.P. Marg, Ashoka Hotel, Dhaura Kuan, Viney Marg.	Safdarjung Hospital, DDU, AIIMS, RML Hosp.

**EVALUATION STUDY OF CENTRALISED ACCIDENTS & TRAUMA SERVICES  
(CATS)**

**QUESTIONNAIRE FOR CATS AMBULANCE STATION**

1. Name/Place of the CATS ambulance station : -----  
:-----
2. Address :-----  
:-----  
--  
:-----
3. Jurisdiction/Area covered :-----
4. Date of establishment :-----
5. Name & Designation of the Incharge of the centre :-----  
:-----
6. Name & Designation of the informant :-----
7. a) Details of the staff of the centre : -

S.No.	Designation	Pay-Scale	No. of post		No. of person	
			Sanctioned	Filled	Trained	Un-trained
1.						
2.						
3.						
4.						
5.						
6.						

- b) Whether the staff has been provided as per norms and is adequate ? :-----  
:-----
- c) If no, the details of additional staff required:-----
- 8. a) Type of accommodation of the station and:-----  
no. of rooms, private/govt./rented :-----
- b) Whether the accommodation is adequate? :-----
- c) Whether the facility of AJAOs(Assistant Junior Ambulance Officer) duty room is available :-----
- d) Whether proper parking place for Ambulance Van is available? :-----  
:-----
- e) Approachable (Easy/Difficult) :-----
- 9. a) No. of Ambulance Vans available at the centre :-----
- b) No. of Ambulance Van on road :-----
- c) No. of Ambulance Van out of the road :-----
- i) For less than one month :-----
- ii) For more than one month but less than three months :-----
- iii) For more than three months :-----
- d) Average no. of Ambulance Van operational during the last three years.i.e.96-97,97-98 & 98-99 :-----
- e) Whether available Ambulance Vans are adequate to cope with the requirements ? :-----  
:-----  
If no. how many additional Ambulance Vans are required ? :-----  
:-----
- f) Whether the Ambulance Van is equipped the following first aid equipments and other facilities :-----  
:-----

If yes, items available in the van :-----  
for first aid :-----

i) Oxygen cylinder & accessories(Nos.) :-----

ii) Suction pump :-----

iii) Manual resuscitation bag adult :-----

iv) Manual resuscitation bag-paediatric :-----

v) Air splint kit :-----

vi) MACT(Medical Anti Shock Trousers) Adult :-----

vii) MACT(Medical Anti Shock Trousers) Child :-----

viii) Folding stretcher/collapsible stretcher-cum-  
trolley :-----

ix) First aid box (containing B.P. instrument, :-----  
stethoscope, Dettol, cotton, bandage,soframycin etc. :-----

x) Thomas splint :-----

xi) Wooden splint :-----

xii) Crammer wire splint :-----

xiii) Wireless equipment :-----

xiv) Siren & Bacon with pass :-----

xv) Spinal collar :-----

xvi) Other equipments :-----

10. Whether availability of the following were :-----  
Sufficient or not during the last three years i.e. :-----  
96-97,97-98 & 98-99 :-----

- i) Dressing material :-----
- ii) Other consumable/spares :-----
- If no, other items required :-----

11. Details of the calls attended by the Ambulance Station during the last three years i.e.96-97, 97-98 & 98-99.

Type of calls	Total no. of calls received	Total no. of calls attended	<b>No. of persons</b>			No. of persons expired during the	Income from paid calls (in Rs.)
			To whom only emergency/ first aid service provided	Admitted in the hospitals	Others		
1.	2.	3.	4.	5.	6.	7.	8.
Accid.& 96-97 Emerg. 97-98 Calls 98-99							
Paid calls 96-97 97-98 98-99							

- 12. Name of the Hospitals where patients :-----  
are generally being admitted. :-----
- 13. Whether following records are being maintained at the centres : -
  - i) Call Register :-----
  - ii) Patient assessment proforma :-----
  - iii) Other (specify) :-----
- 14. Whether any difficulty is experienced in :-----  
admitting the patient in the hospital ? :-----
- 15. Whether any advertisement campaign :-----  
has been launched by CATS through Print/visual :-----  
Media ?

- 16. Do you feel any misuse of ambulance van in paid Service (give details) :-----  
:-----
- 17. Suggestions of the CATS Ambulance Station :-----
- 18. Whether any complaint/suggestions received From the patient/general public for Improvement of CATS :-----  
:-----  
:-----
- 19. Observation of Investigating Officer :-----  
:-----  
:-----

Name & Designation of the Investigating Officer with signature.