



Project Document

Government of Egypt

United Nations Development Programme
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Sustainable Transport PIMS 3523

The objective of the project is to reduce the growth of the energy consumption and the related greenhouse gas emissions of the transport sector in Egypt, while simultaneously mitigating the local environmental and other problems of increasing traffic such as deteriorated urban air quality and congestion by 1) initiating the concept for the development of new, integrated transport services for Greater Cairo and its satellite cities on the basis of public-private partnerships; 2) promoting non-motorized transport in medium sized provincial cities; 3) introducing new traffic demand management measures; 4) improving the energy efficiency of freight transport; and 5) enhancing the awareness and capacity of local professionals on different aspect of sustainable transport and strengthening the institutional basis to promote sustainable transport during and after the project.

TABLE OF CONTENT

ACRONYMS	3
SECTION I: ELABORATION OF THE NARRATIVE	5
Part I: Situation Analysis	5
Part II: Strategy	21
Part III: Project Management Arrangements	41
Part IV: Monitoring and Evaluation Plan and Budget	43
Part V: Legal Context	51
SECTION II: STRATEGIC RESULTS FRAMEWORK AND GEF INCREMENT	53
Part I: Incremental Cost Analysis	53
Part II: Logical Framework Analysis	56
SECTION III: TOTAL BUDGET AND WORKPLAN	71
SECTION IV: ADDITIONAL INFORMATION	85
Part I: Other Agreements	85
Part II: Organigram of Project (optional)	86
Part III: Terms of Reference	87
Part IV: Terms of Reference of the Key Positions	89
Part V: Draft Terms of Reference of the Risk Sharing Mechanism under Component 1	96
Part VI: GHG Reduction Calculation Assumptions	98
SIGNATURE PAGE	111

ACRONYMS

ATA	Alexandria Transit Authority
BRT	Bus Rapid Transit
CEO	GEF Chief Executive Officer
CMO	Cairo Metro Organisation (CMO)
CNG	Compressed Natural Gas
CO	UNDP Country Office
CO ₂	Carbon dioxide
CREATS	Cairo Regional Area Transport Study
CTA	Cairo Transit Authority
CTEB	Cairo Traffic Engineering Bureau (CTEB)
EDI	Electronic Data Interchange
EE	Energy Efficiency
EEAA	Egyptian Environmental Affairs Agency
ENR	Egyptian National Railways
GARBLT	General Authority for Roads, Bridges and Land Transport
GC	Greater Cairo
GCBC	Greater Cairo Bus Company
GCMTB	Greater Cairo Metropolitan Bureau
GCPA	Greater Cairo Parking Authority
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GONUC	General Organisation of New Urban Communities
GOPP	General Organisation of Physical Planning
HQ	UNDP Headquarters
JICA	Japanese International Co-operation Agency
MDGs	UN Millennium Development Goals
M&E	Monitoring and Evaluation
MoE	Ministry of State for Environmental Affairs
MoHUUC	Ministry of Housing, Utilities and Urban Communities
MoIWR	Ministry of Irrigation and Water Resources
MoT	Ministry of Transport
MRT	Mass Rapid Transit
MYFF	Multi-year Funding Framework
NMT	Non-motorized transport
QPR	Quarterly Progress Report
PDF	Project Development Facility
PIR	Project Implementation Review
PM	Project Manager
PMT	Project Management Team
PSC	Project Steering Committee
RCU	UNDP Regional Co-ordination Unit
SFD	Social Fund for Development
SRF	Strategic Results Framework
TDM	Transport Demand Management

TPR	Tripartite Review
TTR	Terminal Tripartite Review
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services
VMS	Variable Message Sign

SECTION I: ELABORATION OF THE NARRATIVE

Part I: Situation Analysis

1. The population of Egypt is growing by 1 to 1.5 million people per year and is expected to reach 80 million by 2015. Together with the growing economy, this is inevitably putting more pressure on the country's transportation system. The problems are particularly acute in the Greater Cairo area, one of the world's mega-cities with a population of more than 17 million and where the demand for mobility has greatly outpaced the capacity of the public transportation system to cope. The gap has been primarily filled with private owned and operated shared taxis (so called informal transport) and the use of private cars. Consequently, congestion has become a major problem and the air quality has deteriorated to an alarming level. It has been estimated that between 10,000 and 25,000 deaths a year in Cairo can be attributed to air pollution, to which transport is one of the main contributors.

2. As summarized in the Cairo Regional Area Transport Study (CREATS) conducted in 2002, by continuing the current baseline development with the increasing population and the increasing use of private vehicles and shared taxis at the expense of more efficient public transport modes, the average trip speed of all the modes will drop from current 19.0 km/h to 11.6 km/h in 2022 and the average commuting time will increase from the current 37 minutes to 100 minutes in 2022. In practice, this would mean that all the major roads in Greater Cairo would be fully congested all day with the obvious negative economic and environmental impacts. The annual GHG emissions in this baseline scenario have been estimated to increase from the current 12.2 million tons of CO₂ up to 15.9 million tons of CO₂, while in the alternative scenario promoting more effective use of public transportation and related transport demand management through a combination of different measures, the GHG emissions would only raise up to 13.6 million tons of CO₂. While the situation in other cities of Egypt is not as critical as in Cairo in terms of congestion and local air pollution, the trend of increasing energy use and GHG emissions is similar.

3. The energy consumption of freight transportation is another area with rapid growth. What characterizes Egypt's freight transport system is that 1) the transportation is dominated by road transport with a share of 94% of all the freight, while the opportunities for more energy efficient rail and inland waterway transport are clearly underutilized; 2) the transport demand is concentrated on a few transport corridors starting from or ending in Cairo (the Cairo – Alexandria corridor being the most heavily used for almost all the commodities); and 3) the transport patterns are influenced by the imbalance between exports and imports (the value of imports being about 2 times the value of exports in 2002, meaning that the trucks often have to return empty from Greater Cairo to the coastal ports)

4. In 2002/2003, the transport sector was responsible for 28 % of the final energy consumption in Egypt and for about 25 % of the energy related CO₂ emissions and is the fastest growing source of CO₂ emissions in the country. The total amount of greenhouse gas emissions from the transport sector in Egypt in 2002/2003 was estimated at 29 million tons of CO₂.

5. While several studies have been conducted and sound strategies and plans have been developed for addressing the challenges faced by the transport sector, the implementation of these plans has suffered from different barriers such as:

- Lack of inter-sectoral co-ordination (harmonization of policies, institutional co-operation) and limited institutional capacity to effectively adopt, implement and further develop the programs;
- Focus on single infrastructure investments or technology driven approaches without an integrated view on broader requirements for successful intervention;
- Pressing needs to find solutions to pending day-to-day problems at the costs of adequately addressing the long term sustainable development needs of the transport sector;
- Shortage of sustainable transport models and new approaches tested in Egypt to gain experience, reduce the risks and build the confidence of the targeted stakeholders;
- Negative experiences with some early experiments such as the introduction of separated bus lanes in Cairo in late 1970's and 1998 or with trolley busses in 1970's;
- Possible public perception, social and cultural barriers and occasionally conflicting interest between the different key stakeholders;
- Limited access to suitable financing mechanisms to meet the required investments needs; and
- Inadequate emphasis on integrating sustainable transport planning with urban planning of new cities and on promotion of non-motorized transport in middle size provincial cities.

6. The specific situation and background analysis related to each area the project is expected to deal with is discussed in further detail below:

Public Transport in New (Satellite) Cities and Connection to the Old Cities

7. An innovative shift in the urban planning and housing policies in Egypt started in the late 1970s by President Sadat with a goal to divert the growing random housing expansion and unplanned urban sprawl absorbing the agriculture land around the cities, to the deserts away from the Nile delta and valley. This new community concept, aimed at the construction of new satellite cities around the main population centers such as Cairo and Alexandria, is a program that has exceeded the magnitude of satellite city program of any other world city

8. The new cities were planned to have their own sound economic base and to be totally self sufficient so as to minimize the need for daily commuting to/from the nearby existing cities. In the course of the development process, however, the need to relax this original ambition has been recognized.

9. Today, eight urban agglomerations can be recognized as new community areas near Greater Cairo with varying degrees of development. A summary of the current and targeted population of these satellite cities is presented in Table 1.

Table 1: Area and population statistics of 8 new cities around Greater Cairo

New community	Total Area		Population ('000)			Built-up Housing Units - June 1999	Potential pop. To be accommodated - June 1999	
	Original Plan	Revised Target	Original Plan	Revised Target	Pop 1998			
1	6 Oct	360	408	500	1500	260	155,139	651,584
2	Sheikh-Zayed	33	39	500	500	0	35,770	150,234
	Total West (1+2)	393	447	1000	2000	260	190,909	801,818
3	Sherouq	19	45	500	500	42	38,190	160,398
4	Badr	73	73	430	430	0	20,284	85,193
5	10 Ramadan	398	398	500	1000	150	63,685	267,477
	Total East (3+4+5)	490	516	1430	1930	192	122,159	513,068
6	15 May	27	35	250	250	190	35,834	150,503
7	New Cairo	37	157	750	750	98	82,833	347,899
8	Obour	88	68	500	500	50	34,010	142,842
	Total Other (6+7+8)	152	260	1500	1500	338	152,677	641,244
	Grand Total	1035	1223	3930	5430	790	465,745	1,956,129

Source: Cairo regional Area Transportation Study CREATS, Phase I

10. The current transportation system between Cairo and the new cities is based on the mix of public busses, privately operated shared taxis with 11-14 seat minibuses and private cars. While the public busses and shared taxis (often called as informal public transport) still have a predominant modal share of all the trips made, the share of private cars is increasing. The public transportation is basically seen as transportation for the low-income population and those people who can afford to buy a private car are moving to use it for their daily mobility needs.

11. The transport services within the new cities are heavily relying on the informal sector. As an example, in the 6th of October the public transport system within the city is relying on privately operated pick-up vans, which are re-assembled for passengers by adding two longitudinal seats in their back platform under a metallic cover. The residents are dissatisfied with those services, but obliged to use them in the absence of better alternatives. Again, this results in that as soon as the people can afford to buy a car, they are going to start to use it instead of public transportation.

12. The intercity communication between Cairo and two of its satellite cities, namely the 6th of October and the 10th Ramadan was extensively studied in the frame of the already mentioned CREATS study and resulted in two prefeasibility studies. For the 6th of October, the study was made for a Bus Rapid Transit (BRT) system with the total estimated investment needs of LE 586 million (about USD 100 million) and for the 10th of Ramadan for the construction of the "East Wing Railway" connected to Cairo Metro Line #1 and the Metro Line # 3 (of which the latter is currently under construction) by rehabilitating the existing ENR Suez Line and constructing a new railway link extending to the 10th of Ramadan. The total investment needs for this connection were estimated at LE 2.4 billion. Both systems were envisaged to be financed through Public-Private Partnerships (PPP). Since the finalization of the study, however, no major progress has been made to proceed with these proposals.

13. The proposed support strategy of the UNDP/GEF project in organizing sustainable, and with the cities internal transport systems integrated, high quality transport services between Cairo and its satellite cities is basically built on the envisaged need to first demonstrate successful public-private partnerships in a smaller scale. With the growing, demonstrated demand, this can lead to the introduction of more advanced transport systems such as BRT on the basis of a PPP or other applicable financing schemes - or, should a BRT scheme in the end be not a feasible option, an integrated network of fast and high quality public transport services of other type.

Public Transport within Greater Cairo Area

14. The evolution of the transport in Greater Cairo over the past three decades shows an increase in the use of passenger cars (including taxis), which is currently absorbing over one-fourth (25%) of the motorized trip market. Some forms of public transport, in particular public bus services and light rail, have suffered a corresponding decline in patronage. Shared taxis, on the other hand, have aggressively increased their market share. What is also to be recognized from figure 1 is the positive impact of the introduction of the metro in 1987.

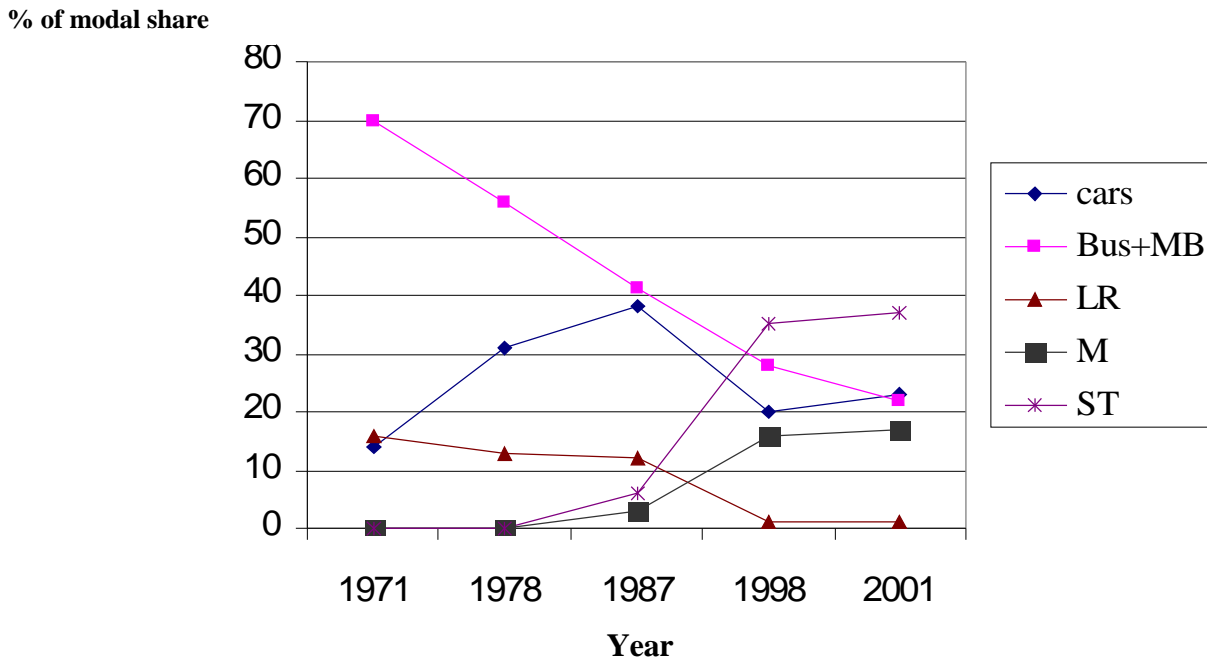


Figure 1: Evolution of modal shares (%) in Greater Cairo Area from 1971 until 2001 from four O/D Surveys (LR = Light Rail / Tram, M = Metro, ST = Shared Taxi) (Source: Ali S Huzayyin, “Analyses of the Evolution of Travel, Transport System and Urban Activity for Sustainable Short/Long Term Transport Policies; with Reference to Greater Cairo”, Official Proceedings CD of the 10th World Conference on Transport Research, WCTR 10, Istanbul 2004, Elsevier Publishers, Amsterdam, 2005)

15. According to CREATS, the public transport served a total of 12.436 million daily-motorized trips during a typical 2001 weekday. This represents 68% of all motorized trips generated within Greater Cairo. Shared taxis carry some 6.5 million daily passengers, or 52% of daily-motorized public transport trips. Public buses account for a further 3.5 million daily trips

(28%), and the metro slightly over 2.0 million trips per day (17%). The contribution of other public modes is modest aggregating to about 0.4 million trips per day (3%).

16. Public transport services in Greater Cairo can be divided between “formal” and “informal” sector. Formal urban public transport services are provided by the public sector, including CTA (Cairo Transport Authority) and its subsidiary GCBC (Greater Cairo Bus Company). In addition to busses, CTA operates light rail services (tram and Heliopolis metro) as well as the Nile ferries. Other key organization of the formal urban public transport sector include the Cairo Metro Organization (CMO), which provides urban heavy rail services (the Metro) and the Egyptian National Railways (ENR), sponsor of suburban commuter rail services. The CTA belongs to Cairo Governorate, while CMO and ENR work under the jurisdiction of the Ministry of Transport (MoT).

17. The informal sector consists of route-specific shared taxis operated by the private sector and using minibuses or minibuses with a passenger carrying capacity of 11-30 passengers. Shared taxi services are licensed by Cairo Governorate (under the jurisdictional umbrella of the CTA), Giza Governorate and Qalyobeya Governorate. The shared taxi routes are licensed on an origin-destination basis between defined shared taxi terminals. Almost 20,000 shared taxis are licensed, including some 237 routes as well as over 8,000 minibuses in Cairo Governorate. The field survey carried out in CREATS Phase 1 at the Cairo and Giza Governorates terminals revealed that 536 routes operate instead of the licensed 312. However, some routes do not operate full time; thus, the apparent full time structure consists of 503 routes. About 9,800 drivers are estimated to be employed in the licensed Cairo Governorate shared taxi system, or about 1.2 per shared taxi.

18. As revealed by several studies in the past, there are a number of issues related to the management of the current public transport system in the Greater Cairo area, which should be tackled with in order to effectively address the air pollution and congestion problems caused by the traffic. In addition to the general barriers listed earlier in this proposal, some of the sector specific constrains and issues are discussed in further detail below:

19. *Disaggregate Planning*: Each of the public transport operators has its own way of operation without paying remarkable attention to other operators. In other words, there is no sensible coordination or integration among different operators in order to maximize the available resources (supply) and to meet the expanding transport demand. This phenomena is severely apparent in case of private operators, but also in relations, for instance, between the CTA and CMO .

20. *Fare Policy*: Current fare policies of the individual public transport modes do not facilitate cooperation among the various operators. Fares and subsidy structures of the different modes are set in isolation of each other. A pioneer study carried out in 1995 (Greater Cairo Public Transport Fare Policy Study, the Transportation Programme (TP) of the Development Research and Technological Planning Center, DRTPC, Cairo University and SYSTRA for the Transport Planning Authority, Ministry of Transport) gave an applicable comprehensive fare policy for GC transport, but unfortunately it was never implemented.

21. *Controlled Fares:* The public transport operators are constrained by controlled fares (in response to political/social goals) which, in turn, reduce the revenue thus contributing to a lack of maintenance and, ultimately, the inability to replace aging vehicles.

22. *Shortage of Funding:* Formal transport operators, as government entities, are totally reliant upon federal Ministries for capital funding and, along with other Ministries, departments and organizations, must compete each year for limited domestic financial resources in the political arena. As a result, near and long-term tactical as well as strategic planning for the provision of urban public transport services is severely constrained by uncertainties in funding. Instead, operators focus all efforts on the day-to-day operation of the system, and acquiring sufficient revenues for this task.

23. *No Bus Priority:* There are no bus priority traffic management treatments in effect. All formal bus services operate in mixed traffic at an average scheduled commercial speed of 15-20 km/hr, considerably less in central areas. This is a major barrier to the effective and efficient operation of public transport services.

24. *Minimal Modal Coordination:* This is linked to the disaggregated planning of the sector. There seems to be little institutional cooperation among the different agencies planning and operating public transport services, in particular, among CMO, CTA and shared taxi services. The realization of a balanced and multi-modal environment presents a continuing challenge for Cairo. Coordination among the different public transport modes and between public transport and private cars is minimal. Independent scheduling, uncoordinated route structures, and independent fare structures do not facilitate interchange among the various urban public transport modes. There is thus a desperate need for a new organization to coordinate the entire transport and particularly public transport sector

25. *Advantages of Informal Sector:* Shortfalls in public bus operation and liberalization of regulations pertaining to private sector participation in public transport operations have created market opportunities for the informal sector (shared taxis), which have some advantages over formal operations:

- They are dynamic and hence totally demand responsive. In other words, they can change their schedules and deviate from licensed routes in response to passenger demand and congestion, even though it might be illegal;
- The idea of modal integration can be observed clearly in the case of the demand responsive shared taxis, which are attracted to the locations of passenger generation such as terminals of railways, metro and buses. Moreover, they operate as feeders to many of the metro stations;
- The shared taxis maneuver more easily in the traffic flow than larger passenger carrying buses, and consequently can run more frequently than formal services;
- Shared taxis provide guaranteed seats to their patrons;
- They are more accessible within a short walking distance than some formal services;
- Finally, they can provide services in areas where CTA does not or cannot operate.

26. *Disadvantages of Informal Sector:* On the other hand, shared taxis create a number of transport problems that affect not only public transport but also diversely affect the entire transport system in Greater Cairo. These problems include:

- They operate in unorganized manner without a comprehensive view or plan;
- The shared taxi network covers all of Greater Cairo, and in many precincts duplicates, and competes with, formal bus services. They often run parallel to CTA buses and other public modes, thus taking away passengers from the formal public operator, rather than integrating with these modes;
- They often disrupt traffic by stopping short or slowing at curbs to collect/drop passengers thus causing congestion for other motorists;
- Shared taxi operations tend to be fiercely competitive, as there are few barriers to entry and single-bus ownership is prevalent. As a result of this competitive pressure, drivers often pay little regard to traffic conditions, safety or other vehicles in the competition for passengers. As an example, they commonly cut all the way of traffic stream from the leftmost side of the carriageway to its rightmost side, which increase the potential (exposure) of accidents, to collect/drop passengers;
- Some shared taxis operate outside of the established regulatory framework and without proper vehicle or driver licensing;
- Their capacity to carry passengers is considerably lower the those of the bigger busses or, in particular, metro thereby contributing to congestion; and
- In average, poor technical condition of the vehicles contributing significantly to air pollution and high-energy consumption.

27. *Advantages of Metro:* The introduction of metro in 1987 has been able to reduce some of the pressure of the increasing transport demand in the Greater Cairo area, offering a good quality service with the average commercial speeds close to 35 km/hr and and frequency of 3.5 minutes headway. To make it more effective, however, the bus service would need to be coordinated with the metro stations and an integrated fare policy implemented, which would encourage greater use of the metro and reduce traffic flows and congestion on the city road network. This is getting even more actual with the construction of the new metro line # 3 started in 2005.

28. Given the above, it is clear that in order to significantly improve the situation, a major institutional restructuring exercise would need to be carried out in order to facilitate co-ordinated planning and improved integration of the different transport modes in general. In practice, however, this has proven to be very challenging tasks, especially if not initiated and “pushed” from inside the system.

Non-motorized transport and three-wheelers

29. The share of NMT in Cairo was estimated as 32% (6.9 million trips out of 21.6 million trips) in 2001. The share of NMT in Shebin El-Kom a typical middle sized old city is 68% according to the study for the General Organization of Physical Planning (GOPP) in 1988.

Current surveys show a 52% share for NMT modes in Shebin El-Kom and 31% in Fayoum. The 'planned' percentage modal split for NMT in some new cities, as reviewed from GOPP reports, shows the percentage expected in El-Amal City as 52%, Sadat City at 30% and Badr City at 30%.

30. No nationwide studies are available to give more precise statistics about the general share of NMT in urban areas. Such studies need comprehensive OD surveys, which have never been conducted out of GC and Alexandria (except in Shebin El-Kom, 1988). On the other hand, the field visits in different cities have shown a higher share of NMT especially in middle size and smaller cities. Reasons behind this high share can be estimated to be relatively short distances travelled to schools, universities, and factories- all ideal for NMT modes.

31. Three wheelers (3Ws) are small public transport vehicles that can accommodate up to 2 passengers. This mode has recently been introduced in most small cities in Egypt. A regulation exists to force the owners to use four-stroke engines, instead of the more polluting two-stroke engines, but latters are still illegally used in some occasions.

32. Three wheelers are increasingly being used as a substitute mode for walk trips and the residents in small cities are increasingly relying on them in their daily activities. Their growth and spreading is taking place in a very uncontrolled way. No statistics about the number of 3Ws in operation or their rate of increase is available at present. No registration or licensing rules are available to trace them.

33. Investigations about 3Ws were made during the project preparatory phase on the basis of pilot surveys and interviews with divers and the city representatives. The surveys show that in some cities the growth has been from zero in 1999 to 3,000 in 2005 (Senbelaween, Dakahlya). Some other cities started to use 3Ws in 2003 and have already reached 350 units (Shebin El Qanater, Qalubya). In other cities numbers have reached 600 in four years (El-Shohada and Sers El-Lyan, Monofya).

34. In general, the introduction of new, flexible and relatively cheap motorized transport modes such as shared taxis and 3Ws providing an easy and fast, although not always comfortable or safe, access from one place to another is reducing the modal share of NMT trips.

35. At the moment, there is no plan to increase the NMT share at the national level, although NMT facilities are considered on the basis of city specific plans to meet the stated percentage of trip making by NMT modes. Such facilities should be reflected in the road width, sidewalk width, surface condition, high, marking, and signs.

36. At the governorate level in the Assuit governorate in Upper Egypt, some specific facilities for NMT were introduced in the University (85 000 students) Campus. These facilities include parking spaces for bikes and financial support to increase the number of bike owners especially among university students. This pioneer (and only) incentive started back in 1957 when the University of Assuit was opened.

37. Some general barriers to maintaining or increasing the NMT trips and possible ways to address these barriers include the following:

38. *Cycle purchase*: In many countries, bicycles present a very expensive one-time purchase for the lower income community. The imported cycles and cycle parts are subject to heavy import duties and taxes. These costs can be significantly reduced by local assembling and further cost reductions could be achieved by increasing local manufacturing (subject to further evaluation). In an effort to promote environmentally friendly transport modes, the Government may also consider import duty exemptions.

39. *Financing of the Purchase*: Specific financing or subsidy schemes to lower the high up-front costs of cycle purchase can be very effective in an effort to increase cycling. Companies or universities could provide low cost loans for their employees or students to purchase a cycle. In Zimbabwe, for instance, security companies provided loans for staff and deducted the cost from monthly pay over a two year period.

40. *Cycling safety*: Cycling is not considered as a safe mode of travel, as it usually has to mix in with fast moving motorized modes, thus being exposed for serious accidents resulting in injuries and fatalities. Hence, the need for cycle lanes, if possible segregated from motorized modes to enable the cyclists to travel in relatively safe conditions. Traffic education and safety measure programmes will need to be in place as well.

41. *Cultural aspects*: In many countries cultural aspects dictate that senior staff and females feel constrained from being able to cycle on the streets. This is not a concern in most developed countries, but a serious issue in many developing countries and will need to be addressed with sensitivity to ensure greater uptake of the use of cycles. Clear segregation of the cycle lanes from motorized modes and investing into the general outlook of these corridors should assist in this respect.

42. *Need for a Network*: Although isolated corridors comprising various measures are a useful pilot tool, the real requirement is for a network to be provided throughout cities and towns.

43. *Need for Prior Planning*: Cycle lanes are often difficult and costly to introduce afterwards, if not taken into account in the initial planning. Measures would also need to be coordinated with other traffic management and traffic demand management proposals.

44. *Pedestrian facilities and walking habits*: In general sidewalk facilities have been provided, but are not well maintained. There are frequent intrusions by street traders or shop owners on to the sidewalk itself and sidewalks are in some cases rubbish strewn or building materials are piled or left on them. If the sidewalks are dug up for access to infrastructure like water pipes etc., the surface is often returned in a very uneven way providing difficult walking conditions, especially for the very young, aged or disabled pedestrians. If sidewalks are improved, will street traders/ shop owners be willing to allow pedestrians to enjoy unencumbered access throughout the sidewalks? Will all travelers be prepared to keep a cleaner environment by using rubbish bins if provided? It is also typical to see the pedestrians to walk on the road, even where sidewalks have been provided. One obvious reason for this is that the sidewalks are often at different

heights to the road. As there are no kerb cuts provided, it is more tiring to use the sidewalk than to walk on the road, and virtually impossible for the aged and disabled.

Institutional Strengthening and Transport Demand Management

45. Transport Demand Management is comprising a series of measures to control the amount of motor vehicle traffic. It is an uncomfortable and very sensitive topic that needs to be approached with a great deal of diplomacy and carefulness. Nonetheless, it is probably the only means of accomplishing significant advance in congestion relief and environmental quality, especially in the short and medium term.

46. Many previous related actions were attempted in Cairo over the years with varying results. A review of main approaches and their consequences are briefly highlighted below.

47. Parking meters were introduced successfully in CBD streets in the very early 1970s and lasted for about three years. Unfortunately maintenance was inadequate so the meters lost effectiveness. In 1976 the first trial of linking traffic signals on all CBD streets was introduced and operation was very successful in the early days. Soon afterwards, traffic police had to turn most of the traffic lights into amber flashing most of the day as the automatic signal timings of the system were not offering smooth traffic flow and it was better to impose manual operation. The reason for failure was due to the repeated interruptions of traffic as a result of presence of slow vehicles in the traffic stream as well as some obstructing heavy vehicles and the occasional passage of escorted convoys of city guests. The design of the linked signals system could not cope with these interruptions. Later in the mid 1980s, the World Bank sponsored another project on traffic management in the CBD, which included a linked system of signals. Unfortunately, exactly the same problems occurred as during the previous experience.

48. The same project included an institutional development element to introduce a Traffic Engineering Unit within Cairo Governorate Technical Department, giving its structure, staffing and needed capabilities. The unit was not established as originally planned due to lack of commitment, conflicts of interests between different key authorities and failure to appoint trained transport and traffic engineers due to the poor public agency salary scheme. Similar effort was made during a study on Cairo Metro Interchange Coordination sponsored by the Transport Planning Authority (TPA), which recommended and gave the needed design of a new mother authority to coordinate transport modes and systems in Cairo. The study gave also the structure of this entity and the duties and training of the needed staff. Although the study was generated in Egypt, yet it failed as the TPA belongs to the Ministry of Transport (MoT), while Cairo Governorate is totally independent from MoT. Accordingly, there was no commitment and will to establish this entity within the governorate.

49. In the late 1980s, the Governorate of Cairo established a Traffic Engineering Unit, which was very much different in structure and staffing from the earlier proposals and later it was transferred to a new entity named Cairo Traffic Engineering Bureau (CTEB). It was given certain responsibilities in approval of new parking projects, new designs of intersections, etc. The bureau was, however, poorly equipped and staffed. In late 2000, a sophisticated training

programme was conducted providing 14 software models and programmes. The programmes were only used during the training sessions, however, and not afterwards.

50. Again in 2003, a very elaborate study on institutional development of local authorities (i.e., city authorities) (“Local Authorities Institutional Development for Transport and Traffic Planning & Engineering Profession Posts”, undertaken by the Transportation Programme (TP) of the Development Research and Technological Planning Center, DRTPC, Cairo University, for the Academy of Scientific Research & Technology) was completed addressing the introduction of new entities of traffic and transport engineering and planning. The study included a survey of international experience, a basic part on institutional development in general and a specific part on the suitable introduction of the above mentioned entities in Cairo and Alexandria and also in small and middle-sized cities. The study also proposed different practical means of untraditional sustainable financing of the new entities out of the local authority budget. The study was presented in a public seminar held at the DRTPC, Cairo University, where all the cities' stakeholders were invited and a big follow up effort was later carried out by the Academy of Science as well as by the Study Team from the TP of DRTPC, to take the recommendations to the top management for implementation. There was, unfortunately, no sound impact from this initiative.

51. In 1985, a study (“Effect of Urban Traffic Management on Fuel Consumption and the Environment, the Transportation Programme (TP) of the Development Research and Technological Planning Center, DRTPC, Cairo University, for the Organization for Energy Planning) was performed comprising traffic management schemes along three important long corridors in Cairo, namely, Salah Salem, Shoubra and Cornich corridors. Signal design, road signs and markings, parking management, and public transport improvements were important elements of the study.

52. A success story was associated with a project in 1985, which comprised the design and construction of two multi-storey car parks Cairo CBD. These two garages were the first to be implemented in Egypt. Both garages were constructed and opened soon afterwards in the late 1980s. Their success was not only because they participated in relieving part of the parking shortage in the CBD, but also and perhaps more importantly that it has encouraged Cairo Governorate to see the importance and efficiencies of such facilities, which has led to the construction of other garages (multi-storey and underground) in the CBD, mainly with private financing. Ever since the number of parking garages is on the increase.

53. As for the pedestrianisation and apart from many small alleys in old Cairo and in the CBD, the first conversion of a CBD street into exclusive use of pedestrians was introduced in the early 1970s on El Shawarby Street, a high density shopping street. The result was very successful and is sustained till now. The success is because the street is short (230 m) and other parallel streets exist for traffic and access to clinics and other businesses from those streets. In the late 1990s another street was converted to a pedestrianised street, namely Al Alfy Street in the CBD with a length of about 400 m. The same success has resulted, mainly due to the same reasons as on El Shawarby Street. A third very short street segment in the west of old Cairo near the Ayyubid period historic wall is designed according to a study (“Intidad El Mansouria Street (IMS) Closure and Pedestrianisation”, the Transportation Programme, Development Research and

Technological Planning Centre, DRTPC, Cairo University, for Aga-Khan Cultural Services, Egypt (AKCS-E), which also ascertains alternative routes for vehicular traffic. It is now approved, waiting only for finalization of the restoration works of the wall. These experiences, point out the potential success a series of micro zones or short streets for pedestrianisation rather than starting with big zones or long streets; at least at the beginning. This is discussed later. Additional short stretches of street pedestrianization are proposed in the frame of this project. Experience in other countries suggests that they could become increasingly replicable, because of the positive reception by merchants, who discover their benefits to business.

54. Only three simple direct TDM measures have been tried in Cairo. The first was a pioneer idea of the Governor of Cairo in 1980 when he suggested a change of opening hours for establishments of the different land use units in the CBD. A study was carried out by a multi disciplinary team of experts of Cairo University to assess the impact not only on traffic, but also on trade, employment, electricity consumption, etc. For example, under this scheme shops opened 10 am to 6 pm (instead of 9 am to 11 pm), certain private businesses opened between 7 pm and 11 pm (instead of free opening times all along the day), etc. The result was very successful in releasing traffic congestion and reducing crowded buses along the CBD streets and those leading to it due to the new split of peak flows. However, after three years of success, a gradual relaxation of the scheme was allowed due to many pressures by different stakeholders (mainly shop keepers and some businesses such as private clinics) with a return to the previous system of open schedules.

55. Another trial was made in the late 1980s by imposing staggered work hours on government offices in the CBD. The trial soon failed due to social and behavioural reasons. A third demand management measure, which has been very successful in Cairo, Giza and Alexandria is the restricted loading/unloading hours in central areas and the restricted movement of heavy trucks on major routes either for all 24 hours or during certain periods. This has been in application since the early 1960s and is still sustained with good level of enforcement.

56. Concerning bus priorities, the first trial was made in the late 1970s along a congested segment of Ramis Street in the CBD with a contra flow bus lane. While from the viewpoint of increasing the speed of busses, the project was considered as successful (increasing average operating speed from some 7 km/h to 12-15 km/h), the inadequate attention to safety issues led to several accidents with the pedestrians and, as a result, the lane was closed two years later.

57. Another trial was made by Cairo Transit Authority (CTA) in the late 1990s to introduce a with-flow bus lane on Lotfy El Sayed Street north of the CBD, which is about 2.5 km long. The trial did not succeed due to unsuccessful choice of the corridor, placement of the bus lane along the side of the corridor adjacent to the fence of the railway corridor, the mixed low density activities on the other side of the corridor and the very poor design of road marking and signing of the lane and the stops.

58. Unfortunately, both of these early experiments with priority bus lanes have significantly complicated the efforts to further promote this idea. This is despite the fact that the failure in implementing these earlier attempts was not really due to the concept of priority bus lane itself, but rather due to the inadequate design and implementation.

59. Finally, in 2003, the MoT asked JICA to include in CREATS Phase II the feasibility study and design of a full traffic management and bus priority scheme on the suggested Metro line 4 corridors, which should be implemented and sustained until the start up of this metro line. The listed measures and activities include design of appropriate signal coordination, bus priorities at intersections, some segments of bus lanes, parking management on and off street, etc. The findings still wait, however, a decision for implementation.

60. The grave history of the trials and errors in trying to strengthen the institutional framework and capacity to deal with the transport sector related problems as well as the efforts to introduce new transport demand management measures in Egypt underlines the need for very careful planning and design of the type and size of the steps to be taken, combined with extensive stakeholders consultations and emphasis on bottom-up, country driven interventions. It is clear that further studies are not going to fundamentally change the situation, but there is a need for selected, relatively small, but well designed and thoroughly thought pilot initiatives, including the use of public-private partnerships, which can demonstrate early success and can after that be gradually expanded, along with the general confidence building, to something more substantial. A more detailed discussion on this follows in the section “Project Strategy”.

Freight Transport

61. Motorized road vehicles usually overwhelmingly dominate the markets for passenger and freight transport throughout the developing countries, because of their flexibility and low initial cost. Motor vehicles are the largest source of air pollution in the developing countries due to their rapidly increasing numbers, old age and poor engine tuning. Accidents, noise, congestion and increased energy consumption are other adverse impacts of motor vehicle use. These impacts are likely to continue without taking effective measures of mitigation.

62. Rail and waterways are normally considered environmentally more friendly means of transport than road transport. According to recent statistics provided by RTA, the pay load of river and rail freight transport in Egypt are 0.50 Hp/ton and 2.64 Hp/ton, respectively, compared to the average of 7.00 Hp/ton of trucks and the fuel consumption of rail and river transport 7.56 lit/1000 ton.km and 12.00 lit/ton.km, respectively, compared to the average of 39.00 lit/ton.km of trucks.

63. The higher carrying capacity and lower energy costs of rail and river based transport is also reflected in prices. The recent statistics show that the cost of freight transport by road is 0.14 LE / ton.km compared to 0.07 LE / ton.km and 0.05 LE / ton.km for railway and waterways, respectively. In spite of all of the above, the modal split for the intercity freight movement in Egypt is more than 94 % for trucks and only 5 % for rail and less than 1 % for inland waterways. Consequently, one of the current top priorities of the Ministry of Transport is to boost the rail and river freight transport in the country with corresponding, major investment programs. One of the considered key measures in that respect has been the introduction of efficient inter-modal (rail-truck and river-truck) inland terminals, which not only work as terminals, but also as import/export (dry) ports.

64. Apart from the above and since a vast majority of the freight transport in Egypt will continue to depend on trucks, there is a need to look at measures to improve the performance of the trucking services with a intent to: (a) improve the safety and emissions performance of trucks, (b) improve the system of trucking service so as to reduce kilometers driven, therefore raising their economic productivity and reducing effluent, and (c) to support the effective operation of the intermodal terminal facilities from the trucking side.

Institutional framework

65. The main components of any freight transportation system encompass both the infrastructure and the fleet. The MoT, through its affiliated authorities, is responsible for constructing, maintaining, and operating the national road and railway networks. The key institutions in the freight transport area are: the General Authority for Roads, Bridges and Land Transport (GARBLT) and the Egypt National Railways (ENR). The waterways transport networks and infrastructure fall under the responsibility of the River Transport Authority (RTA) belonging to the MoT. In addition, the Ministry of Irrigation and Water Resources (MOIWR) is responsible for maintaining the navigational canals, construction of waterway locks and regulating the level of water in the navigation canals.

66. Some ports on the River Nile or its branching navigable canals are owned and/or planned for future development by the RTA. The existing ones are El Nahda Port 22 km south of Alexandria on Noubaria Canal, Damietta River Port located within the New Port of Damietta and Ather El Nabi Port in Cairo. The other four Ports are El Tebeen Port south of Ather El Nabi Port (in the planning stage with possible Dutch participation), the Ports of Qena and Aswan (in Upper Egypt) and Banha and El Mansoura (in the Delta). The latter four ports are still in the discussion stage in the RTA. The waterway operations are dominated by the private sector after privatization of the public companies some years ago. Some 40 small private ports are available belonging and used mainly by industrial companies.

67. Large number of truck operators provide road freight service in Egypt. They are mainly privately owned, with the exception of five specialized truck operators belonging to the Ministry of Investment (MoI). The rest of operators are either private (companies or individual) operators or belong to the 24 Cooperative Freight Transport Co-operatives located in most of the governorates. So called “own account” trucks, belonging either to the public or private sector, are carrying their own products. The following table illustrates road truck operators, who supply road freight service in Egypt. The average truck fleet age of the main five companies is 15 years, illustrating the potential benefits from a co-ordinated vehicle inspection and tuning program.

Table 2: Road freight operators in Egypt 2002-2003

Operator name	Affiliation	Fleet size (trucks)	Freight carried	
			Millions tons per year	% Of total
Nile company for direct transport	State companies (working under the law # 159 adopted in 1981)	291	1.10	-
Nile company for inland transport		229	0.90	-
Nile company for transport works		229	1.00	-
Nile company for heavy transport		138	0.90	-
Nile company for freight transport		232	1.09	-
Total		1119	5	1.2
24 Freight transport cooperatives (one in each governorate)	Private sector	18241	24.43	5.8
Companies that work under the investment law	Private sector	117300	392	93
Individual operators	Private sector			
Own account fleet companies	Gov. PES, PS			
Total		136,660	421.4	100

Notes: Gov. = government companies, PES = public enterprise sector companies, PS = private sector companies

Sources: (1) Transport Planning Authority (2003), *Study of Road Freight Transport and the reasons behind Inactivation of law no. 70 for year. Egyptian National Institute for Transport*

(2) Central Authority for Statistics and Public Mobilization (2003) *Annual year- book.*

68. Inland waterway transport is provided by one public sector Company and many other private operators. In addition, there are many own account fleet companies carrying their own products by their own river barges.

Review of on-going activities and plans of the MoT

69. The total investment allocated for the transportation sector in the five-year plan 2002–2007 of the country were L.E 11.2 Billion; of which LE 8.2 billion allocated to the railways sector, LE 2.7 billion for the road sector and only LE 0.3 billion for the river sector. However, this has been increased during the later plan period. Most of the suggested railway projects, as stated in the plan, are for improvement and new construction of some railway links and fleet renewal. As for the railway freight transportation only, L.E 10 million of the allocated total investment was assigned for constructing selected freight links, including:

- Connecting El-Dekhaila port with railway network (completed).
- Connecting Al-Ain El-Sokhna port with the railway network (completed).
- Connecting East of Port-Said port with the railway network (completed).

70. In total, the MoT plan has allocated LE 750 million for river transport related projects, of which LE 57 million was allocated for the Ather El Nabi Terminal and the development and modernizing of similar river ports along the navigation network. The rest is for improving the

navigation canals and routes including all the facilities required for improving the navigation conditions along the whole network such as docks and bridges. This plan would facilitate the replication process of not only one, but several intermodal terminals similar to the Ather El Nabi Terminal, including the improvement of the following waterways:

- Improving the navigational canal of Damietta Branch from Damietta to Cairo (on going project);
- Improving the navigational canal from Cairo to Aswan of a total length of 960 km (on going project);
- Improving the navigational canal from Cairo to Alexandria port of a total length of 202 km (on going project);
- Improving and increasing the efficiency of Nasser lake navigational canal (on going project);
- Improving Athar-El-Naby port and constructing some other new ports (on going project);
- Connecting El-Dekhaila port with the waterway network (on going project).

71. Until now, no inter-modal river or railway terminals or dry ports have been constructed in Egypt. There are some truck-truck container terminals but they are still very limited in number. Some institutional barriers related to this situation are briefly discussed below.

Barriers to Sustainable Freight Transport

72. Some key barriers to increasing the modal shift from road to rail and river based transport options and the increased energy efficiency of the road transport are listed below:

- Lack of accurate and regularly collected statistical data of the sector, particularly due to the extreme difficulties of managing information gathering with the numerous individual truck and barges and small shipment freight operators on the road and in canals nation wide;
- Lack of awareness and capacity of the truck operators of the ways to improve the energy efficiency of their operations and harsh competition preventing adequate revenue collection for fleet modernization.
- Lack of local awareness about the opportunities provided by new information technologies to improve the efficiency of freight operations;
- Lack of the concept of integrated land use planning and transport planning as related to freight activities, their origins and destinations nation wide as well as in the immediate localities of freight terminals;
- Inadequate legislative framework for inter-modal terminals and dry ports, mainly concerning regulations for authorization, duties, responsibilities and the relationship between the different entities in operating inter-modal terminals or dry ports;
- Freight owners/consignors' lack awareness of the usefulness of both river and railway freight transport modes for the economy at large as well as globally;
- Lack of IT applications and trained staff, such as EDI;

Part II Strategy

73. The GEF's experience to date has shown that the barriers being removed generally relate to five market characteristics: policy; finance; business skills; information; and technology. As identified in the second Climate Change Program Study (CCPS2, 2004) as well as in the new draft programming framework for GEF-4, the removal of market barriers relating to these qualities "can form the basis for a market development strategy that is applicable to all of GEF's Operational Programs as well as being replicable, sustainable, and cost-effective". A brief discussion on how these "five pillars" apply for this project is presented below, followed up by the specific goals, objectives and expected outcomes of the project.

Policy

74. As reflected in the situation analysis, the sometimes conflicting interests between the different key authorities and the lack of co-ordinated policies and strategies in the development of the road, rail and river transport and of urban public transport services, NMT facilities and integrated land use and sustainable transport in general have been major barriers to sustainable transport sector development in Egypt. While this is still a barrier, the consultations conducted during the project preparatory phase and the political support mobilized during that phase indicate that with well designed actions and pilot projects adjusted to the local needs and policy environment and showing early success with them, it is possible to gradually start to influence also the broader policy and institutional development needs. This is obviously not going to happen overnight and, in particular, is not going to happen, if imposed from outside on the basis of studies only, but with a concerted effort of committed local "champions" supported by the project and by working step-by-step on the basis of concrete, successful "show cases" is considered as a realistic goal.

75. By initiating the work through the suggested, concrete pilot projects, the strategy of the project is, on the one hand, to demonstrate the rationality, feasibility and direct benefits of selected sustainable transport actions, thereby gradually building up the broader policy support and, on the other hand, to demonstrate the need for and to provide a platform for addressing the more fundamental policy and institutional development needs to facilitate their effective replication. The urban congestion and air pollution in the Greater Cairo area has already reached a level that any sustainable transport action showing real success and, in particular, if financing for them can be leveraged through applicable public-private partnerships or by other means not exceeding the public sector financing capacity, can, with considerable likelihood, leverage the required policy support for its replication.

Finance

76. The role of the project on the financing side depends on the component under consideration. While for some components, the GEF is requested to share the first pilot project costs in line with the original concept clearance document approved in early 2005, for component 1 trying to engage private operators to produce sustainable transport services, the role of the requested GEF support will be more on risk-sharing. Encouraging and demonstrating the use of public-private

partnerships in financing sustainable transport actions will be an important element also in other project components. For further details, see the component specific descriptions.

Business and Management Skills

77. The project activities in the area of building up the business and management skills is expected to focus on the following:

- Under component 1 (public transport): training of the participating public and private operators on integrated route planning, fare policies, ticketing, revenue sharing and marketing skills, which are directly relevant for the successful introduction of the new public transport services to be launched and for their effective replication;
- Under component 2 (non-motorized transport): targeted training to build the management and business skills of local technicians and entrepreneurs to improve the NMT supply side services such as local bicycle manufacturing, selling and repair;
- Under component 4 (freight): capacity building of the truck operators, managers of freight terminals, truck maintenance and repair shops to improve their operations in ways that result directly or indirectly in greenhouse gas emission reductions; and
- Under component 5 (institutional strengthening): i) effective establishment of the Greater Cairo Metropolitan Transport Bureau (GCMTB) to co-ordinate the development of the public transport systems in the Greater Cairo area; ii) establishment of a semi public Greater Cairo Parking Authority (GCPA) to implement and, in close collaboration with other key authorities, to manage and enforce parking policies conducive to sustainable transport development; and iii) capacity building of the river and rail authorities and the GARBLT to develop and implement sustainable transport policies and actions in the field of freight transport

Information

78. Having a well-designed communication strategy addressing the different key stakeholders is obviously a key to the success of the project. While the details and concrete implementation arrangements of this communication strategy will be fine-tuned at the outset of project operations, the main elements of it are expected to consist of:

- Early involvement and awareness raising of the key public authorities about the goals, objectives and foreseen benefits of the suggested project activities, thereby securing their commitment to support the project from the very beginning and responding to the specific needs and constraints eventually brought up in the consultations (primarily done already during the project preparatory phase, but will continue throughout the implementation);
- Awareness raising of the targeted private sector stakeholders and the general public about the purpose and foreseen benefits of the project as well as about the experiences of similar activities in Egypt and in other countries;
- Specific marketing campaigns to promote the adoption and increasing use of the sustainable transport options promoted under the project;

- Enhanced networking and information exchange between the different local entities (academic research community, environmental NGOs etc.) interested in promoting sustainable transport and protection of environment so as to identify areas of mutual interest and possible joint action optimizing the use of the resources and efforts;
- Networking and international information exchange so as to learn from and adopt experiences, results and best practices from similar activities in other countries;
- Effective use of the public media such as newspapers, radio, TV etc. to bring the issues addressed by the project into the public discussion and to inform the public about the project experiences and results, including the pilot concepts promoted;
- Specific national or international seminars and workshops; and
- Effective use of the web to manage and disseminate project related information and to work as a clearing house for sustainable transport activities and the related framework conditions in Egypt.

79. The implementation of the project’s communication strategy, as outlined above, will be the responsibility of the project management unit and the progress with it will be reported together with the other project activities according to the requirements set forth in project’s monitoring and evaluation plan. A full time PR expert, with a specific responsibility to facilitate the implementation of the project’s communication strategy and the contacts and co-operation with the public media and other relevant public and private sector entities will be one of the key members of the project team.

Project Goal and Objective

80. The stated goal¹ of the project is to reduce the growth of the energy consumption and the related greenhouse gas emissions of the transport sector in Egypt, while simultaneously mitigating the local environmental and other problems of increasing traffic such as deteriorated urban air quality and congestion. This is to be achieved by increasing or sustaining the modal share of greenhouse gas emission reducing public and non-motorized transportation options, discouraging the use of private cars and facilitating freight transportation by more energy efficient truck operations and increasing the share of cargo transported on rail and inland waterways.

81. The stated objective² of the project is to create an enabling policy and institutional environment and to leverage financial resources for the sustainable transport sector development, including public-private partnerships, measured by the amount of financial resources leveraged for the first pilot projects, level of success in initiating their replication and the level of adoption of the required institutional changes and improvements in the general policy framework.

¹ by building on the UNDP/GEF definition of the project goal as “the overall result to which the project will contribute, along with various other, external interventions”.

² by building on the UNDP/GEF definition of the project objective as “the overall result that the project itself will achieve, independent of other interventions i.e. what the project is accountable for delivering”

82. The project is envisaged to achieve this by working with the following sustainable transport concepts: 1) initiating the concept for the development of new, integrated high quality public transport services for Greater Cairo and its satellite cities (to exert shift from car use) and facilitating its effective replication; 2) promoting non-motorized transport in medium sized provincial cities; 3) introducing new traffic demand management measures, with an objective to gradually scale them up over the time; 4) improving the energy efficiency of freight transport; and 5) enhancing the awareness and capacity and strengthening the institutional basis to promote sustainable transport during and after the project in general. These components constitute the core of project activities, around which the project has been built. For more details, see the section “Project Outcomes and Outputs” and the project’s logical framework analysis in the Annex.

83. The situation analysis as well as the experiences from other countries suggests that in order to effectively deal with the transport sector problems, there is a need for a holistic approach combining a package of different measures at different levels, rather than trying to address the challenges faced with any single technology or non-technology driven intervention. For instance, in order to effectively promote mass rapid transit (MRT) systems such as metro, bus rapid transit systems (BRT) or different light rail options, there is a need to address, in parallel, the physical space requirements linked with urban planning, integration of MRT systems with the rest of the transport system, project financing (e.g. by encouraging public-private partnerships by an enabling policy environment) and the overall regulatory framework dealing with transport supply and demand management. Similarly, in promoting the use of public buses as a part of the overall sustainable, intermodal passenger transport system, there is a need to address the environmental problems caused by the aging, polluting diesel bus fleet (as reflected, for instance, in the EEEA Air Quality Study).

84. As clearly indicated also by the stakeholder consultations conducted during the project preparatory phase, the successful implementation of all of the above would call for a major improvement of the current institutional and the overall transport sector policy environment in Egypt, which can not be expected to take place overnight. Therefore, the selected project strategy will initially focus on relatively small pilot initiatives, by which it seeks to work through the identified barriers first at the smaller scale. By building on the results of those concepts that demonstrate early success, the project seeks to facilitate and address their effective expansion and replication as well as the broader institutional and sector development needs.

Project Outcomes and Outputs

85. The project intervention is presented according to the logical framework approach. The project outcomes leading to achievement of the project objective are summarized below with further details in the Project Results Framework in Section II.

Outcome 1: The concept for new, high quality integrated public transport services for Cairo and its satellite cities to exert shift from private car use successfully introduced, and its replication initiated on the basis of public-private partnerships.

86. Incremental Reasoning: Making GHG emission reducing (public) transport modes more attractive. Due to the disintegrated and low quality public transport services with low social status, the people normally switch to the use of private cars as soon as they can afford it. This component is addressing the medium or higher income part of the population, who in principle would be in the favor of using more public transportation instead of a private car, if fast, comfortable and (in the case of connecting journeys) with other transport facilities (and the metro in particular) well integrated public transport services are available. The GEF is requested to share the incremental costs of this effort by covering the costs of the technical assistance activities discussed in further detail below and by sharing the initial financing risks of introducing these new services with the aim to leverage, through a public-private partnership modality, private sector financing for the actual investments. For further details about the specific concepts to be promoted, see the section below and for requested GEF incremental costs, section “Financial Modality and Cost Effectiveness”. In absence of the GEF support and the associated stakeholder mobilization and financial leveraging, no concrete action to promote the proposed sustainable public transport concepts is expected to take place or it will be considerably delayed.

87. Global benefits: 290,000 tons of CO₂ emissions reduced over the next 20 years as a direct result of successful implementation of proposed pilot projects and an estimated 600,000 tons of reduced CO₂ through successful replication in Cairo, Alexandria and their satellite cities.

88. The component 1 will include three sub-concepts, which are to be promoted and replicated through a public-private partnership (PPP) arrangement. These concepts include:

a) New, high quality public transport service for connecting Cairo and its satellite cities in order to attract current and expected future private car users, with the first services piloted between Cairo and the cities of Sheikh-Zayed and the 6th of October, and initiating the replication of similar service for an additional 5 satellite cities around Cairo.

89. Under this subcomponent, the selected private investor (to be selected through a competitive bidding³), will introduce three new, high quality bus services running between:

- The Tahrir square (connected to metro lines # 1 and #2) in Cairo via the Lebanon square to Sheikh-Tayed;
- The Tahrir square (connected to metro lines # 1 and #2) in Cairo via the Lebanon square to 6th of October; and
- The Tahrir square (connected to metro lines # 1 and #2) in Cairo via the Lebanon square to the Media Production City (next to the 6th of October)

³ For further details, see section “Financial Modality and Cost Effectiveness”

90. While some positive experiences about the introduction of new high quality buses for the commuting “white collar” private car users already exist, such as the air-conditioned buses introduced by the CTA in 1997, the concept in general and especially for the communication between Cairo and its satellite cities and in the form of a public-private partnership is still something new in Egypt. As such and with the growing demand, the successful introduction of the concept is expected to prepare ground for later introduction of also more advanced transport options such as BRT.

91. At both ends, the service will be connected with cities’ internal public transport network (the metro line # 1 and # 2 in Cairo and the new internal bus service in the city of 6th of October) with a possibility for an integrated ticket, so as to facilitate smooth and attractive connection to the final destination.

92. While the initial consultations with both the public authorities and the private investors have confirmed their interest and full support to the concept (the latter subject to the outcome of a more detailed feasibility study) and are prepared to cover the actual investment costs, GEF support is requested for contributing to the costs of promotional campaigns and risk sharing for the first year operation of the first pilots and for initiating effective replication of the concept for connecting other 5 satellite cities in the east of Cairo.

b) Improved internal, high-class public bus services within the satellite cities, with the first services piloted in the city of the 6th of October.

93. Under this subcomponent, the selected private investor will introduce a new bus service within the city of 6th of October to provide a more comfortable and higher quality alternative for the currently used, modified pick-up vans and the use of private cars. Similar to the previous subcomponent “a”, the purpose is to especially attract the current and expected future private car users and those requiring a connecting bus service for the intercity line running between the 6th of October and Cairo. For this purpose, a combination ticket will also be introduced.

94. The other framework conditions (stakeholder commitment and financing) are similar to those of subcomponent a.

c) A feeder bus system with integrated ticketing to serve 2 pilot stations of the existing metro line 1, and initiating its replication with 7 additional stations of the existing metro lines # 1 and # 2 in Cairo, 5 stations of the metro line # 3 currently under construction and the railway connecting Alexandria with its satellite cities Borg-El-Arab and Abo-Qeer.

95. Under this subcomponent, the selected private investor will introduce a new feeder bus service for two pilot metro stations, namely Maadi and S. Kobba, of metro line # 1 with the aim to target two type of customers: i) those current or expected future private car users, who prefer not to use metro for their daily commuting, because of the bad connecting service and the shortage of parking places around the metro stations; and ii) those current or expected future private car users, who use metro for their daily commuting with their own private car for connecting with metro in a park & ride fashion.

96. The new service will be offered with an integrated ticket with the metro service so as to facilitate smooth and attractive connection to the final destination.

97. The other framework conditions (stakeholder commitment and financing) are similar to those of subcomponents “a” and “b”.

98. The new bus services introduced above, will be complemented by a technical assistance and financial support package of the GEF to:

- Facilitate further stakeholders consultations and “deal brokering” to establish and operationalize the new service on the basis of a public-private partnership;
- Support the costs of promotional campaigns and share the risk of the first year’s operation;
- Monitor and analyze the usage, customer profile and other experiences with the first pilot services to be used for further replication;
- As required, building the capacity of the participating public and private entities to implement integrated ticketing and revenue sharing; and
- In the case of a successful outcome of the first pilot services, facilitate required further studies and consultations in order to initiate effective replication of the concepts to be promoted.

Outcome 2: The modal share of non-motorized transport (NMT) in middle size provincial cities increased or sustained.

99. ***Incremental Reasoning:*** Making GHG emission reducing non-motorized transport more attractive. Component 2 is designed to increase or sustain the modal share of non-motorized transport in middle size provincial cities. As mentioned earlier in the proposal, the residents in these cities are increasingly relying on the use of shared taxis and, more recently, three wheelers (3Ws) as a substitute mode for walk trips. The objective of this component is to work against this trend and to raise the status of non-motorized transport, namely walking and cycling, as a comfortable, healthy, safe and cheap way of moving from one place to another within the distances suited for this purpose.

100. The GEF is requested to share the incremental costs of this effort by selected technical assistance activities to overcome the identified barriers discussed earlier in this proposal and in the draft project document and, as a part of that, by sharing the incremental costs of the first pilot projects to test the concept and to support learning costs related to that. In the absence of the GEF support and the associated stakeholder mobilization and financial leveraging, no concrete action to promote NMT in the targeted middle size cities is expected and the NMT modal share continues to decrease.

101. ***Global benefits:*** 262,000 tons of reduced CO₂ over the next 20 years as a direct result of successful implementation of the proposed pilot projects and a potential for over 4 million tons of CO₂ through successful replication in all the identified 27 middle size cities.

102. The outcome of component 2 is aimed to be achieved by:

- Constructing two pilot NMT corridors with improved facilities for walking and bicycle use in order to test the concept, to support the learning costs and to provide a basis for effective replication (GEF cost sharing is requested for the first pilot projects only);
- Effective control and maintenance of the infrastructure built, so as to avoid its deterioration or occupancy by other operations obstructing NMT; (non-GEF funded - to be covered entirely by local contributions)
- Promotional campaigns to raise the social acceptance of cycling and to lower the barriers to bicycle purchase and use;
- Targeted training to build the management and business skills of local technicians and entrepreneurs to improve the NMT supply side services such as local bicycle manufacturing, selling and repair; and
- Developing the overall transport policy framework in terms of encouraging and supporting the non-motorized transport in Egyptian communities, when physically feasible (with a link to the sustainable transport policy document under Outcome 5).

103. The initial focus of the project will be on improving the NMT infrastructure for two middle cities close to Cairo, namely Fayoum and Shebin El-Kom with supporting promotional activities so as to test the concept and, in the case of a successful outcome, initiate its replication in additional 27 middle size cities.

104. In Fayoum, the pilot project will support the local Governorate to improve the current sidewalks into a small NMT network with a total length of 13,6 km. The network will include separate lanes for walking and cycling as well as some supporting investments to make it more attractive for the users such as tree plantations etc. The effort will be further supported by a promotional campaign conducted in co-operation with the Governorate of Fayoum, Fayoum University and the Egyptian Social Fund for Development. The construction costs of these first pilots will be shared between the GEF, the local Governorates and the private sector, among which some companies, as a part of their “social responsibility”, have already expressed interest in cost-sharing the projects. This co-operation is facilitated, among others, through the UNDP Global Compact Network Initiative.

105. In Shebin El Kom, a second pilot project will cover a 6,5 km network with envisaged implementation and financing arrangements similar to those in Fayoum.

Outcome 3: Successful introduction of the Transport Demand Management (TDM) concept with an objective to expand it towards more aggressive measures over time to effectively discourage the use of private cars, when good quality public transport services are available.

106. ***Incremental Reasoning:*** Making the use of high GHG emission transport modes, i.e. private cars, less attractive. As discussed earlier in this proposal, for effectively addressing the current and expected future transport sector related problems in Egypt and, in particular, in the Greater Cairo Area, there is a need for complementary measures, which from one end discourage the use of private cars and, from the other end, provide a feasible alternative through improved public transport services and, as applicable, NMT facilities.

107. While components 1 and 2 are promoting and testing new concepts for providing attractive alternatives for the use of private cars and motorized transport in general, respectively, component 3 is designed to introduce selected transport demand management (TDM) measures to discourage the use of private cars.

108. Until now, the focus in Egypt in dealing with congestion in cities such as Cairo has primarily been on traffic management i.e. building new roads and implementing other measures to improve the traffic flow. While these measures can, at least temporarily, release some pressure on congested roads, they do not really produce any global benefits in terms of attempting to promote the shift to environmentally more friendly transport modes. The transport demand management (TDM) concept to be promoted under the proposed GEF project approaches the issue from the other end, i.e. trying to actually reduce the number of private cars entering into the roads and encouraging the people to switch for the use of public transport and non-motorized transport modes, thereby producing also global environmental benefits.

109. There is no single, most effective TDM measure, but typically the development of a sustainable transport system includes the testing, and if proven successful, further development of parallel TDM measures in several key areas such as making the entering of city centers by private cars less attractive by higher parking fees or more aggressive congestion pricing or by fully pedestrianizing certain areas. In parallel, the service level of public transportation needs to be improved, not only by introducing new bus lines or by renewing the fleet, but also by improving the speed of it by appropriate TDM measures.

110. The proposed TDM measures and concepts are something, which in the current policy environment of Egypt have been considered as feasible first steps to demonstrate success, which given the sensitivities associated with the TDM is essential for any further work in this area. If proven successful, the replication and expansion of the TDM schemes will be considered and supported with a gradual move towards more aggressive TDM measures such as real congestion pricing. Some steps towards that direction, namely putting a price for the use of roads, has already been taken by the current plans of the Ministry of Transport to facilitate the construction of new toll express-ways on the basis of public-private partnerships.

111. The GEF is requested to share the incremental costs of this effort by selected technical assistance activities to overcome the identified barriers discussed earlier in this proposal and in the draft project document and, as a part of that, by sharing the incremental costs of the first pilot projects to test the concept and to support the learning costs related to that. In the absence of GEF support and the associated stakeholder mobilization and financial leveraging, TDM is not expected to gain adequate attention as a way to reduce the transport sector related problems, especially in the Greater Cairo Area, but the focus of public authorities continues to be on Traffic Management that may improve the traffic flow, but not necessarily reduce it.

112. **Global benefits:** 81,000 tons of reduced CO₂ over the next 20 years as a direct result of successful implementation of the proposed pilot projects and a potential for over 18 million tons of CO₂ through successful replication and introduction of more aggressive transport demand management measures

113. The initial TDM concepts promoted and facilitated in the frame of this project include:

114. Micro pedestrian areas: By building on the success of some earlier pedestrianization of micro zones or short streets in Cairo (see the Situation Analysis), this subcomponents aims at the pedestrianization of a selected 600 meter stretch close to the Mostafa El Nahas Street in Cairo and upon its successful completion, initiate the replication of the concept for an additional 10-15 micro-zones in Cairo, Giza and Alexandria. Cairo has been identified to be particularly attractive for micro-pedestrianization, as it has no single center. It has various centers, traditional and modern, associated with different major institutions. These produce a varied structure with possibilities for various micro-zones near the poles of each center. The Mostafa El Nahas example could be replicated in various parts including Sekat El Waily and Kasr El Aini in Cairo, Sudan in Giza and Gamal Abdel Nasser, Port Said and Corniche in Alexandria.

115. During the consultations conducted during the project preparatory phase, an option was also brought up by some local stakeholders to pedestrianize a bigger area in old Cairo with a form of a triangle with a metro station in each corner, but the studies conducted during the PDF B phase did not allow exploring this option further. Should this during further consultations come out, however, as a feasible alternative with the required political support and readiness to cost-share and enforce the implementation of such a measure, the project can support its further design and structuring financing for it, depending on the resources available and eventual cost savings from other activities.

116. Parking Policies and Facilities: By building on the consultations conducted with the Cairo and Giza governorates during the project preparatory phase, the project is supporting the development and implementation of parking policies, which introduce higher and/or staggered parking charges for the city centre, thereby encouraging the private car users to either increase the use of public transportation, such as metro, or the use of parking facilities outside the city centre with an organized free microbus shuttle service to the closest metro station or the city centre itself. If successful, this can already work as an initial “quasi” congestion pricing system increasing the costs of entering the city center with a private car. Gradually, it can be possible to impose a complete ban of street parking in certain areas of the CBD and relative widening of the side walks to allow easier pedestrians movement.

117. The parking policy measures elaborated above will be complemented by the improved use of information technology such as Variable Message Parking (VMS) signs to guide the cars to the parking facilities outside the city center and/or close to connecting public transport facilities, thereby reducing the additional driving and the associated greenhouse gas emissions from searching free parking space.

118. Finally, the project seeks to facilitate, under component 5, the establishment of a semi public “Greater Cairo Parking Authority” to implement and, in close collaboration with other key authorities, to enforce the developed parking policies conducive to sustainable transport sector development principles.

119. Public Transport Priority Treatment and Priority Bus Lanes: As reflected in the section “Situation Analysis”, some earlier attempts have already been made in terms of introducing

automatic traffic signals (although not specifically for public transport priority treatment) and priority bus lanes, but with less success. Further analysis of these pilots - especially as concerns the priority bus lanes, has revealed, that the problem has not been so much with the idea itself, but rather due to the problems associated with the original design and lack of adequate attention on important details such as safety issues. Unfortunately, the visible failures with these early attempts have already created a bad image for any attempts to reintroduce the idea. Therefore, it is necessary to approach this area with certain care. Nevertheless, being such a fundamental and by far the most important measure to significantly improve the speed (and consequently attractiveness) of road based public transportation options, the possibility for successful introduction of public transport priority treatment systems will be further explored and, when applicable, promoted during the project.

120. By building on the consultations so far, introducing a priority traffic signal system for the trams operating in Alexandria and Cairo seems more feasible already now and consequently equipping at least one of these corridors with the mentioned system has been set as a target for the project. In order to do it successfully, securing full commitment and close co-ordination with the key authorities responsible for controlling the traffic along those corridors is obvious.

121. Other TDM or Traffic Management (TM) measures: Other measures brought up in the consultations during the PDF B phase included:

- Introduction of staggered school and office hours to spread the peak over a longer period; and
- Advanced break down service to reduce the congestion due to the broken vehicles: Stationing of towing vehicles at key locations where response is informed by electronic surveillance along the 6th of Oct. corridor with further replication potential in 2 elevated roads in and 3 surface roads in Cairo and Giza, plus 3 surface roads in Alexandria.

122. Since the last two measures are somewhat outside the focus of the GEF funding priorities in the TDM field, but can be categorized more as Traffic Management Measures, it was concluded that they will not be included into the package for which GEF support is requested, but are sought to be implemented by leveraging other resources. In follow up discussions and beside sharing the incremental costs of the proposed TDM measures, for which also GEF support is requested, the Cairo Governorate has agreed to finance the entire costs of these two additional TM measures as a baseline activity.

Outcome 4: Improved energy efficiency of freight transport

123. ***Incremental Reasoning:*** Component 4 is designed to promote the energy efficiency of freight transport, thereby complementing the efforts of the local authorities to reduce local air pollution caused by the trucks operating in and entering into the urban areas. In the absence of the GEF support and the associated stakeholder mobilization, the focus of the local authorities is expected to continue to be on the reduction of particle emissions and other substances contributing to local air pollution without adequate attention on the overall energy efficiency gains that could be achieved by different technical measures, driving habits and load collection practices and opportunities provided, among other, by new information technologies such as EDI for more efficient freight transport operations in general. Financial resources from the GEF is

requested only for complementary technical assistance activities, while the basic infrastructure and operating costs of the vehicle inspection and tuning stations, new terminal facilities and the improvement of railroads and inland waterways will be covered by the Government of Egypt and, as applicable, private sector.

124. In exploring these opportunities for improved energy efficiency of freight transport, the project seeks to co-operate closely with private and public truck operators and managers of the freight terminals, warehouses, repair shops etc. operating in urban areas. It will build on the ongoing and planned activities of the Government of Egypt, such as the effort of the Egyptian Environmental Affairs Agency to establish a network of stations for vehicle checking and engine fine tuning with opportunities to improve also the fuel economy of the vehicles. Similarly, the project will co-operate with the Ministry of Transport and its underlying agencies to promote the increasing use of more energy efficient rail and river based freight transport modes, including the establishment of new intermodal (rail-truck) and (river-truck) terminal facilities.

125. **Global benefits:** The main global benefits of this component are arising from the gradual, incremental improvement of the fuel economy of the trucks and improved logistics reducing the trips with empty or partial load with the estimated GHG reduction of 850,000 tons of CO₂ as a direct result of the project and a potential for over 5 million tons of CO₂ through successful replication. In addition, the project is expected to result in additional GHG reduction by promoting modal shift from road to rail and river based freight transport options.

126. The specific technical assistance activities to be supported under this component will consist of:

- Updating the situation analysis and developing policy recommendations and other measures for improving the energy efficiency of urban freight transport in Egypt;
- Exploring the opportunities for and building the local capacity for integrated urban land use and transport planning in the area of sustainable freight transport;
- Training and capacity building of the relevant staff of the vehicle inspection and tuning stations (to be established by the private sector with support from EEAA) as private truck maintenance and repair shops, to identify and develop opportunities to improve the fuel economy of trucks;
- Raising the awareness and building the capacity of the truck operators and the management of freight terminals on the opportunities provided by new information technologies to improve the overall efficiency of freight transport in urban areas, e.g by increasing the efficiency of “load hunting” and reducing the number of trips with no or partial load;
- As applicable, supporting the MoT and the private investors involved in the establishment new intermodal terminal facilities in the Greater Cairo Area to clarify the eventually remaining legal and regulatory issues, to facilitate the adoption of modern information technologies such as Electronic Data Interchange (EDI) for streamlining and expediting the cargo handling procedures, and to support the awareness raising and capacity building of the truck operators to effectively use and the public authorities to effectively manage and replicate the planned new intermodal terminal facilities, thereby promoting a modal shift from road to more energy efficient rail and river based transport options; and

- Monitoring, documenting and disseminating the experiences and results of the activities promoted and facilitating their effective replication.

Outcome 5: Enhanced awareness, capacity and strengthened institutional basis to promote sustainable transport sector development during and after the project.

127. **Incremental Reasoning:** This component will accommodate a package of activities to serve the required general capacity building and institutional strengthening to facilitate effective replication of the different pilot concepts tested under components 1-4 and to facilitate further sustainable transport development in Egypt in general. The project’s communication strategy elaborated earlier in this document (under section “Information”) is particularly relevant for this component of the project. The incremental value added of the requested GEF project support, together with the implementation of the component specific technical assistance and pilot activities, lies in further advocating and facilitating the institutional strengthening and improved institutional co-ordination that are clearly needed to facilitate sustainable transport sector development, but which are not likely to take adequately place on its own without the “catalytic” impact of the proposed GEF project. The GEF support is not expected to cover any baseline establishment or operational costs of any old or new institutions, but will focus on incremental capacity building, training and other similar TA type of activities.

128. **Global benefits:** Indirect. Global benefits achieved by successful replication of the sustainable transport sector measures discussed under components 1-4, for which the overall institutional strengthening and capacity building of local stakeholders is essential.

129. The specific measures and activities to be promoted under this component include:

- Raising the awareness and building the capacity of the key professionals in the institutions dealing with urban planning and development, including, among others, the Ministry of Housing and its underlying agencies, Local Governorates, Ministry of Interior and its underlying agencies enforcing the traffic rules and regulations on different aspects of sustainable transport. For a complete list of the envisaged project stakeholders, see section “Stakeholder Involvement”;
- Preparing a national, cross sectoral sustainable transport policy document setting concrete short, medium and long term targets in different key areas the project is addressing and facilitating closer consultations with the key decision makers to facilitate its adoption;.
- Targeted training and capacity building to support the establishment of the “Greater Cairo Metropolitan Transport Bureau” (GCMTB) to be able to effectively co-ordinate the development of the public transport systems in the Greater Cairo area (leading to GHG emission reductions) ;
- Targeted training and capacity building to support the establishment of a semi public “Greater Cairo Parking Authority” to be able to implement and enforce parking policies conducive to sustainable transport sector development principles (TDM) (leading to GHG emission reductions);
- Building the capacity of the Ministry of Transport and its underlying agencies to develop and implement sustainable transport policies and actions in the field of freight transport; and

- Consolidating and disseminating the results and lesson learnt from the implementation of the different project components and finalizing the recommendations for the required next steps.

Outcome 6: Monitoring, learning, adaptive feedback and evaluation

130. **Incremental Reasoning:** Fine-tuning of the logical framework and project impacts with indicators and verifiers to gather project-relevant information, including baseline and end-of-project studies, mid-term and final evaluation studies. Refinement of project information and documentation on experiences and lessons learnt of the project .

131. Global Benefits: Indirect, associated with the successful outcome of components 1 – 5, including their effective replication and use of the lessons learnt.

Project Indicators, Risks and Assumptions

132. The key indicators of the successful project implementation are:

- Successful finalisation of the pilot projects and their continuation and/or replication on a self sustaining basis;
- A mechanism established to facilitate sustainable and co-ordinated development and implementation of the public transport system in Greater Cairo area, including integrated scheduling, fare policy, route planning etc. as well as effective development and enforcement of supporting transport demand management measures;
- The share of public transportation in the targeted locations maintained or, if possible, increased;
- The length of new non-motorized corridors (bicycle lanes or pedestrian zones) reaching 50 km by the end of the project constructed and being used for the purpose meant;
- Over 100,000 tons savings in fuel consumption by the end of the project as a result of the project activities to improve the energy efficiency of urban freight transport;
- The amount of financial resources leveraged for the replication and follow up of the proposed pilot concepts and other sustainable transport measures by the end of the project; and
- Resulting GHG emission reductions from the measures promoted, as elaborated under each specific outcome ⁴.

133. The main project risks are closely related to the institutional and public perception barriers listed in the beginning of this document, which often have prevented the sustainable transport

⁴ At the outset of project, an updated situation analysis will be conducted for each project component in order to update and fine-tune the baseline, against which the GHG reduction and other results of the project can be monitored, evaluated and verified.

sector development measures that have been recommended before from to be implemented and/or effectively enforced in practice.

134. There is also a risk of the strong negative reaction of some stakeholder groups towards the new measures promoted such as the operators of the private shared taxis towards the introduction of new public transport means or, especially in the field of transport demand management, a possible negative reaction of at least a part of the general public towards the new measures introduced. In that respect, it needs to be recognized from the very beginning that some negative reactions arising from conflicting interests of different stakeholder groups are unavoidable and may pose additional challenges for the implementation of project activities. If they are considered as manageable, however, they should not prevent sustainable transport measures being promoted and implemented as long as the long term or immediate environmental, health or other benefits and general public support favor that.

135. The project tries to address these risks by having the initial focus on relatively small, but carefully designed pilot projects, which i) take into account the lessons learnt from the earlier efforts, and ii) have a manageable number of key stakeholders, whose full support can be secured from the very beginning. Through the successful implementation of these small pilot initiatives, the project seeks to start to address the broader institutional, public awareness and perception barriers in a more major scale. A specific emphasis has also been placed on identifying and supporting such public-private partnerships that promote the goal of sustainable transport sector development and at the same time are seen as a commercially attractive undertakings by the foreseen private sector partners themselves.

136. Similarly, and especially in the transport demand management field, it is important to recognize that too aggressive measures introduced too early can effectively kill the whole effort for years to come. Another critical issue in that respect is the proper design and early anticipation of the problems that may occur during implementation. The separate bus lanes introduced in Cairo earlier provide an example of the damaging long term impact of unsuccessful and inadequately designed pilot projects.

137. The importance of implementing a well defined public communication and PR strategy has been highlighted already before, which is detrimental for addressing the risks associated with public perception and acceptance of the measures to be promoted.

138. Finally, given the nature of the project, an experienced, committed and innovative project management is absolutely essential for its success. Beside experience and good knowledge of the state of the art international experiences, current practices and institutional requirements in promoting sustainable transport actions, the project manager has to be experienced with the project financing, including working experience with private sector and international financing organizations. A crucial qualification for the project manager is an ability to effectively raise awareness, broker deals and promote the project goals and objectives among the identified key stakeholders as well as an ability for adaptive management, when and as needed.

139. The need for a specific attention on the management issues is further highlighted given the relatively broad scope of the project, piloting several new sustainable transport actions in

different fields. While each of them could, in principle, justify a smaller project even on its own, for other practical reasons, it has been considered more effective (incl. cost efficiency) to manage them under a single project. The additional demands on the project management created by that are going to be addressed by having the project manager to co-ordinate the overall project implementation, institutional outreach and policy discussions, and who is supported by 4 task leaders responsible on the day to day development, implementation and monitoring of the specific components assigned to them.

140. An issue related to the above is the timing of different actions, as the entire process with the required final consultations, materializing of the political and financial commitments made, the construction of the pilots, the required monitoring and publishing of the results achieved and initiating their replication, complemented by the required institutional reforms are going to take time. This risk needs to be addressed in the project management and implementation arrangements, among others, by: i) sharing responsibilities and making the task leaders clearly responsible in managing the further development and implementation of the specific areas assigned to them; ii) adequate day to day monitoring and planning trying to identify possible bottlenecks and, to the extent possible, address them before they create major delays; and iii) by encouraging and leaving enough room for adaptive management that works towards the overall objective and targets of each component of the project, but with a possibility to adjust the specific activities to the changing circumstances. This adaptive management is also to be supported by project's international technical advisers and other support staff, including regular project monitoring and task or component specific external reviews and evaluations during the implementation, when and as needed, beyond the standard mid-term and final evaluations.

Global and National Benefits

141. The cumulative, direct GHG reduction resulting from the implementation of the proposed pilot projects has been estimated at about 1.48 million tons of CO₂ over the next 20 years, with a estimated replication potential and indirect impact of 5 - 10 million tons of CO₂ over 20 years.

142. The main national and local benefits are expected to be:

- Reduced local air pollution and congestion;
- Improved public transport services;
- Economic costs savings at the national level;
- Improved and safer facilities for NMT

GEF Program and Policy Conformity

143. As a part of the last work programme approved under GEF-3, the proposed project contributes to meeting the objectives of the GEF Operational program No. 11, "Promoting Environmentally Sustainable Transport" and the GEF Strategic Priority (CC-6) "Modal shifts in urban transport and clean vehicle/fuel technologies". Under GEF-4, the project would contribute to reaching the objectives of the CC Strategic Program 5 " Promoting Sustainable Innovative Systems for Urban Transport" with a focus on "non-technology" options.

144. The original project concept was reviewed by the GEF Secretariat and entered the pipeline in April 2005 with a conclusion that “the concept and the potential areas identified for GEF support are consistent with OP11”. The specific pilot project ideas included in the reviewed project concept included:

- development, promotion and, as applicable, risk sharing of “specific purpose” public transportation schemes and business models.
- cost/risk sharing for development and piloting of a single ticket system and two advanced “strategic inter-modal connection points” with appropriate feeder systems in place
- cost/risk sharing of NMT pilot projects with associated capacity building, information dissemination and other TA activities.
- cost/risk sharing of pilot TDM projects with associated capacity building, information dissemination and other TA activities.
- component 4 (freight transport): Primarily capacity building, institutional strengthening, marketing etc. support with possible small pilot initiatives.

Country Ownership

Country eligibility

145. According to the Instrument for the Establishment of the Restructured Global Environment Facility, Egypt qualifies for GEF financing on the following grounds:

- It receives development assistance from UNDP’s core resources;
- It has ratified the United Nations Framework Convention on Climate Change on 05 December, 1994; and
- It is a Non-Annex 1 country of the United Nations Framework Convention on Climate Change.

Country drivenness

146. The proposed measures have been extensively discussed with different key stakeholders and their support confirmed as per the attached letters. The increasing congestion and urban air pollution caused by motorized vehicles continue to be one of the main environmental problems in Egypt, into reduction of which the proposed project seeks to directly contribute.

147. The Transport Sector Development Plan up to 2017 and the associated investment program of the Ministry of Transport with corresponding resources allocated in the state budget for this purpose are in line with the proposed project intervention with measures to promote public passenger transport and to encourage a modal shift of cargo transport from road to railways and inland waterways.

148. In the National Environmental Action Plan (2002-2017), transport sector is specified as the second most energy intensive economic sector with a significant and direct impact on environment. In order to leverage financing for the required investments, the Ministry of Environment is focusing its efforts on integrating market based instruments and encouraging Public-Private Partnerships.

149. From the greenhouse gas reduction point of view, the Egyptian Environmental Affairs Agency (EEAA) has compiled a Climate Change Action Plan with the following initiatives:

- (a) Use of clean fuels, such as compressed natural gas (CNG) and hydrogen, for cars and buses;
- (b) Review and revise current vehicle emission limits in the Environmental Law #4 for more stringent standards;
- (c) Impose vehicle emission testing as a pre-requirement for vehicle license issuance or renewal by a technical unit within traffic management authorities;
- (d) Retrofit or replace two-stroke engines of motorcycles by four-stroke engines with CNG as fuel;
- (e) Introduce applicable traffic management plans to reduce urban transport congestion and vehicle on-road time;
- (f) Conduct public awareness campaign on air pollution;
- (g) Expand the current underground electric metro system in three stages to cover the greater Cairo, including the Cairo airport;
- (h) Improve public bus comfort by mandating air conditioning for all new buses purchased; and,
- (i) Increase the use of River Nile for public transport.

150. The construction of the 3rd metro line for Cairo was started in the end of 2005, which will significantly expand the current metro network and contribute to the enhanced replication opportunities of the envisaged project outputs, especially under component 1.

151. In Alexandria, the focus has been on the improvement of its on the ground rail based public transport systems, including the city's internal tram system as well as the connection between Alexandria and its satellite cities, Borg El-Arab and Abo-Qeer.

Sustainability

152. The sustainability of the project is enhanced by the approach taken to link the global environmental objectives with the efforts to reduce the pending local transport sector related problems such as congestion and deteriorated urban air quality. The initial consultations have confirmed the full support of the key authorities, namely the Ministry of Environment, Ministry of Transport, Ministry of Housing and Ministry of Water Resources and Irrigation as well as the Governorates of Cairo, Giza, Alexandria, Fayoum and Monofia, where the first projects are introduced.

153. As regards the financial sustainability of the measures to be promoted, the overarching strategy is to support only those measures that can demonstrate full cost recovery or for which sustainable public support will be available. Specific emphasis is given on possible public-

private partnerships as a way to leverage additional commercial financing for the investments needed. Examples of these kind of partnership are the new public bus services to introduced under component 1 as well as co-operation with the UNDP Global Compact Network under components 2 and 3.

154. In contrast with the former fuel cell bus project, GEF funds will not be requested for subsidizing major “high-tech” demonstration fleets, but mainly for technical assistance activities and for sharing the costs and/or risks of selected pilot activities demonstrating, to the extent possible and depending on the type of measure to be promoted, the potential for full cost recovery.

Replicability

155. The immediate replication targets for each project component in Egypt are discussed in the section “Project Outcomes and Outputs” and presented also in table 3 below.

PROJECT COMPONENT	PILOT PROJECTS	REPLICATION
Component 1 (Integration)	Intercity: Cairo – 6 th of October Intra-city: Cairo, 6 th of October	Intercity: From Cairo to 10 th of Ramadan, Obour, Shorouk, Badr, New Cairo Intra-city: 14 additional metro stations in Cairo, 2 rail stations in Alexandria, 1 station in Borg El Arab and 1 station in Abo-Qeer (satellite cities of Alexandria) + other satellite cities of Cairo mentioned above, as needed.
Component 2 (NMT)	Fayoum, Shebin-El-Kom	27 additional middle size cities: (Kafr El Sheikh, Marsa Matrouh, Bany Sweif, Mansoura, Damietta, Menya, Edfu, Ismaelia, Assuit, Aswan, Banha, Zakazeek, Suez, Souhag, Tanta, Damanhour, Port Saeid, Qena, Mahala Kobra, Kafr El Zayat, Kafr El Dawar, Nagaa Hamady, Meet Ghamr, Abo Karkas, Deer Mouas, Koos, Maghaga)
Component 3 (TDM)	Cairo	Cairo, Giza, Alexandria
Component 4 (Freight)	Cairo and its suburbs	Cairo, Alexandria and their satellite cities Intermodal rail-truck terminal facilities: 10th of Ramadan city, 6th of October city, El-Aameria River ports: Luxor, Qena and Aswan and in the port of Nahda in Alamria, new port of Toshki, and the port of Aswan

156. The replication strategy of the project is based on the following features of the project design:

- successful introduction of the proposed sustainable transport pilot concepts attracting users and, as applicable, continuing to operate on a self sustaining basis;
- well elaborated, professional communication strategy, disseminating information about the results of the project and encouraging replication;
- Supporting technical assistance activities to the lay foundation for the required institutional strengthening and enabling policy framework;
- International networking and absorbing international experiences, success stories and best practices to be used for promoting replication;

- Through the use of appropriate risk sharing instruments and by supporting and demonstrating commercial viability of new financing and service models, encouraging increasing involvement of private sector for replicating the models introduced; and
- Close monitoring and evaluation of the project implementation and results, thereby providing lesson learned for future action.

157. It is evident that the effective replication of project activities will require a combination of policy related changes as well as effective dissemination of the project results and lessons learned, thereby providing applicable examples for the implementation of the things in practice. Sometimes results on the practical side are needed, before the necessary changes at the policy level can be effectively promoted and implemented.

158. The project will facilitate continuing contacts and co-operation between the different stakeholder groups at the national and international level by organizing seminars, workshops and other public events, thereby bringing the project proponents, the policy makers and the potential investors / other donors together.

159. While some replication is expected to occur also during the project, the full potential is expected to be reached only after the project as a result of the successful introduction of the first pilot projects, creation of an enabling policy and institutional framework, public outreach and other activities implemented during the project, which are preparing ground for replication.

160. As regards the replication in the global context, the working examples of successfully integrating greenhouse gas emission reduction and sustainable transport sector development aspects into the overall transport sector development policies in developing countries are still relatively rare, which is why the GEF transport sector portfolio currently under development provides an excellent opportunity for exchanging experiences and lessons learnt between different countries and regions. While each country and city is unique, the problems with congestion, deteriorating urban air quality and need for fleet modernization are common not only in Egypt, but also in other GEF program countries. Furthermore, the transport system itself in Egypt shares many similarities with those of other GEF program countries, including the rapidly increasing use of private cars, low level of integration of different public transport modalities, very limited use of different transport demand management measures; the role of private “shared” taxis, the need to strengthen institutional capacity and to introduce new regulatory reform, etc.

161. Given the above, the measures explored and, as applicable, implemented in the framework of the proposed project are viewed to pose a high replication potential not only in Egypt, but also in other countries and cities with similar problems (and *vice versa*). In that respect, exchange of information and co-operation is also sought with the other GEF funded transport sector projects currently under development or implementation. The proposed project in Egypt presents the first of its kind in the Middle East and North African countries and as such complements well the GEF transport sector portfolio.

Part III Project Management Arrangements

162. The executing agency of the project will be the Egyptian Environmental Affairs Agency (EEAA) following the UNDP national execution arrangements. In executing the project, the EEAA will have the responsibility to ensure the liaison and co-ordination with the other ministries and city administrations and the agencies and authorities under them, which are having a stake in the project. For that, the opportunity to use the already existing interagency structures such as the Higher Committee for Greater Cairo Transportation Planning (established by a Prime Minister Decree and Headed by the Minister of Transport) to raise issues, facilitate consultations and follow decisions on the issues that fall under the mandate and jurisdiction of this body will be explored further.

163. UNDP country office in Cairo will be responsible for monitoring and ensuring proper use of UNDP-GEF funds to assigned activities, timely reporting of implementation progress as well as undertaking of mandatory and non-mandatory evaluations. In this context, UNDP will provide necessary support and backstopping to ensure proper implementation progress, convene weekly meetings with project management, provide feedback and revision to products and documents and where necessary filter project results to be in line with overall objectives as well as GEF-UNDP requirements.

164. The day-to-day implementation and management of the project will be undertaken by a full time project manager selected jointly by the executing agency and UNDP, in consultation with the UNDP/GEF Regional Co-ordination Unit. The project manager will be supported by four task leaders responsible for the further development, effective implementation and follow-up of the proposed pilot projects in their respective areas, namely 1) new bus services and their integration with other transport modes; 2) non-motorized transport; 3) transport demand management; and 4) freight transport. In addition, the core project team will consist of the required administrative, PR and IT support personnel.

165. The project manager will manage the project funds and authorize payments to the different beneficiaries according to UNDP procedures and regulations (UNDP User's Guidelines). For further details about the management of the project's financial resources in general, see section "Financial Modality and Cost Effectiveness" of the Executive Summary.

166. Project Steering Committee (PSC): The Project Steering Committee headed by the EEAA CEO will oversee and supervise project planning and implementation processes. The committee will consist of EEA, CEO, Project Director, UNDP representative, one representative each from the Ministries and agencies involved in the project. Other representatives will be selected as needed by the PSC. It is proposed that the committee will meet once or twice a year.

167. Technical Advisory Group (TAG): As needed, an additional Technical Advisory Group (TAG) can be established to provide technical advice on project implementation. The TAG will function largely as a roster of national experts providing inputs on project outputs on a demand driven basis. While the TAG can meet periodically as a group, in most instances individual experts or smaller working groups of experts will be consulted.

168. For successfully reaching the stated objective and outcomes of the project, it essential that the progress with different project components will be closely monitored both by the key local stakeholders and authorities as well as by the backstopping provided by project's international technical advisors, starting with the finalization of the detailed, component specific work plans and implementation arrangements and continuing through the project's implementation phase. The purpose of this is to identify possible risks to successful completion of the project and to facilitate early corrective action.

169. As regard the public-private partnerships to be promoted and established in the frame of the project, they will follow the existing Government regulations in place such as not allowing to make any concessions for such partnerships without public bidding.

170. In order to accord proper acknowledgement to GEF for providing funding, a GEF logo should appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgement to GEF. The UNDP logo should be more prominent-and separated from the GEF logo if possible, as UN visibility is important for security purposes

Stakeholder Involvement

171. The primary beneficiaries of the project are the city residents by improved mobility and reduction of urban air pollution and the targeted end users of the sustainable transport options supported. Therefore, it will be critical that the views of these end user groups can be reflected in monitoring and evaluating the results of the project. This can be done by specific surveys, sample interviews or by other means elaborated in further detail during project implementation, the costs of which are included in project's technical assistance budget.

172. In order to meet the set targets of the project, it is equally critical that the implementation, and, as applicable, in particular the enforcement, have full support and backing of the key authorities, under whose jurisdiction the proposed measures belong. While extensive stakeholder consultations have already been conducted during the project preparatory phase to secure this support, this should be seen as a continuing process throughout the implementation phase.

173. The targeted private sector entities in the measures promoting public-partnerships are obvious stakeholders, with a need to recognize areas and approaches of mutual benefits.

174. A list of stakeholders to be consulted or involved into the project in one form or another at some point of implementation is expected to include:

- Ministry of Transport (MoT)
- Ministry of Environment (MoE)
- Egyptian Environmental Affairs Agency (EEAA)
- Ministry of Housing and New Urban Communities (MoHNUC)
- General Organisation of Physical Planning (GOPP)
- General Organisation of New Urban Communities (GONUC)
- Governorates (Cairo, Giza, Qalyobeya, Alexandria, Fayoum, Monofia etc.)

- Cairo Transit Authority (CTA)
- Alexandria Transit Authority (ATA)
- Greater Cairo Bus Company (GCBC)
- Cairo Metro Organization (CMO)
- Cairo Traffic Engineering Bureau (CTEB)
- Egyptian National Railways (ENR)
- General Authority for Roads, Bridges and Land Transport (GARBLT)
- Ministry of Irrigation and Water Resources (MoIWR)
- River Transport Authority (RTA)
- Ministry of Interior (MoI)
- Local Traffic Police
- Ministry of Investment
- Social Fund for Development (SFD)
- Private bus operators and manufacturers
- Bicycle manufacturers, sellers and repair shops
- The media
- Universities and other educational institutes
- NGOs

175. A more detailed description of the stakeholders to be involved is included in Section IV, Part VI “Stakeholder Involvement Plan”.

176. The implementation of the project will be co-ordinated with the transport sector related programs of other donors in Egypt, including bilateral (Japan, USAID) and multilateral sources. Communication will also be sought with the GEF funded transport sector projects currently under development or implementation in other countries so as to facilitate the exchange of information in terms of best practices and approaches to be followed.

Part IV: Monitoring and Evaluation Plan and Budget

177. Project monitoring and evaluation will be conducted in accordance with established UNDP, and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from UNDP/GEF. The Project Results Framework in Section II provides performance and impact indicators for project implementation along with their corresponding means of verification. These will form the basis, on which the project's Monitoring and Evaluation system will be built. This will also include the monitoring and independent verification of the amount of passengers using the new public transport services under component 1, which monitoring and verification will provide the basis for eventual claims for the proposed risk sharing mechanism under this component.

178. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized at the Project's Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Monitoring and Reporting

Project Inception Phase

179. A Project Inception Workshop will be conducted with the full project team, relevant government counterparts, co-financing partners, the UNDP-CO and representation from the UNDP-GEF Regional Coordinating Unit, as well as UNDP-GEF (HQs) as appropriate.

180. A fundamental objective of this Inception Workshop will be to assist the project team to understand and take ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual workplan on the basis of the project's logframe matrix. This will include reviewing the logframe (indicators, means of verification, assumptions), imparting additional detail as needed, and on the basis of this exercise finalize the Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project. Furthermore, the risk assessment of the project will be updated and presented in accordance with the ATLAS Risk Management Module.

181. Additionally, the purpose and objective of the Inception Workshop (IW) will be to: (i) introduce project staff with the UNDP-GEF expanded team which will support the project during its implementation, namely the CO and responsible Regional Coordinating Unit staff; (ii) detail the roles, support services and complementary responsibilities of UNDP-CO and RCU staff vis a vis the project team; (iii) provide a detailed overview of UNDP-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Project Report (APR), Tripartite Review Meetings, as well as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project related budgetary planning, budget reviews, and mandatory budget rephasings.

182. The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify for all each parties responsibilities during the project's implementation phase.

Monitoring responsibilities and events

183. A detailed schedule of project reviews meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Tripartite Reviews, Steering Committee Meetings, (or relevant advisory and/or coordination mechanisms) and (ii) project related Monitoring and Evaluation activities.

184. *Day to day monitoring* of implementation progress will be the responsibility of the Project Coordinator or Director (depending on the established project structure) based on the project's Annual Workplan and its indicators. The Project Team will inform the UNDP-CO of any delays

or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

185. The Project Coordinator and the Project GEF Technical Advisor will fine-tune the progress and performance/impact indicators of the project in consultation with the full project team at the Inception Workshop with support from UNDP-CO and assisted by the UNDP-GEF Regional Coordinating Unit. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at this Workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Workplan. The local implementing agencies will also take part in the Inception Workshop in which a common vision of overall project goals will be established. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team.

186. Measurement of impact indicators related to global benefits will occur according to the schedules defined in the Inception Workshop and tentatively outlined in the indicative Impact Measurement Template at the end of this Annex. The measurement, of these will be undertaken through subcontracts or retainers with relevant institutions or through specific studies that are to form part of the projects activities (e.g. measurement of carbon benefits or through surveys for capacity building efforts).

187. *Periodic monitoring* of implementation progress will be undertaken by the UNDP-CO through quarterly meetings with the project proponent, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

188. UNDP Country Offices and UNDP-GEF RCUs as appropriate, will conduct yearly visits to projects that have field sites, or more often based on an agreed upon schedule to be detailed in the project's Inception Report / Annual Workplan. to assess first hand project progress. Any other member of the Steering Committee can also accompany, as decided by the SC. A Field Visit Report will be prepared by the CO and circulated no less than one month after the visit to the project team, all SC members, and UNDP-GEF.

189. *Annual Monitoring* will occur through the **Tripartite Review (TPR)**. This is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will be subject to Tripartite Review (TPR) at least once every year. The first such meeting will be held within the first twelve months of the start of full implementation. The project proponent will prepare an Annual Project Report/Project Implementation Review (APR/PIR) and submit it to UNDP-CO and the UNDP-GEF regional office at least two weeks prior to the TPR for review and comments.

190. The APR/PIR will be used as one of the basic documents for discussions in the TPR meeting. The project proponent will present the APR/PIR to the TPR, highlighting policy issues and recommendations for the decision of the TPR participants. The project proponent also informs the participants of any agreement reached by stakeholders during the APR/PIR

preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary.

Terminal Tripartite Review (TTR)

191. The terminal tripartite review is held in the last month of project operations. The project proponent is responsible for preparing the Terminal Report and submitting it to UNDP-CO and LAC-GEF's Regional Coordinating Unit. It shall be prepared in draft at least two months in advance of the TTR in order to allow review, and will serve as the basis for discussions in the TTR. The terminal tripartite review considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learnt can be captured to feed into other projects under implementation of formulation.

192. The TPR has the authority to suspend disbursement if project performance benchmarks are not met. Benchmarks will be developed at the Inception Workshop, based on the performance and impact indicators defined in the projects logical framework matrix.

Project Monitoring Reporting

193. The Project Coordinator in conjunction with the UNDP-GEF extended team will be responsible for the preparation and submission of the following reports that form part of the monitoring process. Items (a) through (f) are mandatory and strictly related to monitoring, while (g) through (h) have a broader function and the frequency and nature is project specific to be defined throughout implementation.

(a) Inception Report (IR)

194. A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year/ Annual Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits, support missions from the UNDP-CO or the Regional Coordinating Unit (RCU) or consultants, as well as time-frames for meetings of the project's decision making structures. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

195. The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation.

196. When finalized the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, the UNDP Country Office and UNDP-GEF's Regional Coordinating Unit will review the document.

(b) Annual Project Report (APR)

197. The APR is a UNDP requirement and part of UNDP's Country Office central oversight, monitoring and project management. It is a self-assessment report by project management to the CO and provides input to the country office reporting process and the ROAR, as well as forming a key input to the Tripartite Project Review. An APR will be prepared on an annual basis prior to the Tripartite Project Review, to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work.

198. The format of the APR is flexible but should include the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- The constraints experienced in the progress towards results and the reasons for these;
- The three (at most) major constraints to achievement of results;
- AWP, CAE and other expenditure reports (ERP generated);
- Lessons learned;
- Clear recommendations for future orientation in addressing key problems in lack of progress

(c) Project Implementation Review (PIR)

199. The PIR is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for a year, a Project Implementation Report must be completed by the CO together with the project. The PIR can be prepared any time during the year (July-June) and ideally prior to the TPR. The PIR should then be discussed in the TPR so that the result would be a PIR that has been agreed upon by the project, the executing agency, UNDP CO and the concerned RC.

200. The individual PIRs are collected, reviewed and analysed by the RCs prior to sending them to the focal area clusters at the UNDP/GEF headquarters. The focal area clusters supported by the UNDP/GEF M&E Unit analyse the PIRs by focal area, theme and region for common issues/results and lessons. The TAs and PTAs play a key role in this consolidating analysis.

201. The focal area PIRs are then discussed in the GEF Interagency Focal Area Task Forces in or around November each year and consolidated reports by focal area are collated by the GEF Independent M&E Unit based on the Task Force findings.

202. The GEF M&E Unit provides the scope and content of the PIR. In light of the similarities of both APR and PIR, UNDP/GEF has prepared a harmonized format for reference, which is available from UNDP/GEF's M&E Unit.

(d) Quarterly Progress Reports

203. Short reports outlining main updates in project progress will be provided quarterly to the local UNDP Country Office and the UNDP-GEF regional office by the project team.

(e) Periodic Thematic Reports

204. As and when called for by UNDP, UNDP-GEF or the Implementing Partner, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. UNDP is requested to minimize its requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

(f) Project Terminal Report

205. During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved, structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

(g) Technical Reports

206. Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs. Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

(h) Project Publications

207. Project Publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia

publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also (in consultation with UNDP, the government and other relevant stakeholder groups) plan and produce these Publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget.

Independent Evaluation

208. The project will be subjected to at least two independent external evaluations as follows:

Mid-term Evaluation

209. An independent Mid-Term Evaluation will be undertaken at the end of the second year of implementation. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

Final Evaluation

210. An independent Final Evaluation will take place three months prior to the terminal tripartite review meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

Audit Clause

211. The Government will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the legally recognized independent auditor.

Learning and Knowledge Sharing

212. Results from the project will be disseminated within and beyond the project intervention zone through a number of existing information sharing networks and forums. In addition:

- The project will participate, as relevant and appropriate, in UNDP/GEF sponsored networks, organized for Senior Personnel working on projects that share common characteristics.
- The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned.

213. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identifying and analyzing lessons learned is an on-going process, and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered not less frequently than once every 12 months. UNDP/GEF shall provide a format and assist the project team in categorizing, documenting and reporting on lessons learned. To this end a percentage of project resources will need to be allocated for these activities.

Table G-1 : Indicative Monitoring and Evaluation Work plan and corresponding Budget

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team Staff time</i>	Time frame
Inception Workshop	§ Project Manager § UNDP CO § UNDP GEF	5,000	Within first two months of project start up
Inception Report	§ Project Manager § UNDP CO	None	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators (incl. an updated baseline study)	§ Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	To be finalized at the outset of project operations for the inception workshop and report. Indicative cost: 30,000	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	§ Oversight by Project GEF Technical Advisor and Project Manager § Measurements by regional field officers and local IAs	To be determined as part of the Annual Work Plan's preparation. Indicative cost: 20,000 per year for four years	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	§ Project Manager § UNDP-CO § UNDP-GEF	None	Annually
TPR and TPR report	§ Government Counterparts § UNDP CO § Project Manager § UNDP-GEF Regional Coordinating Unit	None	Every year, upon receipt of APR
Steering Committee Meetings	§ Project Manager § UNDP CO	None	Following Project IW and subsequently

			at least once a year
Periodic status reports	§ Project team	5,000	To be determined by Project team and UNDP CO at the outset project operations
Technical reports	§ Project team § Hired consultants as needed	15,000	To be determined by Project Team and UNDP-CO during implementation
Mid-term External Evaluation and other interim evaluations	§ Project team § UNDP- CO § UNDP-GEF Regional Coordinating Unit § External Consultants (i.e. evaluation team)	40,000	At the mid-point of project implementation. Additional component specific evaluations on as needed basis
Final External Evaluation	§ Project team, § UNDP-CO § UNDP-GEF Regional Coordinating Unit § External Consultants (i.e. evaluation team)	40,000	At the end of project implementation
Terminal Report	§ Project team § UNDP-CO § External Consultant	None	At least one month before the end of the project
Lessons learned	§ Project team § UNDP-GEF Regional Coordinating Unit (suggested formats for documenting best practices, etc)	15,000 (average 3,000 per year)	Yearly
Audit	§ UNDP-CO § Project team	5,000 (average \$1,000 per year)	Yearly
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	§ UNDP Country Office § UNDP-GEF Regional Coordinating Unit (as appropriate) § Government representatives	15,000 (average one visit per year)	Yearly
TOTAL INDICATIVE COST <i>Excluding project team staff time and UNDP staff and travel expenses</i>		US\$ 250,000	

Part V: Legal Context

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Egypt and the United Nations Development Programme, signed by the parties on 19 January, 1987. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that agreement.

The UNDP Resident Representative in Egypt is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- Revision of, or addition to, any of the annexes to the Project Document
- Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation
- Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility and
- Inclusion of additional annexes and attachments only as set out here in the Project Document

SECTION II: STRATEGIC RESULTS FRAMEWORK AND GEF INCREMENT

Part I: Incremental Cost Analysis

A. Project Background

The population of Egypt is growing by some 1 to 1.5 million people per year and is expected to reach 80 million by 2015. Together with the growing economy, this is inevitably putting more pressure on the country's transportation system, increasing the energy use of the transport sector and the related GHG emissions.

B. Incremental Cost Assessment

Baseline

With the current, annual growth rate of approximately 6 %, the annual GHG emissions of Egypt's transport sector are increasing by about 1,8 million tons per year. This is assumed as a macro level baseline development also for this project.

The project specific baseline (related to envisaged outputs and outcomes of the project during its lifetime) is corresponding to the baseline of the suggested pilot projects as well as to the current institutional, legal and regulatory framework and to the barriers to the sustainable transport sector development associated with this framework.

Global Environmental Objective

The Global Environmental Objective of the project is to reduce the growth of the energy consumption and the related greenhouse gas emissions of the transport sector in Egypt.

Alternative

The project is expected to remove barriers to and strengthen the institutional, legal and regulatory framework for facilitating more sustainable development of the transport sector in Egypt and through successful implementation of selected pilot projects, produce some immediate GHG reduction benefits.

Systems Boundary

For estimating the GHG reduction potential of the project, only the direct GHG emissions resulting from use fuel use in the targeted vehicles have been taken into account. The indirect emissions from fuel production and transportation activities or vehicle manufacturing have not been considered.

SUMMARY OF THE INCREMENTAL COST ANALYSIS			
<p>Outcome 1: The concept for new, high quality integrated public transport services for Cairo and its satellite cities to exert shift from private car use successfully introduced, and its replication initiated on the basis of public-private partnerships</p>	<p>Baseline: Disintegrated and low quality public transport services discouraging the private car owners (i.e. medium and higher income part of the population) to use public transportation for their daily commuting and other travel needs.</p>	<p>Alternative: Availability of new and with the metro service integrated public transport services available attracting new customers from the current or potential future private cars users.</p>	<p>GEF Increment: Technical assistance + sharing the initial financing risks with the private operators of introducing these new services. Estimated global benefits: 290,000 tons of CO₂ emissions reduced over the next 20 years as a direct result of successful implementation of proposed pilot projects and an estimated 600,000 tons of reduced CO₂ through successful replication in Cairo, Alexandria and their satellite cities.</p>
<p>Outcome 2: The modal share of non-motorized transport (NMT) in middle size provincial cities increased or sustained.</p>	<p>Baseline: The modal share of non-motorized transport (NMT) in middle size provincial cities increased or sustained.</p>	<p>Alternative: New NMT facilities successfully introduced in two middle size cities, leading to further replication</p>	<p>GEF Increment: Technical assistance + cost sharing of selected pilot projects in two middle-size cities. Estimated global benefits: 262,000 tons of reduced CO₂ over the next 20 years as a direct result of successful implementation of the proposed pilot projects and a potential for over 4 million tons of CO₂ through successful replication in all the identified 27 middle size cities.</p>
<p>Outcome 3: Successful introduction of the Transport Demand Management (TDM) concept with an objective to expand it towards more aggressive measures over time to effectively discourage the use of private cars, when good quality public transport services are available.</p>	<p>Baseline: No effective TDM measures currently implemented in Egypt.</p>	<p>Alternative: Successful introduction of the TDM concept through selected pilot projects, leading to their further replication and expansion.</p>	<p>GEF Increment: Technical assistance + cost sharing of selected pilot projects. Estimated global benefits: 81,000 tons of reduced CO₂ over the next 20 years as a direct result of successful implementation of the proposed pilot projects and a potential for over 18 million tons of CO₂ through successful replication and introduction of more aggressive transport demand management measures.</p>
<p>Outcome 4: Improved energy efficiency of freight transport</p>	<p>Baseline: Freight transport relying to large extent to low energy efficient use of trucks. In emission control, primary focus of local authorities in reducing local air pollution (particle emissions etc.)</p>	<p>Alternative: Increasing attention to and realisation of the overall energy efficiency gains that can be achieved by different technical measures, driving habits and load collection and handling practices, including opportunities provided, by new information technologies such as EDI.</p>	<p>GEF Increment: Technical assistance. Estimated global benefits: 850,000 tons of CO₂ as a direct result of the project and a potential for over 5 million tons of CO₂ through successful replication.</p>

Outcome 5: Enhanced awareness, capacity and strengthened institutional basis to promote sustainable transport sector development during and after the project.	Baseline: Lack of institutional co-operation, co-ordination and joint strategies to initiate and replicate the suggested sustainable transport actions.	Alternative: The required new institutional co-ordination mechanisms established and the existing one strengthened (for further details, see the Project Strategic Framework).	GEF Increment : The project working as a catalyst and platform to advocate and facilitate the institutional strengthening and improved institutional co-ordination. The GEF support is not expected to cover any baseline establishment or operational costs of any old or new institutions, but will focus on incremental capacity building, training and other similar TA type of activities. Estimated global benefits: Indirect.
Outcome 6: Monitoring, learning, adaptive feedback and evaluation	Baseline: Inadequate information for adaptive management and project's final results and lessons learnt not captured for further use.	Alternative: Adequate information for adaptive management. Project's final results (incl. GHG reduction impact) and lessons learnt captured for further use.	GEF Increment: Technical assistance. Estimated global benefits: N/A.
Total:	Rapidly increasing GHG emissions of the transport sector with an annual growth rate of 6% Baseline Costs: 28,570,000	Alternative: See the estimates in the column "GEF Increment" Alternative Costs:	Estimated global benefits: Direct: Cumulative 1,48 million tons of CO ₂ reduction compared to the baseline over the next 20 years: Cumulative, indirect post project GHG reduction: over 20 mill. tons of CO ₂ by 2025. GEF Incremental Costs: USD 6,900,000

INCREMENTAL COSTS AND CUMULATIVE GHG REDUCTION POTENTIAL BY COMPONENT					
Component	Pilot Projects		Replication	CREATS (Cumulative GHG reduction potential for CREATS measures in Greater Cairo Area)	Illustrative target (cutting the growth of the energy consumption of the transport sector from 6 to 5 %)
	Costs USD	Over 20 years [tons of CO ₂]			
Component 1	1,420,000	290,000	600,000	n.a.	n.a.
Component 2	1,400,000	262,000	4-5 million	n.a.	n.a.
Component 3	1,460,000	81,000	> 18 million	n.a.	n.a.
Component 4	450,000	850,000	> 5 million	n.a.	n.a.
Component 5	980,000	n.a	n.a.	n.a.	n.a.
Project Management	940,000	n.a	n.a.	n.a.	n.a.
M&E	250,000	n.a	n.a.	n.a.	n.a.
Total	6,900,000	1,483,000	> 27 million	46 million	> 100 million

Part II: Project Results Framework

Development Objective: To reduce the growth of the energy consumption and the related greenhouse gas emissions of the transport sector in Egypt, while simultaneously mitigating the local environmental and other problems of increasing traffic such as deteriorated urban air quality and congestion (Indicator: the growth rate of the transport sector energy consumption).

	Indicator	Baseline	Target	Sources of Verification	Assumptions
<p>Project Objective: To create an enabling policy and institutional environment and leverage resources for sustainable transport sector development, including the increasing or sustained modal share of public and non-motorized transportation, reduced use of private cars and more energy efficient freight transportation.</p>	<p>The status and impact of the pilot projects.</p> <p>Level of replication and/or expansion of the sustainable transport schemes promoted by the project</p> <p>Level of adoption and implementation of the required policy and institutional changes.</p>	<p>The need for the proposed activities recognized, but the implementation suffering from different barriers.</p>	<p>The proposed pilot activities successfully concluded with the associated reduction of CO₂ emissions by 1,48 million tons of CO₂ equivalent (calculated for the pilot projects over 20 years from the project start) as a direct result of the project activities.</p> <p>The replication of the projects initiated as per the stated replication targets, including the leveraging of financial resources for that at the amount of at least USD 100 million for their future implementation.</p> <p>The required policy and institutional development needs recognized and implemented by the Government.</p>	<p>Impact studies conducted during project implementation (incl. an updated baseline study to be conducted at the outset of project operations)</p> <p>Final project evaluation.</p> <p>Official government documents + final evaluation.</p>	<p>Real political will of the key public authorities to effectively support and facilitate the implementation of the first pilot projects, their effective replication or expansion and the overall institutional development needs of the transport sector.</p>

<p>Outcome 1: The concept for new, integrated high quality public transport services (to exert shift from private cars) for Cairo and its satellite cities successfully introduced and replicated on the basis of public-private partnerships.</p>	<p>The new public transport services continue to operate on a self sustaining basis at the end of the project</p> <p>Proposals and agreements for replication are submitted and negotiated with the relevant authorities.</p> <p>The estimated amount of reduced GHG emissions by the pilot projects compared to the baseline.</p>	<p>No adequate public transport services that can attract car users for the satellite cities available.</p> <p>No feeder system that can attract car users for metro in place.</p> <p>Lack of experience with more advanced, road based public transport systems such as BRT.</p>	<p>The new public transport services introduced during the project continue to operate on a self sustaining basis.</p> <p>Agreements for the replication of the concept of new, high quality and with cities' internal public transport system integrated inter-city bus services between Cairo and its 6 satellite cities formulated and discussed with the authorities.</p> <p>Successful demonstration and agreement of the Government for replication of an integrated feeder bus and ticketing system for 9 existing and for 5 new metro stations in Cairo.</p> <p>Depending on the final feasibility assessment, the construction of a pilot BRT system initiated for one location.</p> <p>Reduced CO₂ emissions of 0,29 million tons of CO₂ equivalent (calculated for the pilot projects over 20 years from the project start) as a direct result of the project activities.</p>	<p>Impact and detailed baseline studies conducted during the project implementation (project intermediate reports)</p> <p>Final evaluation</p>	<p>Commercial feasibility of the proposed service high enough to attract private bus operators.</p> <p>A supportive policy framework for public-private partnerships facilitating adequate fare box revenues and income from complementary activities such as advertising.</p>
<p>Output 1.1 The public bidding and negotiations for the new service finalized</p>	<p>Status of the tender.</p>	<p>n/a</p>	<p>Concluded tender and signed contracts</p>	<p>Project reports</p>	<p>The terms of tender attract private sector interest</p>

<p>Output 1.2 New, high quality public transport service for connecting Cairo and the city of 6th of October, Sheikh Zaid and Media Production City successfully in operation attracting current or potential future private car users, together with the improvement of the internal public transport service within the 6th of October.</p>	<p>The amount of passengers using the new services</p> <p>The financial performance of the service provided.</p>	<p>No fast, accurate and comfortable public transportation available between the old and their “new” satellite cities.</p>	<p>More than 6,000 passengers per day using the new services between Cairo and the city of 6th of October</p> <p>More than 2,500 passengers per day using the new service within the city of 6th of October</p> <p>The new services continue to operate on a financially sustainable basis.</p>	<p>Ticket sale + on-board surveys</p> <p>Project intermediate reports and the final evaluation.</p>	<p>See above</p>
<p>Output 1.3 The feeder bus lines serving two metro stations in Cairo successfully in operation with integrated fare policy and ticketing, attracting current or potential future private car users.</p>	<p>The amount of passengers using the new feeder services</p> <p>The financial indicators of the service provided.</p>	<p>No coordinated feeder system in place for the metro.</p> <p>No integrated fare policy and ticketing between the bus and rail based systems.</p>	<p>More than 5,000 passengers per day using the new services.</p> <p>The new services continue to operate on a financially sustainable basis.</p>	<p>Ticket sale + on-board surveys</p> <p>Project intermediate reports and the final evaluation.</p>	<p>See above</p>
<p>Output 1.4 The results and experiences of the first year operation of the new services documented disseminated and discussed with the key decision makers (including the achieved GHG emission reductions).</p>	<p>The status of the report</p>	<p>The results and experiences not documented and disseminated</p>	<p>Report finalized, presented to and discussed with the key stakeholders.</p>	<p>Project reports</p>	<p>The pilot systems in operation.</p>

<p>Output 1.5 Subject to the success with the first pilot projects, the supporting studies and stakeholder consultations for the replication of the concepts including, if feasible, Bus Rapid Transit (BRT)</p>	<p>The number of locations and corridors, for which the studies and stakeholder consultations have been successfully finalized.</p>	<p>No follow up to facilitate replication</p>	<p>Supporting studies for selected replications of the concepts for additional satellite cities around Cairo, including the consideration of a BRT scheme, if feasible (for Output 1.1), and for selected existing and new metro stations in Cairo (for Output 1.2) finalized. (For prerequisites to enter this activity, see assumptions)</p>	<p>Project reports</p>	<p>Success with the first pilot systems For the studies: Confirmed prior commitment of the key stakeholders and leveraged resources to follow up with actual implementation.</p>
<p>Outcome 2: The modal share of non-motorized transport in middle size provincial cities increased or sustained.</p>	<p>Modal share of NMT in the targeted cities. Number of kilometers of new NMT corridors constructed and used. The estimated amount of reduced GHG emissions by the selected pilot projects compared to the baseline.</p>	<p>52 % in Shebin El-Kom (down from 68% in 1988) and 31 % in Fayoum.</p>	<p>The estimated current NMT modal share in the targeted cities sustained or increased. A total of 50km new NMT corridors constructed and used by the end of the project. Reduced CO₂ emissions of 0,26 million tons of CO₂ equivalent (calculated for the pilot projects over 20 years from the project start) as a direct result of the project activities</p>	<p>Project intermediate reports, specific studies and the final evaluation.</p>	<p>The associated TA and marketing activities can successfully encourage NMT, if the infrastructure is in place.</p>
<p>Output 2.1 Final design of new NMT corridors in Fayoum and Shebin El-Kom</p>	<p>The design reports approved by the key project stakeholders for implementation and financing.</p>	<p>Draft design of the two NMT corridors tentatively agreed by the key stakeholders for implementation and financing.</p>	<p>The final design reports approved by the key stakeholders for implementation and financing.</p>	<p>Project reports</p>	<p>Continuing commitment of the key stakeholders to support the construction of the two NMT corridors in accordance with the letters received.</p>

Output 2.2 Construction of a new 13,6 km NMT corridor in Fayoum.	The status of construction of the NMT corridor in Fayoum.	No specifically designed NMT corridor in Fayoum	Construction of at least 13,6 km new bicycle lanes and improvement of the sidewalks in Fayoum finalized.	Project reports	See above
Output 2.3 Construction of a new 6,5 km NMT corridor in Shebin El-Kom	The status of construction of the NMT corridor in Shebin El-Kom	No specifically designed NMT corridor in Shebin-El Kom	Construction of at least 6,5 km new bicycle lanes and improvement of the sidewalks in Shebin El-Kom finalized.	Project reports	See above
Output 2.4 In co-operation with the local stakeholders, facilitate the establishment and training of the staff of local bicycle manufacturing, selling and repair shops, conduct promotional campaign to raise the social acceptance of cycling and to lower the barriers to bicycle purchase and use.	The status of the promotional campaign and the establishment of supporting rental, sale and repair services for bicycles.	Limited capacity of the local stakeholders to support adequate promotional campaigns and to establish new bicycle rental, sale or repair services.	Promotional campaigns for NMT in Fayoum and Shebin El-Kom implemented and established bicycle rental, sale and repair services with trained staff, which continue to work on a commercial basis.	Project reports and mid-term and final evaluations	Co-operation with the local stakeholders such as the local universities in Fayoum and Shebin El-Kom, the SFD etc. to conduct the promotional campaign.
Output 2.5 The use of the new NMT corridors monitored and the results and experiences documented and disseminated (including the achieved GHG emission reductions).	The status of the report	The results and experiences not documented and disseminated	Report finalized	Project reports	The two NMT corridors constructed as planned.

<p>Output 2.6 Subject to the success with the first pilot NMT corridors, the supporting studies and stakeholder consultations for the replication of NMT corridors in other middle-size cities finalized.</p>	<p>The number of studies and agreements finalized for the construction of NMT corridors in other middle size cities.</p>	<p>No follow up to facilitate replication</p>	<p>Subject to the success with the first pilot corridors, finalized stakeholder consultations and agreements with the local governments for extension and/or replication of the NMT corridors in the selected sites in other cities. (For prerequisites to enter this activity see assumptions).</p>	<p>Project reports</p>	<p>Confirmed success with the first NMT corridors</p> <p>For the studies for replication: Confirmed prior commitment of the key stakeholders and leveraged resources to follow up with actual implementation.</p>
<p>Outcome 3: Successful introduction of the Transport demand Management (TDM) concept with an objective to expand it towards more aggressive measures over time to effectively discourage the use of private cars, when good quality public transport services are available.</p>	<p>The level of enforcement of the piloted TDM measures.</p> <p>The level of satisfaction of the key stakeholders on the effectiveness of the TDM measures introduced.</p> <p>The estimated amount of reduced GHG emissions by the selected pilot projects compared to the baseline.</p>	<p>No real strategy currently in place to effectively proceed with TDM in order to reduce the local air pollution and congestion in Greater Cairo area and Alexandria and simultaneously contribute to GHG reduction.</p>	<p>The pilot TDM measures effectively enforced and respected by the car users (for further details, see the component specific description)</p> <p>High satisfaction of the key stakeholders on the effectiveness of the TDM measures introduced and on the quality of the alternative public transport services provided.</p> <p>Agreement of the local governments to replicate and/or expand the pilot TDM measures in the Greater Cairo Area and, if applicable, Alexandria.</p> <p>Reduced CO₂ emissions of 0,08 million tons of CO₂ equivalent (calculated for the pilot projects over 20 years from the project start) as a direct result of the project activities</p>	<p>Project intermediate reports and the final evaluation.</p> <p>Separate surveys</p>	<p>Continuing commitment of the key stakeholders to support the suggested TDM measures in accordance with the letters received.</p> <p>Full involvement and support secured from the local city administration and from the authorities (traffic police etc.), who will be responsible for the enforcement of the suggested TDM measures</p>

<p>Output 3.1 Finalized design and implementation arrangements for all the planned TDM measures.</p>	<p>The design reports approved by the key project stakeholders for implementation and financing.</p>	<p>Conceptual design of the planned TDM measures agreed by the key stakeholder for implementation and financing.</p>	<p>The final design reports approved by the key stakeholders for implementation and financing.</p>	<p>Project reports</p>	<p>Continuing commitment of the key stakeholders to support the planned TDM measures.</p>
<p>Output 3.2 Supporting TDM measures such as parking measures and, if applicable, segregated bus lanes implemented for increasing the attractiveness of the public transport components under outcome 1</p>	<p>The level of implementation and enforcement of the suggested TDM measures.</p>	<p>The public transport services improved under component 1 without complementary TDM measures to improve the chances for success.</p>	<p>With component 1 corresponding parking policy and other measures to encourage the current or expected future private car users to use the new public transport services</p> <p>Whenever physically feasible, introducing the right of way (separate bus lanes) to improve the traffic flow and attractiveness of the public transport in terms of its speed.</p>	<p>Project reports and final evaluations</p>	<p>The physical environment allowing segregated bus lanes.</p> <p>Commitment of the key local stakeholders to support and enforce the suggested TDM measures.</p> <p>The “win-win” opportunities of increased speed recognized also by the shared taxis.</p>
<p>Output 3.3: A comprehensive transport management project for one pilot corridor finalized, including a public transportation priority system at traffic signals and, if applicable, pedestrianization of selected sections adjacent to/in the vicinity of the corridor.</p>	<p>The level of implementation and enforcement of the suggested TDM measures.</p>	<p>Lack of experience and concrete success stories to back up the more aggressive implementation of the required TDM measures to effectively address the current transport sector related problems.</p>	<p>Successful finalization and effective enforcement of the selected TDM measures in the selected pilot corridor.</p> <p>Reported satisfaction of the key decision makers on the effectiveness of the measures promoted.</p>	<p>Project monitoring reports and visual check up by site visits.</p> <p>Continued stakeholder consultations.</p>	<p>Continuing commitment of the key stakeholders to support the testing of the suggested TDM measures in accordance with the letters received.</p>

<p>Output 3.4: Establishing of at least one new pilot micro-pedestrian area in Greater Cairo area and initiating 10 new micro-pedestrian areas in other strategic locations of Cairo, Giza and Alexandria.</p>	<p>The level of implementation and enforcement of the suggested TDM measures.</p>	<p>Lack of experience and concrete success stories to back up the more aggressive implementation of the required TDM measures to effectively address the current transport sector related problems.</p>	<p>The construction of the pilot micro-pedestrian area finalized and the area taken into use.</p> <p>Proposals for the establishment of at least 10 new pedestrian areas in strategic locations of Cairo, Giza and Alexandria completed, presented and negotiated with the local authorities by the end of the project.</p> <p>On the basis of the above, agreement of the local government to replicate at least 10 new micropedestrian areas.</p>	<p>Project reports and visual check up by regular site visits.</p>	<p>Continuing commitment of the key stakeholders to support the testing of the suggested TDM measures in accordance with the letters received.</p>
<p>Output 3.5 Introduction of staggered parking charges to discourage the private cars to enter the city centre and improve the service provided by parking garages surrounding the city centre with Variable Message (Parking) Signs (VMS) and free shuttle service to the city centre and/or closest metro station)</p>	<p>The level of implementation and enforcement of the suggested TDM measures.</p>	<p>Lack of experience and concrete success stories to back up the more aggressive implementation of the required TDM measures to effectively address the current transport sector related problems.</p>	<p>Staggered parking charges introduced and effectively enforced in Cairo city centre</p> <p>3-4 Variable Message Signs guiding parking outside the city center and the free shuttle service in operation.</p> <p>Reported and confirmed satisfaction of the key decision makers on the effectiveness of the measures promoted.</p>	<p>Project monitoring reports and visual check up by regular site visits.</p> <p>Continued stakeholder consultations.</p>	<p>Continuing commitment of the key stakeholders to support the testing of the suggested TDM measures in accordance with the letters received.</p>

<p>Output 3.6 The results and experiences of the first year operation of the TDM measures documented, disseminated and discussed with the key stakeholders (including the achieved GHG emission reductions).</p>	<p>The status of the report and stakeholder consultations.</p>	<p>The results and experiences not documented and disseminated</p>	<p>Report finalized, presented to and discussed with the key stakeholders</p>	<p>Project reports</p>	<p>The suggested TDM pilot measures implemented and enforced as planned</p>
<p>Output 3.7 Subject to the success with the first pilot TDM measures, the supporting studies and stakeholder consultations for the replication finalized.</p>	<p>The number of studies and stakeholder consultations conducted.</p>	<p>No follow up to facilitate replication</p>	<p>The policy dialogue for the expansion of the tested TDM approaches initiated with a gradual movement towards more comprehensive TDM approach for Greater Cairo area and, if applicable, Alexandria.</p>	<p>Project reports</p>	<p>Confirmed success with the TDM pilot projects.</p>
<p>Outcome 4: Improved energy efficiency of freight transport</p>	<p>Fuel consumption and the associated GHG emissions per ton and km of goods transported</p>	<p>Inefficient operation of the existing truck fleet. Low utilization of the available rail and river based freight transport options.</p>	<p>Reduced CO₂ emissions of 0,85 million tons of CO₂ equivalent (calculated for the pilot projects over 20 years from the project start) as a direct result of the project activities</p>	<p>Monitoring of the fuel savings and the associated GHG emission reductions (compared to the baseline) of the freight operators benefiting from the project.</p>	<p>A regulatory framework to support vehicle inspection and tuning in place, with effective enforcement. The benefits offered by the new terminal facilities high enough to attract the users.</p>
<p>Output 4.1 Adopted legal and regulatory changes and incentives for improving the energy efficiency of freight transport.</p>	<p>The level of adoption of the recommended policy and other measures to promote sustainable freight transport.</p>	<p>Non-enabling policy framework</p>	<p>The recommended regulatory changes for improving the urban freight transport are approved by the local authorities.</p>	<p>Project reports</p>	<p>Continuing commitment of the key stakeholders to support the project</p>

<p>Output 4.2 The new inspection and tuning stations in operation with trained staff to address also the energy efficiency aspects.</p>	<p>Number of stations in operation.</p> <p>Number of vehicles inspected and tuned</p>	<p>No stations in operation.</p>	<p>10 new truck inspection and tuning stations in operation with trained staff to address also the energy efficiency aspects.</p>	<p>Project reports</p>	<p>See above</p>
<p>Output 4.3 Improved energy efficiency of trucks and reduced number of driven kilometers as a result of improved logistics of truck operations in urban areas</p>	<p>Fuel consumption, load data and revenue data of the truck operators co-operating with the project</p>	<p>Low efficiency of truck operations</p>	<p>Over 100,000 tons savings in fuel consumption as a result of improved energy efficiency of the truck operations by the end of the project.</p>	<p>Project monitoring reports</p>	<p>See above</p>
<p>Output 4.4: Enhanced capacity of the management and envisaged users of the planned two new intermodal terminal facilities to facilitate their effective use.</p>	<p>The rate of use and the associated fuel savings of the new intermodal terminal facilities</p>	<p>Low utilisation of rail and river based freight transport options.</p> <p>No intermodal terminals yet in operation in Egypt.</p> <p>Lack of experience of opportunities provided by new information technology such as EDI to improve the efficiency of the operations of the planned new, terminal facilities</p>	<p>Effective operation of new intermodal terminals attracting cargo from road based transport options.</p>	<p>Project reports</p> <p>Operational reports of the terminal</p>	<p>Construction of the new intermodal terminal facilities in schedule.</p>

<p>Outcome 5 Strengthened institutional capacity to promote sustainable transport sector development during and after the project.</p>	<p>The progress with the institutional reforms and other improvements needed.</p>	<p>The level of awareness and capacity of the key stakeholders as well as the level of adoption and implementation of the required legal, regulatory and institutional changes to facilitate sustainable transport sector development still low.</p>	<p>For all components: Adoption of a national, sustainable transport policy addressing the key requirements and setting concrete short, medium and long term targets in different key areas the project is addressing.</p> <p>For component 1: Subject to the agreement with the local authorities, the Greater Cairo Transport Authority to effectively co-ordinate the development of the public transport systems in the Greater Cairo area, established by the end of the project and its capacity built.</p> <p>For component 3: Subject to the agreement with the local authorities, a semi-public parking authority to implement and, in close collaboration with other key authorities, to enforce parking policies (conducive to sustainable transport sector development principles), if possible, established by the end of the project and its capacity built.</p> <p>For component 4: Enhanced capacity of the Ministry of Transport and its underlying agencies to develop and implement sustainable transport policies and actions in the field of freight transport.</p>	<p>Project reports and final evaluation</p>	<p>The real political will to effectively address the transport sector related problems in Egypt exist.</p>
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<p>Output 5.1 Key professional groups trained on different aspects of sustainable transport</p>	<p>The number institutions and staff trained.</p>	<p>Lack of awareness and capacity among the key</p>	<p>Up to 200 key professionals in different areas trained on different aspects of sustainable transport</p>	<p>Mid term and final evaluation.</p>	<p>The motivation to be trained among the targeted groups exists or it can be built up with prior awareness raising activities.</p>
<p>Output 5.2 By building on the early results of the project, preparing a national, cross sectoral sustainable transport policy document setting concrete short, medium and long term targets in different key areas the project is addressing.</p>	<p>The adoption of a national, integrated urban planning and sustainable transport policy</p>	<p>No integrated urban planning and sustainable transport policy document exist.</p>	<p>Authorities approval of an integrated urban planning and sustainable transport policy document and guidelines, setting concrete short, medium and long term targets in different key areas the project is addressing (to be developed in close consultation between the different transport sector related authorities)</p>	<p>Project reports</p>	<p>The political will to effectively address the transport sector related problems in Egypt exist.</p>
<p>Output 5.3 The Greater Cairo Metropolitan Transport Bureau (GCMTB) to effectively co-ordinate the development of the public transport systems in the Greater Cairo area established and its capacity built.</p>	<p>The status of Greater Cairo Metropolitan Transport Bureau (GCMTB)</p>	<p>No institutional arrangements in place to facilitate co-ordinated development of the public transport systems in Greater Cairo area.</p>	<p>Finalized background studies for the establishment of GCMTB</p> <p>Subject to the agreement with the local authorities, the GCMTB established and put into operation by the end of the project.</p> <p>As applicable, trained staff to effectively run the GCMTB.</p>	<p>Project intermediate reports and final evaluation.</p>	<p>The remaining barriers to the establishment of the GCMTB can be removed during the implementation of the project.</p>

<p>Output 5.4 A semi public Greater Cairo Parking Authority (GCPA) to implement and, in close collaboration with other key authorities, to enforce parking policies (conducive to sustainable transport sector development principles) established by the end of the project and its capacity built.</p>	<p>The status of Greater Cairo Parking Authority (GCPA)</p>	<p>No institutional arrangements in place to facilitate co-ordinated parking policy and its effective implementation and enforcement.</p>	<p>Finalized background studies for the establishment of GCPA</p> <p>Subject to the agreement with the local authorities, the GCPA established and put into operation by the end of the project.</p> <p>As applicable, trained staff to effectively run the GCPA.</p>	<p>Project intermediate reports and final evaluation.</p>	<p>Political will to establish the GCPA exist</p>
<p>Output 5.5 Enhanced capacity of the Ministry of Transport and its underlying agencies to develop and implement sustainable transport policies and actions in the field of freight transport.</p>	<p>Number of trained professionals</p>	<p>Need for awareness raisings and capacity building to effectively adopt sustainable transport principles in the field of freight transport.</p>	<p>Enhanced awareness and capacity of the river and rail authorities and GARBLT to effectively adopt sustainable transport principles</p>	<p>Project intermediate reports and final evaluation</p>	<p>The awareness raising and capacity building provided is addressing the mutually identified and agreed needs of the targeted staff.</p>
<p>Outcome 6: Monitoring, learning, adaptive feedback and evaluation</p>	<p>The required information available for adaptive management, for measuring the impact and for effective replication/ expansion of the project activities.</p>	<p>Inadequate information for adaptive management, for measuring the impact and for effective replication/ expansion of the project activities available.</p>	<p>The required information available for adaptive management, for measuring the impact of the project and for effective replication/ expansion of the project activities.</p>	<p>Project reports.</p>	<p>Adequate monitoring and periodical external reviews/ evaluations of the project activities when and as needed by using the right tools and methodologies.</p> <p>Effective and prompt use of the interim reviews and evaluations for adaptive management</p>

Output 6.1 An updated baseline study for all the project components, against which the impact of the project can be measured.	Status of the report.	Inadequate or outdated baseline information.	Finalized, updated baseline study.	Project reports	Selection of the right tools and methodologies for the baseline study and for monitoring the project impact.
Output 6.2 Project mid-term evaluation and other required reviews and external, component specific evaluations when and as needed.	Status of the reports	Inadequate information for adaptive management.	Finalized external reviews and evaluations guiding the implementation of the project, as agreed with UNDP and the project management (in addition to the obligatory mid-term evaluation).	Project reports	Adequate monitoring, reporting and filing of the key documents to facilitate external reviews and evaluations.
Output 6.3 Final project report consolidating the results and lesson learnt from the implementation of the different project components and recommendations for the required next steps.	Status of the final report	No consolidation of the results and lessons learnt.	Final project report consolidating the results and lesson learnt from the implementation of the different project component and recommendations for the required next steps.	Project reports and final evaluation	Continuing monitoring and reporting of the impact of the pilot projects by using the rights tools and methodologies as well as the experiences and lessons learnt during their implementation.
Output 6.4 Final project evaluation.	Status of the FE		Final evaluation finalized as per the specific UNDP and GEF requirements	Project reports	Adequate monitoring, reporting and filing of the key documents to facilitate external reviews and evaluations.

SECTION III: TOTAL PROJECT BUDGET, FINANCING AND WORKPLAN

The financing of the proposed project components and activities is building on a mix of public and private financing, which are further supported by the ongoing, major infrastructure investments, with which the public sector is currently proceeding, such as the construction of the third metro line in Cairo, the improvement of rail based public transport systems in Alexandria and the ongoing improvement of the inland railroads and waterways for both public and freight transport.

The requested GEF incremental contribution of USD 6.9 million will contribute to the introduction and effective replication of new sustainable transport concepts by covering such incremental costs and/or risks, which are difficult to absorb by the other project partners. The GEF funding will be a mix of grant and non-grant (partial risk guarantees) instruments. The required cofinancing for these initiatives is leveraged from the variety of sources, including:

- Complementary activities of the EEAA and the Ministry of Transport, on which the project can build, especially under components 1 and 4;
- Public-private partnerships (all components), including the launching of commercially attractive new businesses as well as support by marketing and promotional activities of the private sector under their “social responsibility”;
- Local Governorates and Universities (especially for components 2 and 3); and
- Social Fund for Development able to provide grants and loans for building up the supply chain under component 2;

After initiating the replication of the sustainable transport concepts promoted, no additional need for GEF support is envisaged.

The involvement of the private sector for any public-private partnerships established in the frame of the project will follow the established procedures of UNDP and the Government of Egypt, which require a public bidding for any concessions to be given by the public authorities to the private sector. In the case of component 1, the operating license will be given and the contract will be signed with the service provider, who will meet the requirements and expected level of service set forth in the RFP (Request for Proposals) at the lowest costs (i.e. the tariff and the required risk sharing allocation). For further information about the use of GEF guarantee under component 1, see section IV, Part .

The combined costs of CO₂-reduction to the GEF by the successful completion of the proposed pilot initiatives have been estimated at US\$ 4,7 per ton of CO₂ reduced, which through the successful replication of the project can be reduced by factors.

Table 1. Project Financing and Cost Sharing Arrangements ⁵

Outcome	Total USD	Baseline and Cofinancing USD ⁶	GEF Incremental USD
Outcome 1: The concept for new, integrated public transport services for Cairo and its satellite cities successfully introduced and replicated on the basis of public-private partnerships.	Up to 12,340,000 + 6,600,000 to be leveraged from the private sector + Other costs to improve and operate the public transport systems in Cairo and Alexandria	Ministry of Housing: - Upgrading the July 26 th transport corridor to better accommodate public busses and provision of land for the bus terminals: up to 10,800,000 Private: Investments costs (mainly new busses): 6,600,000 Gov't: Exp. investments for metro line # 3: 2.8 billion	TA: 550,000 Risk sharing of the first year's operation: 990,000 Total: 1,540,000
Outcome 2: The modal share of non-motorized transport in small and middle size provincial cities increased or sustained.	2,520,000 + the expected, but still in USD unspecified additional in-kind contributions of the local governments and other project partners, which will be calculated during project implementation.	Private: Up to USD 1,000,000 cost sharing expected for the first pilot projects Additional in-kind contribution of the local governorates of Shebin El-Kom and Fayoum as well as of the Fayoum University (for further details see Table 3).	TA: 480,000 Cost sharing for the construction of the suggested pilot NMT corridors in Fayoum and Shebin El-Kom: 1,040,000 Total: 1,520,000
Outcome 3: Successful introduction of the Transport Demand Management (TDM) concept with an objective to expand it towards more aggressive measures over time to effectively discourage the use of private cars.	6,070,000 + The still unaccounted maintenance, enforcement and replication costs that can be considered as baseline financing	Gov't of Cairo: 4,490,000 Private sector: t.b.d Gov't of Giza and Alexandria: t.b.d.	TA: 480,000 Cost sharing of the suggested TDM pilot projects: 1,100,000 Total: 1,580,000
Outcome 4: Improved energy efficiency of freight transport	9,490,000 + other uncalculated costs to improve the rail and river transport facilities in Egypt in general that can be considered as baseline financing	Vehicle Testing Stations: 9,000,000 million (to be leveraged by the EEAA from the private sector) Others: t.b.d	TA: 490,000 Total: 490,000

⁵ In all the tables, for converting Egyptian Pounds into USD an exchange rate of 1 US\$ = LE 5.54 has been used (as of Nov. 14, 2007)

⁶ The component specific co-financing allocations without the estimated management costs (estimated at 10% of the total allocation), which are presented separately under the management costs. For further details, see Table 3.

Outcome 5: Enhanced awareness and capacity and strengthened institutional basis to promote sustainable transport sector development during and after the project.	4,000,000 (by taking into account the cofinancing confirmed by letters) + any unaccounted costs to operate the institutions to be strengthened.	GOPP/UNHABITAT/UNDP: A project to develop a new strategic urban plan for Greater Cairo Area: 3,060,000 GOPP: Updating urban plans for other cities: 180,000 per city or 40,000,000 in total (for 222 cities). UNDP: 50,000 JICA feasibility study for GCMTBC: amount not released.	TA: 890,000
Project Management	2,730,000	2,100,000 (estimated at 10% from each Government co-financing allocation)	630,000
Monitoring and Evaluation	250,000	n.a	250,000
GRAND TOTAL	44,000,000	37,100,000	6,900,000

Table 2 Summary of GEF Financing

Outcome	GEF Incremental USD
<p>Outcome 1: The concept for new, integrated public transport services for Cairo and its satellite cities successfully introduced and replicated on the basis of public-private partnerships.</p>	<p>TA: 550,000, including:</p> <ul style="list-style-type: none"> - final design, further stakeholders consultations and “deal brokering” to establish and operationalize the new service on the basis of a public-private partnership (120,000); - supporting the costs of promotional campaigns for the new service (120,000); - monitoring, documenting and disseminating the results, experiences and lessons learnt (40,000); - building the capacity of the participating public and private entities to implement integrated ticketing and revenue sharing (40,000); and - in the case of a successful outcome of the first pilot services, facilitate required further studies and consultations for effective replication of the concepts promoted (230,000) <p>Risk sharing of the first year’s operation (up to 50% of the estimated annual “threshold” revenues to make the service financially feasible corresponding to USD 600,000 for output 1.1 and 390,000 for output 1.2</p> <p>Total: 1,540,000</p>
<p>Outcome 2: The modal share of non-motorized transport in small and middle size provincial cities increased or sustained.</p>	<p>TA: 480,000, including:</p> <ul style="list-style-type: none"> - final design, further stakeholders consultations and “deal brokering” to facilitate the construction of the first pilot NMT corridors (130,000); - promotional campaigns to raise the social acceptance of cycling and to lower the barriers to bicycle purchase and use (60,000); - targeted training to build the management and business skills of local technicians and entrepreneurs to improve the NMT supply side services such as local bicycle manufacturing, selling and repair (50,000); - the use of the new NMT corridors monitored and the results and experiences documented and disseminated (40,000) - in the case of a successful outcome of the first pilot projects, facilitate further studies and consultations for effective replication of NMT corridors in other middle size cities (200,000) <p>Cost sharing of the pilot NMT corridors in Fayoum and Shebin El-Kom (max. 50%): Output 2.2 (Fayoum): 700,000 Output 2.3 (Shebin-El-Kom): 340,000</p> <p>Total: 1,520,000</p>
<p>Outcome 3: Successful introduction of the Transport Demand Management (TDM) concept with an objective to expand it towards more aggressive measures over time to effectively discourage the use of private cars.</p>	<p>TA: 480,000, including:</p> <ul style="list-style-type: none"> - raising the awareness of the local authorities and the general public about the rationality of the suggested TDM measures (60,000); - finalizing the detail design, , further stakeholders consultations and “deal brokering” for the implementation of the selected TDM measures. (160,000); - training of the local authorities on the effective management of the proposed TDM measures (40,000) - monitoring, documenting and disseminating the experiences and lessons learnt (50,000); - in the case of a successful outcome of the first pilot services, facilitate required further studies and consultations for effective replication of the concepts to be promoted (170,000) <p>Cost sharing of the first pilots (up to 50% of the total costs): Output 3.1 (Supportive TDM measures for Component/Outcome 1): 200,000 Output 3.2 (Public transport priority system): 350,000 Output 3.3 (New micro-pedestrian areas): 100,000 Output 3.,4 (Parking control, including VMS): 450,000</p> <p>Total: 1,580,000</p>

<p>Outcome 4: Improved energy efficiency of freight transport</p>	<p>TA: 490,000, including:</p> <ul style="list-style-type: none"> • updating the situation analysis and developing policy recommendations and other measures for improving the energy efficiency of urban freight transport in Egypt (80,000); • exploring the opportunities for and building the local capacity for integrated urban land use and transport planning in the area of sustainable freight transport 70,000); • training and capacity building of relevant staff of the vehicle inspection and tuning stations established by the EEAA and well as private truck maintenance and repair shops, to identify and develop opportunities to improve the fuel economy of trucks (120,000); • raising the awareness and building the capacity of the truck operators and the management of freight terminals on the opportunities provided by new information technologies to improve the overall efficiency of freight transport in urban areas, e.g by increasing the efficiency of “load hunting” and reducing the number of trips with no partial load (90,000); • supporting the MoT and the private investors involved in the establishment new intermodal terminal facilities in the Greater Cairo Area to clarify the eventually remaining legal and regulatory issues, to facilitate the adoption of modern information technologies such as EDI for streamlining and expediting the cargo handling procedures, and to support the awareness raising and capacity building of the truck operators to effectively use and the public authorities to effectively manage and replicate the planned new intermodal terminal facilities, thereby promoting a modal shift from road to more energy efficient rail and river based transport options (60,000); and • monitoring, documenting and disseminating the experiences and results of the activities promoted and facilitating their effective replication (70,000) <p>Total: 490,000</p>
<p>Outcome 5: Enhanced awareness and capacity and strengthened institutional basis to promote sustainable transport sector development during and after the project.</p>	<p>TA: 890,000, including:</p> <ul style="list-style-type: none"> - raising the awareness and building the capacity of the key professionals in the institutions dealing with urban planning and development, including, among others, the Ministry of Housing and its underlying agencies, Local Governorates, Ministry of Interior and its underlying agencies enforcing the traffic rules and regulations on different aspects of sustainable transport (230,000) - preparing a national, cross sectoral sustainable transport policy document with required background studies setting concrete short, medium and long term targets in different key areas the project is addressing and facilitating closer consultations with the key decision makers to facilitate its adoption (100,000); - targeted capacity building and training to support the establishment of the “Greater Cairo Metropolitan Transport Bureau” (GCMTB) to be able to effectively co-ordinate the development of the public transport systems in the Greater Cairo area (290,000); - targeted capacity building and training to support the establishment of a semi public “Greater Cairo Parking Authority” to implement and, in close collaboration with other key authorities, to be able to enforce parking policies conducive to sustainable transport sector development principles (230,000); and - building the capacity of the Ministry of Transport and its underlying agencies to develop and implement sustainable transport policies and actions in the field of freight transport (40,000).
<p>Project Management</p>	<p>630,000</p>
<p>M&E</p>	<p>250,000</p>
<p>GRAND TOTAL</p>	<p>6,900,000</p>

Table 3 Summary of Co-financing

Name of Co-financier (source)	Classification	Type	Amount (US\$)	Description	Status*
Component 1:					
International Environmental Services Co.	Private	Cash	6,600,000	Possible investor for the establishment of the new bus services	A letter of interest received
British Egyptian Business Association (BEBA)	Private	Cash	6,600,000	Indicated interest of members of BEBA to become investors for the establishment of the new bus services	A letter of interest received
Ministry of Housing	Nat. Gov't	In-kind	12,000,000	Upgrading the July 26 th transport corridor to better accommodate public busses and provision of land for the new bus terminals	Confirmed
Component 2					
Orascom Construction Industries	Private	In-kind	1,000,000	A private investor and a member of the Global Compact Network ⁷ that has expressed interest to share 50% of the construction costs of the pilot NMT corridors in Shebin El-Kom and Fayoum up to the total amount of USD 1 million.	A letter received.
Governorate of Menoufia	Local Gov't	In-kind	t.b.d	Local works, equipment and materials for sharing the construction costs of the pilot NMT corridor in Shebin El-Kom	A letter received,, but with an unestimated USD equivalent of the committed in-kind contribution,
University of Fayoum	Gov't	In-kind	t.b.d	Participation in the awareness raising and marketing campaigns.	See above
Governorate of Fayoum	Local Gov't	In-kind	t.b.d	Local works, equipment and materials for sharing the construction costs of the pilot NMT corridor in Fayoum.	Pending further consultations
Social Fund for Development	Gov't	Cash (loans and grants)	t.b.d.	Loans for SMEs seeking, among others, to start bicycle maintenance/ assembly businesses (possibly also some grant support)	LoI received

⁷ The Global Compact is an UN initiative that encourages the private sector to bear its social responsibility related to several issues that includes conservation of the environment

Component 3					
Governorate of Cairo	Gov't	In-kind	Gov. of Cairo: USD 4,930,000	Cost sharing of the suggested pilots, including local works, equipment and materials	Letter received
Component 4					
Private + MoE/EEAA	Private	Cash + in-kind	9,000,000	Funding to be leveraged from the private sector for the establishment of a network of vehicle testing and tuning stations	To be leveraged from the private sector.
Component 5					
UNDP	UN Agency	Cash	50,000	Direct co-financing	Confirmed
GOPP (General Organisation of Physical Planning), UNHABITAT, UNDP	Mixed	In-kind	3,060,000	A parallel project to develop a new urban plan for Greater Cairo region with a link to transport planning	Confirmed
Governorates of Cairo and Giza + the Gov't of Egypt + eventual additional bilateral support	Gov't	Cash + in-kind	t.b.d	The underlying costs of establishing and operating the new institutions that are recommended by the project (subject to the final decisions about their establishment)	Confirmation pending
Project Management					
UNDP	UN Agency	Cash	50,000	Direct co-financing	Confirmed
Government of Egypt	National and Local Gov'ts	In-kind	2,050,000	Estimated at 10% of the total, confirmed Gov't cofinancing	Confirmed
TOTAL			21,500,000		Confirmed
			min. 15,600,000		To be leveraged from the private sector
GRAND TOTAL			37,100,000		

Table 4 Total Project Workplan and Budget in Atlas

Award ID:	00045900
Award Title:	PIMS 3523 Egypt Sustainable Transport
Business Unit:	Egy10
Project Title:	PIMS 3523 Egypt Sustainable Transport(project number: 00054348)
Implementing Partner (Executing Agency)	Egyptian Environmental Affairs Agency (EEAA)

GEF Outcome/Atlas Activity	Responsible Party/Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:
Outcome 1: The concept for new, integrated public transport services for Cairo and its satellite cities successfully introduced and replicated on the basis of public-private partnerships	EEAA	62000	GEF	71200	International Consultants Sht Term	10,000	20,000	25,000	20,000	15,000	90,000	
				71300	Local Consultants Sht Term	10,000	20,000	20,000	20,000	20,000	90,000	
				71400	Contr. services – Ind.	10,000	15,000	15,000	40,000	40,000	120,000	
				71600	Travel	3,000	5,000	5,000	5,000	2,000	20,000	1
				72100	Contractual services - companies	20,000	40,000	40,000	40,000	20,000	160,000	2
				72600	Grants	0	400,000	400,000	190,000	0	990,000	3
				74200	Printing and publication costs	3,000	10,000	9,000	4,000	4,000	30,000	4
				74500	Miscellaneous	5,000	10,000	10,000	10,000	5,000	40,000	5
					sub-total GEF	61,000	520,000	524,000	329,000	106,000	1,540,000	
					Total Outcome 1	61,000	520,000	524,000	329,000	106,000	1,540,000	
Outcome 2: The modal share of non-motorized transport (NMT) in middle size provincial cities increased or sustained.	EEAA	62000	GEF	71200	International Consultants Sht Term	10,000	0	10,000	10,000	0	30,000	
				71300	Local Consultants	20,000	30,000	30,000	30,000	30,000	140,000	
				71400	Contr. services – Ind.	40,000	40,000	40,000	25,000	20,000	165,000	
				71600	Travel	2,000	8,000	8,000	8,000	4,000	30,000	1
				72100	Contractual Services - Companies	0	200,000	500,000	340,000	0	1,040,000	3
				72200	Equipment	30,000	4,000	3,000	3,000	3,000	43,000	6
				74200	Printing and publication costs	3,000	6,000	10,000	8,000	5,000	32,000	4
				74500	Miscellaneous	5,000	10,000	10,000	10,000	5,000	40,000	5
					sub-total GEF	110,000	298,000	611,000	434,000	67,000	1,520,000	
					Total Outcome 2	110,000	298,000	611,000	434,000	67,000	1,520,000	

Outcome 3: Successful introduction of the Transport Demand Management (TDM) concept with an objective to expand it towards more aggressive measures over time to effectively discourage the use of private cars, when good quality public transport services are available.	EEAA	62000	GEF	71200	International Consultants	20,000	20,000	20,000	20,000	10,000	90,000	
				71300	Local Consultants	10,000	30,000	30,000	30,000	30,000	130,000	
				71400	Contractual services – Individual	10,000	30,000	35,000	35,000	30,000	140,000	
				71600	Travel	5,000	6,000	7,000	6,000	6,000	30,000	1
				72100	Contractual Services – Companies	0	400,000	500,000	200,000	0	1,100,000	3
				74200	Printing and publication costs	5,000	10,000	10,000	10,000	15,000	50,000	4
				74500	Miscellaneous	10,000	10,000	10,000	5,000	5,000	40,000	5
					sub-total GEF	60,000	506,000	612,000	306,000	96,000	1,580,000	
				Total Outcome 3	60,000	506,000	612,000	306,000	96,000	1,580.000		
Outcome 4: Improved energy efficiency of freight transport	EEAA	62000	GEF	71200	International Consultants	10,000	20,000	25,000	15,000	10,000	80,000	
				71300	Local Consultants	20,000	30,000	30,000	30,000	30,000	140,000	
				71400	Contractual services – Individual	10,000	10,000	15,000	15,000	10,000	60,000	
				71600	Travel	4,000	4,000	4,000	4,000	4,000	20,000	1
				72100	Contractual Services – Companies	10,000	20,000	25,000	25,000	20,000	100,000	2
				74200	Printing and publication costs	6,000	8,000	10,000	8,000	8,000	40,000	4
				74500	Miscellaneous	10,000	10,000	10,000	10,000	10,000	50,000	5
					sub-total GEF	70,000	102,000	119,000	107,000	92,000	490,000	
				Total Outcome 4	70,000	102,000	119,000	107,000	92,000	490,000		

Outcome 5: Enhanced awareness, capacity and strengthened institutional basis to promote sustainable transport sector development during and after the project.	EEAA	62000	GEF	71200	International Consultants	0	20,000	40,000	30,000	10,000	100,000	
				71300	Local Consultants	30,000	70,000	70,000	70,000	50,000	290,000	
				71400	Contr. services Ind.	10,000	15,000	15,000	20,000	20,000	80,000	
				71600	Travel	4,000	4,000	4,000	4,000	4,000	20,000	1
				72100	Contractual services Companies	20,000	50,000	100,000	100,000	40,000	310,000	2
				74200	Printing and publication costs	7,000	10,000	10,000	8,000	5,000	40,000	4
				74500	Miscellaneous	10,000	10,000	10,000	10,000	10,000	50,000	5
					sub-total GEF	81,000	179,000	249,000	242,000	139,000	890,000	
		4000	UNDP	72100	Contractual services, Companies	10,000	10,000	10,000	10,000	10,000	50,000	2
					Sub-total UNDP	10,000	10,000	10,000	10,000	10,000	50,000	
				Total Outcome 5	91,000	189,000	259,000	252,000	149,000	940,000		
Outcome 6 (Monitoring, Learning and Adaptive Management)	EEAA	62000	GEF	74500	Professional Services	0	2,000	25,000	3,000	35,000	65,000	7
				71300	Local Consultants	5,000	10,000	20,000	10,000	10,000	55,000	
				71400	Contractual services – Individual.	5,000	10,000	20,000	10,000	5,000	50,000	
				71600	Travel	0	1,000	5,000	2,000	7,000	15,000	1
				72100	Contractual services - Companies	0	0	10,000	15,000	5,000	30,000	2
				74200	Printing and publication costs	0	2,000	3,000	5,000	5,000	15,000	4
				74500	Miscellaneous	2,000	5,000	5,000	5,000	3,000	20,000	5
					sub-total GEF	12,000	30,000	88,000	50,000	70,000	250,000	
						Total Outcome 6	12,000	30,000	88,000	50,000	70,000	250,000
Project Management	EEAA	62000	GEF	71200	International Consultants Sht-Term	20,000	15,000	10,000	10,000	5,000	60,000	
				71400	Contractual services – Individual	86,000	86,000	86,000	86,000	86,000	430,000	
				71600	Travel	2,000	5,000	5,000	5,000	3,000	20,000	1
				72200	Equipment	6,000	3,000	2,000	2,000	2,000	15,000	8
				73100	Rental and Maintenance of Equipment	4,000	4,000	4,000	4,000	4,000	20,000	
				72400	Communication	3,000	3,000	3,000	3,000	3,000	15,000	8
				72500	Office supplies	5,000	5,000	5,000	5,000	5,000	25,000	8
				74500	Miscellaneous	9,000	9,000	9,000	9,000	9,000	45,000	5,8

				sub-total GEF	135,000	130,000	124,000	124,000	117,000	630,000	
	4000	UNDP	74500	Miscellaneous	10,000	10,000	10,000	10,000	10,000	50,000	5
				Sub-total UNDP	10,000	10,000	10,000	10,000	10,000	50,000	
				Total Project Management	145,000	140,000	134,000	134,000	127,000	680,000	
TOTAL	62400	GEF			539,000	1,765,000	2,322,000	1,587,000	687,000	6,900,000	
	4000	UNDP			20,000	20,000	20,000	20,000	20,000	100,000	
PROJECT TOTAL					559,000	1,785,000	2,342,000	1,607,000	707,000	7,000,000	

Budget Notes:

Number	Note
1	Official in-country duty travel + required international travel to learn about international experiences and to facilitate information exchange
2	Can include both international and national consulting firms/institutions on as needed basis
3	GEF cost-sharing of the pilot projects
4	Including public awareness raising and marketing support as well as training materials
5	Miscellaneous expenses to cover the costs of training workshops, stakeholder consultation meetings and other, not fully predictable costs coming up during implementation
6	Including an about USD 30,000 allocation for a project vehicle, which is considered as essential to allow the project experts to effectively visit the project sites all around the Greater Cairo Area, the satellite cities and provincial cities hosting the project activities. Renting of a vehicle was considered as an alternative option, but the costs would be significantly higher.
7	Professional services to cover costs of annual external financial audit fees, independent mid term and final evaluations by international and national evaluators
8	Required operational costs of project management

Table 5 Draft timeline of the outputs

Component	Output	Year 1	Year 2	Year 3	Year 4	Year 5
1. The Concept for new, integrated public transport services for Cairo and its satellite cities successfully introduced and replicated on the basis of public-private partnerships	1.1 The public bidding and negotiations for the new service finalized	X				
	1.2 New, high quality public transport service for connecting Cairo and the city of 6 th of October in operation.		X	X	X	X
	1.3 The feeder bus system serving two metro stations in Cairo in operation.		X	X	X	X
	1.4 The results and experiences of the first year operation of the new services documented, disseminated and discussed with the key decision makers			X		
	1.5 Subject to the success with the first pilot projects, the supporting studies, stakeholder consultations and financial leveraging for the replication of the concepts including, as feasible, Bus Rapid Transit (BRT) and state of the art light rail systems finalized.					X
2. The Modal Share of non – motorized transport in small and middle size provincial cities increased or sustained	2.1 Final design of new NMT corridors in Fayoum and Shebin El-Kom n	X				
	2.2 Construction of a new 13,6 km NMT corridor in Fayoum.		X	X		
	2.3 Construction of a new 6,5 km NMT corridor in Shebin El-Kom		X	X		
	2.4 Conduct a promotional campaign to raise the social acceptance of cycling and to lower the barriers to bicycle purchase and use and to the establishment of local bicycle manufacturing, selling and repair shops.			X	X	
	2.5 The use of the new NMT corridors monitored and the results and experiences documented and disseminated			X	X	
	2.6 Supporting studies and stakeholder consultations for the replication of NMT corridors in other middle-size cities finalized.			X	X	X
3. Successful introduction of the Transport Demand Management (TDM) concept with an objective to expand it towards more aggressive measures over time to effectively discourage the use	3.1 Final design and negotiations for the proposed TDM measures finalized	X				
	3.2 Supporting TDM measures implemented for increasing the attractiveness of the public transport components under outcome 1	X	X			
	3.3: A comprehensive transport management approach for one pilot corridor introduced, including a public transportation priority system at traffic signals and pedestrianization of selected sections of the corridor.		X			
	3.4: Establishment of new micro-pedestrian areas		X	X	X	X

of private cars	3.5 Introducing staggered parking charges to discourage the private cars to enter the city center and improve the service provided by parking garages surrounding the city center		X	X	X	X
	3.6 The results and experiences of the first year operation of the TDM measures documented, disseminated and discussed with the key stakeholders			X		
	3.7 Subject to the success with the first pilot TDM measures, the supporting studies and stakeholder consultations for the replication finalized.				X	X
4. Improved energy efficiency of freight transport	4.1 Adopted legal and regulatory changes and incentives for improving the energy efficiency of freight transport.		X			
	4.2 The new inspection and tuning stations in operation with trained staff to address also the energy efficiency aspects.	X	X	X	X	X
	4.3 Improved energy efficiency of trucks and reduced number of driven kilometers as a result of improved logistics of truck operations in urban areas.		X	X	X	X
	4.4 Enhanced capacity of the management and envisaged users of the planned two new intermodal terminal facilities to facilitate their effective use.			X	X	X
5. Enhanced awareness and capacity and strengthened institutional basis to promote sustainable transport sector development during and after the project	5.1 Key professional groups trained on different aspects of sustainable transport	X	X	X	X	X
	5.2 Preparing a national, cross sectoral sustainable transport policy document setting concrete short, medium and long term targets in different key areas the project is addressing.		X	X		
	5.3 The Greater Cairo Metropolitan Transport Bureau (GCMTB) to effectively co-ordinate the development of the public transport systems in the Greater Cairo area established and its capacity built.				X	X
	5.4 A semi public Greater Cairo Parking Authority (GCPA) established and its capacity built.			X	X	X
	5.5 Enhanced capacity of the Ministry of Transport and its underlying agencies to develop and implement sustainable transport policies and actions in the field of freight transport.	X	X	X	X	X
6. Monitoring, learning, adaptive feedback and evaluation	6.1 An updated baseline study for all the project components, against which the impact of the project can be measured.	X				
	6.2 Project mid-term evaluation and other required reviews and external, component specific evaluations when and as needed.		Opt.	X	Opt.	
	6.3 Final project report consolidating the results and lesson learnt from the implementation of the different project components and recommendations for the required next steps.					X
	6.4 Final project evaluation.					X

SECTION IV: ADDITIONAL INFORMATION

Part I: Other agreements

The endorsement and cofinancing letters presented as a separate Annex.

Part III Stakeholder Involvement Plan

The project's stakeholder involvement plan is building on the project's communication strategy discussed in further detail under section "Information" (page 22 of the Project Document) as well as on the stakeholder consultations during the project preparation.

A more detailed list of stakeholders and their envisaged role in the project follows:

Institution	General Role	Envisaged Role in the Project
Minister of State for Environmental Affairs / Egyptian Environmental Affairs Agency	GEF Operational Focal Point Executing Agency	Executing Agency Co-financier of components 1 and 4
Ministry of Transport (MoT) and its underlying agencies: Egyptian National Railways (ENR), River Transport Authority (RTA) and General Authority for Roads, Bridges and Land Transport (GARBLT)	In charge of intercity freight transport and infrastructure. All rail based public transport modes such as Cairo metro under jurisdiction of the MoT and its underlying agencies such as ENR and Cairo Metro Organisation (CMO). Head of the Higher Committee for Greater Cairo Transportation Planning	Together with EEAA, main partner for component 4 and, as regards integration with the metro service, component 1 (through CMO). Expected co-financier of component 4 (rail and river infrastructure, freight terminals) Key beneficiaries of the envisaged training and capacity building activities under component 5 to develop and implement sustainable transport policies and actions in the field of freight transport
Ministry of Housing and New Urban Communities (MoHNUC) and its underlying agencies -General Organisation of Physical Planning (GOPP) and General Organisation of New Urban Communities (GONUC)	In charge of the development and management of new cities, including the satellite cities around Cairo.	Technical and logistical support and allocation of land for the new bus terminal facilities in new satellite cities under component 1 One main beneficiary of the envisaged training and capacity building activities under component 5 to integrate land use and sustainable transport planning
Governorate of Cairo (GC) and its underlying agencies Cairo Transport Authority (CTA) and Greater Cairo Bus Company (GCBC)	In charge of the management of Cairo, including the road based public transport modes	GC main partner, co-financier and beneficiary of the first pilot activities under component 3. CTA and GCBC key partners to discuss the co-ordinated development of the different public transport modes in the Greater Cairo Area in general. Issuing the licenses for the new private bus operators in the area of Cairo
Cairo Traffic Engineering Bureau (CTEB)	Engineering type of work (design of intersections, parking etc.)	Potential beneficiary of training and capacity building

Governorates of Alexandria, Giza and Qalyobeya.	In charge of the management of their respective cities	Primary partners and cofinanciers for and beneficiaries of replication of Sustainable Transport (ST) concepts introduced under components 1 and 3. Issuing the licenses for any new public transport operators in their respective areas.
Governorates of Fayoum and Monofia	In charge of the management of the cities of Fayoum and Shebin El-Kom representing the first pilot cities under component 2 (NMT).	Primary partners and co-financiers for and beneficiaries of the pilot activities under component 2
Fayoum University	Education	A partner for component 2 in Fayoum supporting the public awareness raising, marketing and bicycle purchase.
Shebin El Kom University	Education	t.b.d
Ministry of Irrigation and Water Resources (MoIWR)		A partner for component 4, as regards the promotion of river based transport and also to make sure that negative local environmental impacts can be avoided.
Ministry of Interior (MoI) and the Local Traffic Police working under MoI	Traffic Control	A partner for design and enforcement of the proposed TDM measures under component 3
Ministry of Investment		A partner for leveraging financing
Social Fund for Development (SFD)	Financing of projects with environmental and social benefits	Loans for the establishment of SMEs such as bicycle manufacturing/assembling and repair shops etc
International Environment Services (IES):	A private company involved in transport sector related activities	Possible private partner for component 1
British Egyptian Bussiness Association (BEBA)	An association of companies interested in promoting business opportunities between Egypt and Britain.	Members of BEBA possible private partners for component 1
Private bus operators and manufacturers		See above
Bicycle manufacturers, sellers and repair shops		Envisaged beneficiaries of component 3
Public media		Channel for public awareness raising and marketing activities
Universities and other educational institutes		Project implementation partners and potential beneficiaries
NGOs		Project implementation partners and potential beneficiaries

Part IV: Terms of Reference of the Key Positions

Project Steering Committee (PSC)

Duties and responsibilities

The Project Steering Committee (PSC) is the main body to supervise the project implementation in accordance with UNDP rules and regulations and referring to the specific objectives and the outcomes of the project with their agreed performance indicators;

The main functions of the PSC are:

- General monitoring of the project progress in meeting of its objectives and outcomes and ensuring that they continue to be in line with the national development objectives;
- Facilitating the co-operation between the different Government entities, whose inputs are required for successful implementation of the project, ensuring access to the required information and resolving eventual conflict situations raising during the project implementation when trying to meet its outcomes and stated targets;
- Supporting the elaboration, processing and adoption of the required institutional, legal and regulatory changes to support the project objectives and overcoming of the related barriers;
- Facilitating and supporting other measures to minimize the identified risks to project success, remove bottlenecks and resolve eventual conflicts;
- Approval of the annual work plans and progress reports, the first plan being prepared at the outset of project implementation;
- Approval of the project management arrangements; and
- Approval of any amendments to be made in the project strategy that may arise due to changing circumstances, after the careful analysis and discussion of the ways to solve problems.

PSC Structure and Reimbursement of Costs

The PSC will be chaired by the Project Director or the EEAA CEO, if different. The PSC will include a representative from each of the key Ministries and Agencies involved in the project, a representative of UNDP and, as applicable, representatives of project's other cofinancing partners. Other members can be invited by the decision of the PSC, however by taking care that the PSC still remains operational by its size. The project manager will participate as a non-voting member in the PSC meetings. When and as needed, the meetings of the PSC can be extended to Technical Advisory Group meetings

The costs of the PSC's work shall be considered as the Government's or other project partners' voluntary in-kind contribution to the project and shall not be paid separately by the project. Members of the PSC are also not eligible to receive any monetary compensation from their work as experts or advisers to the project.

Meetings

It is suggested that the PSC will meet at least twice a year, including the annual TPR meeting. A tentative schedule of the PSC meetings will be agreed as a part of the annual work plans, and all representatives of the PSC should be notified again in writing 14 days prior to the agreed date of the meeting. The meeting will be organized provided that the executing agency, UNDP and at least 2/3 of the other members of the PSC can confirm their attendance. The project manager shall distribute all materials associated with the meeting agenda at least 5 working days in prior to the meeting .

National Project Director

As a representative the Government and project's executing agency, the National Project Director is having the main responsibility to ensure that the project is executed in accordance with the project document and the UNDP guidelines for nationally executed projects.

His/her main duties and responsibilities include:

- Supervising the work of the Project Manager through meetings at regular intervals to receive project progress reports and provide guidance on policy issues;
- Certifying the annual and, as applicable, quarterly work plans, financial reports and requests for advance of funds, ensuring their accuracy and consistency with the project document and its agreed amendments;
- Authorizing the project contracts, following the approval of UNDP;
- Unless otherwise agreed, chairing the Project Steering Committee and representing the project in other required meetings;
- Taking the lead in developing linkages with the relevant authorities at national, provincial and governmental level and supporting the project in resolving any institutional or policy related conflicts that may emerge during its implementation;

Project Manager (full time)

Duties and responsibilities:

Operational project management in accordance with the project document and the UNDP guidelines and procedures for nationally executed projects, including:

- General coordination, management and supervision of project implementation;
- Managing the procurement and the project budget under the supervision of the Executing Agency and with support from UNDP to assure timely involvement of local and international experts, organization of training and public outreach, purchase of required equipment etc. in accordance with UNDP rules and procedures;
- Submission of annual Project Implementation Reviews and other required progress reports (such QPRs) to the PSC, Executing Agency and the UNDP in accordance with the section "Monitoring and Evaluation" of the project document;

- Ensuring effective dissemination of and access to information on project activities and results, (including an regularly updated project website);
- Supervising and coordinating the contracts of the experts working for the project;
- Communicating with international investors and financial organizations to define fields of cooperation and attracting additional financing in order to fulfill the project objectives; and
- Ensuring successful completion of the project in accordance with the stated outcomes and performance indicators summarized in the project’s logframe matrix and within the planned schedule and budget otherwise.

Expected Qualifications:

- Advanced university degree and at least 15 years of professional experience in the specific areas the project is dealing with, including good knowledge of international experiences, state of the art approaches and best practices in promoting sustainable transport and reducing its GHG emissions (by applying different policy measures, new incentives etc.)
- Experience in managing projects of similar complexity and nature, including demonstrated capacity to actively explore new, innovative implementation and financing mechanisms to support sustainable transport sector development;
- Demonstrated experience and success in the engagement of and working with the private sector and NGOs, creating partnerships and leveraging financing for activities of common interest;
- Good analytical and problem solving skills and the related ability to adaptive management with prompt action on the conclusion and recommendations coming out from the project’s regular monitoring and self-assessment activities as well as from periodical external evaluations;
- Ability and demonstrated success to work in a team, to effectively organise it works and to motivate its members and other project counterparts to effectively work towards the project’s objective and expected outcomes;.
- Good communication skills and competence in handling project’s external relations at all levels; and
- Fluency in English and Arabic languages.
- Familiarity and prior experience with the specific UNDP and GEF requirements are considered as assets

Project Assistant (full time)

Duties and responsibilities:

Supporting the project manager in the implementation of the project, including:

- Responsibility for logistics and administrative support of the project implementation, including administrative management of the project budget, required procurement support etc.
- Maintaining the business and financial documentation up to date, in accordance with UNDP and other project reporting requirements;

- Organizing meetings, business correspondence and other communication with the project partners;
- Supporting the project outreach and PR activities in general, including keeping of the project web-site up to date;
- Managing the projects files and supporting the project manager in preparing the required financial and other reports required for monitoring and supervision of the project progress;
- Supporting the project manager in managing the contracts, in organising correspondence and in ensuring effective implementation of the project otherwise

Expected Qualifications:

- Fluent in English and Arabic
- Demonstrated experience and success of work in a similar position
- Good administration and interpersonal skills
- Ability to work effectively under pressure
- Good computer skills

International Project Adviser(s) (part time)

Duties and Responsibilities:

Support UNDP and the project management to monitor the progress of the project and its different subcomponents, and, as needed, build the capacity of the local experts working for the project to successfully implement the project activities ensuring that they comply with the agreed benchmarks and success indicators of the project as well as international best practices and lessons learnt.

The specific responsibilities include, among others to:

- support the local project team in organising the implementation of the different sub-components of the project at the inception phase and after that, including support to the project manager in the preparation of the project inception report and the annual work plans, drafting of Terms of Reference for the national and, as needed, additional international experts and subcontractors, required tender documents etc;
- support the project manager in supervising the work of the contracted individual experts and companies, including review of the feasibility studies and the technical design, financing and implementation arrangements of the planned pilot projects;
- support the project manager in arranging co-operation with the current project partners and, as applicable, in establishing new, additional national and/or international partnerships to support the project goals and objectives;
- support the local project team in monitoring and evaluating the performance and outcome of the pilot projects under implementation;
- monitor the progress of the project and participate in developing periodic progress reviews and, as applicable, the annual Project Implementation Reviews;

- train personally or, as needed, organize other training for the local stakeholders to successfully implement the project and to meet its capacity building objectives; and
- provide advice on the required institutional, legal and regulatory changes to support the reaching of the stated outcomes of the project and provide other required advice on the successful implementation of the specific project subcomponents and activities by drawing from the international lessons learnt and best practices.

Expected Qualifications:

- A university degree in the area the project is dealing with;
- Demonstrated experience and success in supporting similar projects (or its subcomponents) in other GEF programme countries;
- Good knowledge of the international experiences, state of the art approaches and best practices in the specific areas the project and its subcomponents are dealing with;
- Good analytical skills and effective communication and training skills and competence in handling external relations at all levels;
- Ability to work in a team and to motivate other team members and counterparts;
- Fluency in english, including the ability to draft and edit required project documentation
- Familiarity with the specific UNDP and GEF requirements is considered as an asset.

Part V: Draft Terms of Reference of the Risk Sharing Mechanism under Component 1

The purpose of the proposed risk sharing mechanism under outcome 1 is to encourage the private sector to start new, high quality public transport services in the targeted locations, thereby attracting the current and potential future private car users to use public transport services instead of private cars with the associated reduction of greenhouse gas emissions.

On the basis of the studies and consultations conducted during the project preparatory phase, some of the identified key barriers to the successful introduction of the proposed new public transport services are the uncertainties and high financial risks associated especially with the first year of operation. Despite the market analysis done, there is no certainty about the actual number of passengers, which the new service can attract, while at the same time the operator is required to provide a satisfactory service with adequate number of premium busses and service interval from the very beginning. In order to overcome this barrier, the project will share this financial risk by an arrangement discussed in further detail below. After the financial feasibility of these new services has been demonstrated, the need for similar risk sharing arrangement for extending and replicating the concept for other satellite cities of Cairo is expected to gradually decrease and finally disappear.

It is also important to note that the proposed risk sharing instrument will not assume the whole risk of lower than expected revenues, but will only share this risk on 50-50 basis, thereby maintaining also the incentive for the selected service provider to minimize the losses. After the first year, the operating risks will remain entirely with the service provider.

Based on the preliminary feasibility study and financial analysis of the proposed new bus services, the funds allocated for this risk sharing are USD 990,000. This has been determined on the basis of the minimum amount of passengers and corresponding revenues that the new service needs to attract to make the service financially feasible, which has been estimated at 6,000 a day for pilot # 1a, 2,500 a day for pilot 1b and 5,000 a day for pilot 1c under Outcome 1. The annual amount of revenues corresponding with these passenger amounts is USD 1,040,000 for pilot 1a, USD 160,000 for pilot 1b (which together make Output 1.1) and USD 780,000 for pilot 1c (which makes output 1.2, of which 50% has been calculated as the maximum project liability).

As an alternative to the proposed risk sharing arrangement, a corresponding grant could be provided as an up-front market incentive to improve the financial attractiveness of the project, thereby encouraging the operator and private investor to take the risk himself. From the GEF point of view, however, the proposed risk sharing arrangement can be considered more attractive and cost-effective with a possibility to continue to use of the funds for replication and/or of returning the unused funds to the GEF.

The draft criteria for the use of the proposed guarantee arrangement are as follows:

1. The purpose of the guarantee is to share the risk and thereby encourage the introduction and financing of new high quality, integrated public transport services for Cairo and its satellite cities;
2. The involvement of the private sector will follow the established procedures of UNDP and the Government of Egypt, which require a public bidding for any concessions to be given by the

public sector. The operating license will be given and the contract will be signed with the service provider, who will meet the requirements and expected level of service set forth in the RFP (Request for Proposals) at the lowest costs (i.e. the tariff and the requested risk sharing allocation);

3. At maximum, the GEF funds can cover up to 50% of the first year operational risk of the selected service provider, associated with the uncertainties related to the amount of passengers, who can be attracted to use the new service. In the case that the amount of passengers will be lower than the estimated threshold to make the service financially feasible (to be specified in the bidding documents and/or offers), the GEF funds can be requested to cover up to 50 % of these lost revenues. It is important to note that the proposed risk sharing instrument will not assume the whole risk of lower than expected revenues, but will only share this risk on 50-50 basis, thereby maintaining also the incentive for the selected service provider to minimize the losses. After the first year, the operating risks will remain entirely with the service provider;
4. No payments to the selected service provider will be made upfront, but only on the basis of a justified and independently verified claim providing evidence on the actual number of passengers, who have been using the new service and, as applicable, the related losses compared to the agreed threshold to make the project financially feasible. This will also be independently monitored by the project and the justification for any claims independently audited as a part of project's M&E activities.
5. If the first pilots are successful and the GEF resources are not needed for compensation of the losses, the released resources can be used, if needed, to promote replication in other cities (as the guarantee is only for the first year of operation). Any unclaimed resources through the proposed risk sharing arrangement will be returned back to the GEF Trust Fund at the project closure.

GHG Reduction Calculation Assumptions

COMPONENT 1A: INTERNAL CITY BUS SERVICE IN 6TH OF OCTOBER

Estimation of potential riders of the new service

Based upon (Cairo regional Area Transportation Study CREATS, Phase I) the following pieces of information have been used to estimate the potential riders of the new bus service within 6 Oct city, which is also serving as a feeder bus to the new intercity service (component 1 B):

- Total no. of daily motorized trips (inter-zone) = 200 787 trips/day/2 directions.
- 10 % of these trips are assumed as private car users = 20 079 trips/day/2 directions.
- 50 % of these trips are assumed to be attracted to the new service = 10 039 trips/day/2 directions.
- 60 % are assumed to be willing to transfer⁸ = 6 024 trips/day/2 directions.
- 40 % will use the new service⁹ ~ 2500 trips/day/2 directions.

Estimated CO2 and energy savings

The assumptions used for the fuel consumption of the internal bus line in 6 Oct city are presented in the tables below:

Assumptions concerning vehicles involved		
	Current passenger cars	Proposed minibuses
Average route length	10 km	22 km (round trip)
Fuel consumption	0.12 L/km (city)	0.19 L/km(city)
Fuel density	0.78 kg/L (gasoline)	0.84 kg/L (diesel)
Emission factor	3.1 kg CO2/kg fuel	3.2 kg CO2/kg fuel

Assumptions regarding operation of services	
Number of passengers per day	2,500 in 2006
Annual increase in passengers	5%
Passenger car occupancy	1.4
Minibus capacity	25
Minibus average occupancy	18 – 22
<u>During first 6 years:</u>	
Active fleet size	6
Number of bus trips/day	144

⁸ Based on the CREATS Stated Preference Surveys

⁹ Final expected number of people, who will actually use the new service (including the use of it as a feeder for the new intercity bus service)

<u>During last 4 years:</u>	
Active fleet size	8
Number of bus trips/day	192
Number of Days	320

Accordingly, the savings in CO2 emissions in the years 2006 through 2015 are obtained as follows.

Year	Pass/day	Without Project trips/day	Emission kg CO2/day	With Project Active fleet	trips/day	Emission kg CO2/day	SAVING ton CO2/year
2,007	2,500	1,786	5,181	6	144	1,618	1,140
2,008	2,625	1,875	5,441	6	144	1,618	1,223
2,009	2,756	1,969	5,713	6	144	1,618	1,310
2,010	2,894	2,067	5,998	6	144	1,618	1,402
2,011	3,039	2,171	6,298	6	144	1,618	1,498
2,012	3,191	2,279	6,613	8	192	2,157	1,426
2,013	3,350	2,393	6,944	8	192	2,157	1,532
2,014	3,518	2,513	7,291	8	192	2,157	1,643
2,015	3,694	2,638	7,655	8	192	2,157	1,759
2,016	3,878	2,770	8,038	8	192	2,157	1,882
							14,814

The result of calculations show a saving of 14,814 tons of CO₂ over a period of 10 years or about 33 600 tons of CO₂ over the period of 20 years.

COMPONENT 1B: INTERCITY BUS SERVICE BETWEEN 6TH OF OCTOBER AND CAIRO

Estimation of potential riders of the new service

Many of the high income families, who live in 6 Oct City and its extensions (e.g., Dream Land Estate, etc.) and Sheikh-Zayed City commute daily by private car to/from Greater Cairo. The current pilot calls for the introduction of a new high level of service bus that can attract car users of those communities to use this untraditional superior public transport facility instead of the private car in this daily pendulum trip.

Based upon CREATS (1) and CREATS (3) the following pieces of information are used to estimate the potential riders of the new bus service.

- Total interzonal volume is 80,000 veh/per 18 hour day (the period of proposed bus service), (May 05 survey).
- 80% of that flow is private cars (May 05 survey).
- That is 64,000 cars/day.
- 50% are going from 6th Oct., Sheikh Zayed and Media Prod. Center to central Cairo, rather than other destinations.

- That is 32,000 cars per 18hr day.
- Assume 15% are willing to change to bus (although fully 60% said so in a survey).
- Assume average auto occupancy is 1.4 (though occupancy for metro area is 1.9, since this is high income area).
- Therefore bus demand is 6,720 persons/day.
- 10% contingency reduction
- 6,000 passengers/day estimated bus demand.

Estimated CO2 and energy savings

The public transport service suggested in this pilot comprises three bus lines 6 Oct/Lebanon/Tahrir, Sheikh-Zayed/Lebanon/Tahrir and Media Production City/Lebanon/ Tahrir. The operating vehicles on the lines are suggested to be diesel minibus of 25 seat capacity. The average trip length of the minibus is assumed to be 30 km while that of the private car currently used is assumed to be little less at 25 km as buses can travel more to collect passengers. The average fuel consumption of the private car is taken from international data sources assuming medium size new gasoline vehicle with 70/30 intercity and city speeds. The value is estimated as 0.11 L/km. For the minibuses, it is assumed that they are all new diesel fueled vehicles with the same speed pattern (70/30) and their specific fuel consumption is estimated to be 0.185 L/km. The number of passengers expected to use this service is 6000/day/2 directions and this number is assumed to increase by 5 % per year within the next 10 year. Additional assumptions and detailed calculations are as follows:

The table below summarizes the assumptions used in calculations		
	Current passenger cars	Proposed minibuses
Average route length	25 km	30 km
Fuel consumption	0.11 L/km (30% city, 70% highway)	0.185 L/km (30% city, 70% highway)
Fuel density	0.78 kg/L (gasoline)	0.84 kg/L (diesel)
Emission factor	3.1 kg CO2/kg fuel	3.2 kg CO2/kg fuel
Assumptions regarding operation of services		
Working days per year	320	
Number of passengers per day	6000 in 2006	
Annual increase in passengers	5%	
Passenger car occupancy	1	
Minibus capacity	25	
Minibus average occupancy	18 – 23	
<u>During first 5 years:</u>		
Active fleet size	29	
Number of bus trips/day	336	
<u>During following 5 years:</u>		
Active fleet size	35	
Number of bus trips/day	406	
Number of Days	320	

Using the above mentioned assumptions, the savings in CO₂ emissions in the years 2006 through 2015 are obtained as follows.

Year	Pass/day	Without Project trips/day	Emission kg CO ₂ /day	With Project Active fleet	trips/day	Emission Kg CO ₂ /day	SAVING Ton CO ₂ /year
2,007	6,000	4,286	28,498	29	336	5,013	7,515
2,008	6,300	4,500	29,923	29	336	5,013	7,971
2,009	6,615	4,725	31,419	29	336	5,013	8,450
2,010	6,946	4,961	32,990	29	336	5,013	8,953
2,011	7,293	5,209	34,639	29	336	5,013	9,481
2,012	7,658	5,470	36,371	35	406	6,057	9,701
2,013	8,041	5,743	38,190	35	406	6,057	10,283
2,014	8,443	6,030	40,099	35	406	6,057	10,894
2,015	8,865	6,332	42,104	35	406	6,057	11,535
2,016	9,308	6,649	44,210	35	406	6,057	12,209
							96,991

The result of calculations show a reduction potential of 96,991 tons of CO₂ over a period of 10 years or about 219,000 tons over the period of 20 years.

The combined CO₂ reduction resulting from the successful implementation of the pilot concepts 1a and 1b under component 1 can be estimated at 252,600 tons of CO₂ over the next 20 years.

By replicating similar measures in other 5 satellite cities in the east (with the combined population corresponding to that of the 6th of October and Sheikh-Zayed) and assuming their need for similar transportation services the CO₂ reduction potential can be estimated to be at about twice of the above i.e. over 500,000 tons of CO₂ over the next 20 years.

COMPONENT 1C: FEEDER BUS SERVICE FOR CAIRO METRO

Estimation of potential riders of the new service

The total number of users accessing Metro Lines 1 and 2 is estimated at 32 580 passengers per day per two directions, from which 76% are using Metro Line 1 and the remaining 24% are using Metro Line 2. Based on Stated Preference Survey carried out in CREATS, 60% of passengers shows their willingness to transfer from private car to a decent public mode, which is applicable for the proposed premium minibus service. Moreover, this assumption is more conservative if it is compared with the results of a survey recently conducted by GEF Study Team at Saray El-Kobba and Maadi. The majority of interviewees (78% at Saray El-Kobba and 83% at Maadi), revealed their willingness to use the proposed minibus service if provided.

The table below summarizes the steps of estimating the ridership based on some rational assumptions. A total of 5,348 passengers are expected to use the proposed service during a typical weekday.

Estimation of Potential Ridership of the Proposed Minibus Service

No	Assumption or Result	Equal	Unit	Source
1	Total number of metro riders currently using private car or taxi to enter metro	32,580	Pass/Day	
2	of which, share of passengers accessing Metro Line 1: 76%	24,760	Pass/Day	CREATS HIS
3	Share of passengers accessing Metro Line 2: 24 %	7,820	Pass/Day	CREATS HIS
5	Estimated % of passengers using Saray El-Koba and Maadi Metro Stations of Line 1: 30%	7,428	Pass/day	CREATS + GEF Team
4	Assumed % of current private car and taxi users willing to use the new minibus service: 60%	4,457	Pass/Day/2 Dir	Field surveys done by the GEF team
7	Amount of additional passengers not currently using metro, who can be attracted by the new minibus service: 20	891	Pass/Day/2 Dir	GEF Study Team
8	Total No. of passengers using the new minibus service	5,348	Pass/Day/2 Dir	4,457 x 1.2

Source: CREATS Phase 1 and current Study assumptions and surveys

Estimated CO2 and energy savings

Assumptions

To calculate the CO2 savings due to facilitation of the integration and modal shift to less polluting forms of public transportation the following assumptions are used in the calculations

Assumptions regarding vehicles involved		
	Current Private Car	New Minibus Service
Average route length	5 km	7 km (round trip)
Fuel consumption	0.13 L/km (city)	0.19 L/km (city)
Fuel density	0.78 kg/L (gasoline)	0.84 kg/L (diesel)
Emission factor	3.1 kg CO2/kg fuel	3.2 kg CO2/kg fuel

Assumptions regarding operation of services	
Working days per year	320
Number of passengers per day	5348 in 2006
Annual increase in passengers	3%
Passenger car occupancy	1.4
Minibus capacity	25
Minibus average occupancy	15
Active fleet size	22
Number of bus trips/day	357

Calculation of CO2 Savings

Using the above mentioned assumptions, the savings in CO2 emissions in the years 2006 through 2015 due to modal shift and improvement of traffic speed are obtained as follows.

Year	No. of Pass	Without Project	Emission	With Project		Emission	SAVING
	Pass per day	car trips/day	kg CO2/day	Active fleet	Bus trips per day	kg CO2/day	ton C02/year
2007	5348	3820	6004	22	357	1276	1513
2008	5508	3935	6184	22	357	1276	1570
2009	5674	4053	6370	22	357	1276	1630
2010	5844	4174	6561	22	357	1276	1691
2011	6019	4299	6757	22	357	1276	1754
2012	6200	4428	6960	22	357	1276	1819
2013	6386	4561	7169	22	357	1276	1886
2014	6577	4698	7384	22	357	1276	1954
2015	6775	4839	7606	22	357	1276	2025
2016	6978	4984	7834	22	357	1276	2098
Total							17941

The result of calculations show a reduction potential of 17,941 tons of CO₂ over a period of 10 years or about 38,900 tons over the period of 20 years.

The GHG reduction potential through successful replication of the concept in other targeted metro stations can be estimated to be about 2-3 times the above i.e. 100,000 tons of CO₂ over 20 years, without accounting the additional customers the service would attract to the metro in general.

Summarizing all of the above, the combined GHG reduction potential of the measures promoted directly by the project amount at about 290,000 tons of CO₂ over the next 20 years and with successful replication at about 600,000 tons of CO₂ over the next 20 years.

COMPONENT 2 - NMT

Estimated CO2 reduction

Shebin El Kom. Female passengers are less likely to use NMT, such as cycling, and thus are excluded from the passenger population willing to switch. According to surveys conducted in Shebin El-Kom, males constitute 61% of shared taxi passengers. Of these, it is assumed that 18%

are elderly and children that would rather continue using motorized transportation, and hence this group is further excluded from the males group willing to switch. This gives a round figure of approximately 50% of the current car, taxi and shared taxi riders that potentially can switch to NMT.

For the particular corridor chosen for this study, traffic surveys indicated the following daily use of the corridor by the various vehicles.

Vehicle type	Vehicles per day
Private car/taxi	3614
Shared taxi	1580

For the purpose of this study, it is assumed that up to 20% of the users of these motorized modes could switch to NMT. Given the following fuel consumption rates, for both cars and shared taxis (assuming relatively higher for the older models currently in use) the annual reduction in CO₂ is estimated to be 830 tons CO₂/year for the chosen 6.25 km network. Multiplying this for a 20 years calculation period yields a total reduction of 16 600 tons of CO₂.

	Private car	Shared taxi
Fuel type	Gasoline	Diesel
Fuel consumption	0.116 L/km	0.25 L/km

Fayoum, Based on traffic count surveys conducted at the selected corridor in the city of El Fayoum, the daily number of vehicles using this corridor may be estimated as follows.

Vehicle type	Vehicles per day
Private vehicle	23,480
Shared taxi	21,655

For the 13.6 km stretch of corridor to be provided with NMT facilities, and following the same assumptions mentioned above (concerning the potential percentage of passengers willing to switch to NMT), the annual reduction in CO₂ is estimated to be 12 265 tons CO₂/year for the chosen corridor. Multiplying this for a 20 years calculation period yields a total reduction of 245 300 tons of CO₂.

The total CO₂ savings over the 20-year span for the NMT in the two cities is thus estimated to be about 262 000 tons of CO₂

By replicating similar measures in 27 small and middle size cities, the total CO₂ reduction potential can be estimated at up to 5 million tons of CO₂ over the next 20 years.

COMPONENT 3 – TDM

In order to estimate the GHG emission reduction impact of component 4, it has been assumed that the proposed parking policy measures, the VMS and the micro pedestrianization together would have a impact on the use of 5,000 vehicles per day, divided between the owners of those vehicles

that decide to start to use public transport instead of private car for their daily commuting to the city centre and those, who can follow the guidance of the VMS system in finding lower cost parking in the garages surrounding the city centre and will take the shuttle from the garage to the nearest metro station or directly to the city centre. The average avoided daily driving distances for these two categories of users have been estimated as 20 km and 2 km, respectively. For verification, the overall number of parking spaces available in Cairo Business District is estimated at 9500.

Assumptions regarding vehicles involved		
	Current passenger cars	Proposed shuttle service
Fuel consumption	0.14 L/km (city)	0.0167 L/person km (city)
Fuel density	0.78 kg/L (gasoline)	0.84 kg/L (diesel)
Emission factor per kg fuel	3.1 kg CO ₂ /kg fuel	3.2 kg CO ₂ /kg fuel
Emission factor per km	0.33 kg CO ₂ /km (city)	0.045 kg CO ₂ /person km (city)

Without making further assumptions about the specific mode of transport selected by those car users that are assumed to switch from the use private car to the use of public transport for their daily commuting to the city centre, the emission factor used for the shuttle service is used as an average, general emission factor for the alternative promoted by the project. Although not being an entirely accurate assumption, it is expected to serve well enough the purpose of this study in order to give a general estimate of the overall GHG reduction potential of the measures promoted.

Accordingly, the GHG reduction estimate for this component can be calculated as follows:

$$250 \text{ days} \times (2500 \text{ vehicles / day} \times 20 \text{ km} + 2500 \text{ vehicles / day} \times 4 \text{ km}) \times (0.33 - 0.045) \text{ kg CO}_2/\text{km}$$

$$= 4,075 \text{ tons of CO}_2 \text{ per year or } 81,150 \text{ tons of CO}_2 \text{ over 20 years}$$

The overall GHG reduction potential of more aggressive TDM measures is to be reflected against the total use of private cars in the Greater Cairo area, which can be estimated at around 4 million trips during a typical weekday. Reducing this amount by 5% with the average trip length of 16 km and encouraging the use of public transport instead would result in GHG reduction benefits close to 0.9 million tons a year or over 18 million tons over 20 years.

COMPONENT 4 – FREIGHT TRANSPORT

Bassteel Dry Port (Rail-Truck)

Expected reduction of truck road transport

The expected reduction in truck road transport was calculated based on the following:

§ The past trend of the number of imported containers coming from abroad through the Alexandria, Demiatta and Ain-El-Sokhna ports. The total number of containers in the future was estimated based on this past trend.

- § The expected Cairo city share from the container ranges between 55% and 60% based on the Transportation Master plan for Greater Cairo in 2002.
- § The share of Railway was assumed to be 25% of the total Cairo city share based on SWEDCO study.
- § Having calculated the number of containers expected to be transported by Railway, the number of saved truck-km can be determined knowing the distance between Cairo and the three ports and assuming that a truck can carry two "TEU" (Twenty (feet) Equivalent Unit.)

Based on that and the total container traffic forecast via Alexandria, Ain Sokhna and Demiatta ports, the total amount of truck kilometers reduced on Cairo Alexandria, Cairo Sokhna and Cairo Damietta roads are estimated to be about 14.74 millions in year 2006 and reach about 20 millions in year 2015. It is worth mentioning that the figures of truck kilometers reduced on roads are based on an average truck of 30 tones total carrying capacity which can accommodate 2 Twenty Equivalent Unit containers.

Estimated CO₂ savings

Although all means of freight transport use fuel efficient diesel engines, the specific fuel consumption reported in the literature varies considerably. Operating conditions strongly affect the fuel consumption. So, in the present proposal, values used in calculating CO₂ emissions are those thought to be applicable to the local operating conditions.

Trucks are assumed to transport containers only (2 containers per truck) with empty containers in the return trips. The loaded truck is assumed to run at an average speed of 60-75 km/h and the empty truck is assumed to run at an average speed of about 70-90 km/h. The specific fuel consumption for local relatively old fleet of trucks is given by local freight transportation authorities to be 0.039 L/km ton. For trains, the average specific fuel consumption is taken as 0.00756 L/km ton.

The assumptions used in the calculation are given below

Assumptions regarding vehicles involved		
	Truck	Rail
Fuel consumption	0.039L/km ton	0.00756 L/km ton
Fuel density	0.84 kg/L (diesel)	0.84 kg/L (diesel)
Emission factor	3.2 kg CO ₂ /kg fuel	3.2 kg CO ₂ /kg fuel

Converting the freight transportation mode from truck to rail in Bassteel gives the following CO₂ emission reduction, together with the fuel saving.

Year	Truck km (millions)	SAVING ton CO ₂ /year	Fuel saving (ton fuel)
2007	14.3	20995.	
2008	14.7	21614	
2009	15.2	22349	
2010	15.7	23084	

2011	16.2	23819	
2012	16.7	24555	
2013	17.3	24847	
2014	17.9	26320	
2015	18.6	27348	
2016	19.2	28231	
2017	19.9	29259	
Total		273059	85327.9

From the table the savings in CO₂ emissions is can be estimated at 273 059 tons of CO₂ over 10 years and 565 600 tons of CO₂ over 20 years. As the incremental impact of the project, 50% has been assumed i.e: 282,500. The fuel savings can be estimated to be 34 995 tons by the end of the project.

Possibilities for replication are in:

- 10th of Ramadan city which has a large industrial area;
- 6th of October city in which there is also a big industrial area; and
- El-Aameria (near Alex. city) where a railway dry port is suggested to relief the congestion in Alexandria seaport.

No detailed GHG analysis has been made on the impact of the possible replication of similar dry ports such as Bassteel in the locations above, as a rough estimate a figure of 0,5 million tons of reduced CO₂ could be used.

Athar El Naby Port (River-Truck)

Reduction of truck-kilometers on roads

Athar El Nabi project would result in a freight modal shift from roads to inland waterways. When establishing and operating the container terminal at Ather El Naby, an amount of container traffic being carried by trucks would move to river barges. The total amount of containers that transfer from road trucks to river barges would be determined by the capacity of the container terminal as well as the capacity of river barges operating the service. This would be translated into a reduction in truck kilometers on concerned road corridors.

The reduction in truck kilometers in this case can be estimated. To do so, the consultant has used the basic data and information from the various studies¹⁰ of the Athar El Naby project to identify the amount of truck kilometers reduction with operating the container terminal. The methodology of identifying the amount of truck kilometers saved on roads has considered the following:

- § Container traffic coming to Egypt from abroad through Alexandria and Damiatta ports¹¹ with the final destination in Cairo

¹⁰ SWECO international (1999), Cairo Container Terminal: Review and upgrading of existing feasibility study. Project no. 2109136, River Transport Authority.

¹¹ To Ain-El-Sokhna Port there is no river link

- § 20 % of the imported containers would be unloaded at both ports and carried further with smaller trucks (not as containers), while the rest 80% is carried as containers to its final destination.
- § Containers coming to Greater Cairo are 58.3 % and 65.8% of total amount of containers imported through the Alexandria and Damietta ports, respectively
- § River transport share in container traffic to Greater Cairo is increased from the current share of close to 0% to 20%, while the rest would be continued to be carried by trucks and railways.

Based on that and the total container traffic forecast via Alexandria and Damietta ports, the total amount of truck kilometers reduced on Cairo Alexandria and Cairo Damietta roads are estimated to be about 10.6 millions in year 2006 and reach about 13.6 millions in year 2015. It is worth mentioning that the figures of truck kilometers reduced on roads are based on an average truck of 30 tonnes total carrying capacity which can accommodate 2 Twenty Equivalent Unit (TEU) containers.

The reduction of truck kilometers can be translated into savings of fuel based on the fuel consumption rates of road trucks.

Estimated CO₂ savings

The inland water freight transport working in Egypt is somewhat older than in other countries, so it is expected that the specific fuel consumption is higher than that given in literature. We relied on the local values given by local transport authorities.

The assumptions used in the calculation are given below

Assumptions regarding vehicles involved		
	Truck	Barge
Fuel consumption	0.039L/km ton	0.012L/km ton
Fuel density	0.84 kg/L (diesel)	0.84 kg/L (diesel)
Emission factor	3.2 kg CO ₂ /kg fuel	3.2 kg CO ₂ /kg fuel

Converting the freight transportation mode from truck to barge in Athar El Naby gives the following CO₂ emission reduction, together with the fuel saving.

Year	Truck km (millions)	SAVING ton CO ₂ /year	Fuel saving (ton fuel)
2007	10.3	14950	
2008	10.6	15386	
2009	10.9	15822	
2010	11.2	16257	
2011	11.4	16547	
2012	11.8	17053	
2013	12.1	17593	
2014	12.5	18144	

2015	12.9	18725	
2016	13.2	19918	
2017	13.6	19740	
		189379	58150

From the table the savings in CO₂ emissions is can be estimated at 189 379 tons of CO₂ over 10 years and about 386 800 tons of CO₂ over 20 years. As the incremental impact of the project, 50% has been assumed i.e: 193,400. The fuel savings can be estimated to be 34 995 tons by the end of the project.

As regards the replication potential of the proposed pilot river terminal, the national Transport Plan has considered improving some other river ports such as the along the river Nile on upper Egypt, including Luxor, Qena and Aswan and in the port of Nahda in Alamria, new port of Toshki, and the port of Aswan behind the High Dam.

Enhancement of Efficiency of Freight Trucking

The main assumptions adopted to calculate CO₂ emissions and fuel savings are outlined below.

Total number of trucks	137,000
Percentage of heavy & medium trucks	35.6 %
Average truck loading	20 tons
Distance traveled	200 km/day per truck
Specific fuel consumption	0.039 L/km t
Assumed percentage saving in ton km due to proposed pilot	0.5 % in 2007, reaching 3% in 2016

Based on the assumptions stated above, the savings in CO₂ emissions and fuel consumption are calculated as follows:

Year	Saving in ton km Percent	SAVING ton CO₂/year	Fuel saving (ton fuel)
2007	0.50000	32722	10226
2008	0.69750	45648	14265
2009	0.83700	54777	17118
2010	1.00440	65733	20541
2011	1.20528	78879	24650
2012	1.44634	94655	29580
2013	1.73560	113586	35496
2014	2.08272	136303	42595
2015	2.49927	163564	51114
2016	2.99912	196277	61336
	TOTAL	982144	306920

From the above table, it can be can be calculated that the CO₂ savings by the end of the project can reach 278,000 tons of CO₂ or 672,154 tons of CO₂ with the estimated service life of 5 years after the project, and the cumulative GHG reduction potential by continuing the same trend over 4.7 million

tons of CO₂ by 2025. An additional 200,000 tons of CO₂ reduction is estimated to be reached by the end of the project by reducing the number of driven kms by improved logistics.

The fuel savings by the end of the project can be estimated to be 86,800 tons.

CREATS

In the baseline scenario of the “Cairo Regional Area Transportation Study” (CREATS), the emission were estimated to increase from the 12.2 million tons of CO₂ in 2001 up to 15.9 million tons of CO₂ in 2022, while in the alternative scenario promoting more effective use of public transportation and related transport demand management through a combination of different measures, the GHG emissions were estimated to raise up to 13.6 million tons of CO₂ by 2022.

The cumulative GHG reduction potential over 20 years for the measures promoted under the CREATS study in the Greater Cairo area is thus equal to about 23 million tons of CO₂

National Scale

With an illustrative target to facilitate the reduction of the growth rate of the transport sector related GHG emissions from the current 6% to 5% with the proposed project intervention and joint action of the GEF and the Government of Egypt, the corresponding, cumulative GHG reduction potential can be estimated at over 100 million tons of CO₂ over the next 20 years. The transport sector emissions in 2002/2003 were estimated at about 29 million tons of CO₂.

SUMMARY

A summary of the calculations is presented in the following table:

CUMULATIVE GHG REDUCTION POTENTIAL					
	Pilot Concepts		Replication	CREATS Cumulative GHG reduction potential for CREATS measures in Greater Cairo Area	Illustrative target (cutting the growth of transport sector energy consumption from 6 to 5 %)
	Over 10 years [tons of CO ₂]	Over 20 years [tons of CO ₂]	Over 20 years [tons of CO ₂]	Over 20 years [tons of CO ₂]	Over 20 years [tons of CO ₂]
Component 1	130,0006	290,000	600,000	n.a.	n.a.
Component 2		262,000	4-5 million	n.a.	n.a.
Component 3		81,000	> 18 million	n.a.	n.a.
Component 4		850,000	> 5 million	n.a.	n.a.
Component 5	n.a	n.a	n.a.	n.a.	n.a.
Total	n.a.	1,483,000	> 27 million	46 million	> 100 million

United Nations Development Programme

Country: Egypt

Project Document

UNDAF Outcome(s): Regional human development disparities are reduced, including reducing the gender gap, and environmental sustainability improved

Expected CP Outcome(s): Sustainable Management of environment and natural resource incorporated into poverty reduction strategies/key national development frameworks and sector strategies

(Those that are linked to the project and extracted from the CPAP)

Expected CPAP Output(s): Enhanced capacity of central and local government to integrate sustainable development and environmental and natural resources management into national development frameworks and sector strategies

(Those that will result from the project and extracted from the CPAP)

Implementing partner: Egyptian Environmental Affairs Agency (EEAA)

Responsible Parties:

Brief Description


The objective of the project is to reduce the growth of the energy consumption and the related greenhouse gas emissions of the transport sector in Egypt, while simultaneously mitigating the local environmental and other problems of increasing traffic such as deteriorated urban air quality and congestion by 1) initiating the concept for the development of new, integrated transport services for Greater Cairo and its satellite cities on the basis of public-private partnerships; 2) promoting non-motorized transport in medium sized provincial cities; 3) introducing new traffic demand management measures; 4) improving the energy efficiency of freight transport; and 5) enhancing the awareness and capacity of local professionals on different aspect of sustainable transport and strengthening the institutional basis to promote sustainable transport during and after the project.

Programme Period: 2007-2011
CPAP Programme Component: Energy and environment for sustainable development
Project Title: Sustainable Transport
Atlas Award ID: 00045900
Start date: September 2008
End Date: September 2013

PAC Meeting Date: 12 July 2005

YYYY AWP budget: _____
Total resources required: _____
Total allocated resources: 7,000,000
• Regular: 100,000
• Other:
 o GEF: 6,900,000
 o Donor: _____
 o Donor Government: _____
Unfunded budget: _____
In-kind Contributions: _____


Agreed by: H.E. Amb. Menha Bakhom, Deputy Assistant Foreign Minister & Director of International Cooperation, Ministry of Foreign Affairs

Signature:  Date: _____ 19/11/2008

Agreed by: Dr. Mawaheb Aboul Azm, Chief Executive Officer, Egyptian Environmental Affairs Agency (EEAA)

Signature:  Date: _____

Agreed by: Mr. Mounir Tabet, Country Director United Nations Development Programme (UNDP)

Signature:  Date: _____