INSEAD is one of the world’s leading and largest graduate business schools, with campuses in France, Singapore and Abu Dhabi. As a global educational institution, INSEAD’s mission is to create a learning environment that brings together people, ideas and cultures from around the world, in order to transform organizations and individuals through business education.

Besides education, INSEAD also conducts research through its research centres. Since 2001, the Humanitarian Research Group (HRG) has been working to develop the science of humanitarian logistics. HRG strives to increase the capacity of humanitarian actors to respond effectively to the growing number of major disasters impacting the world today by finding solutions to management challenges affecting humanitarian organizations.

The HRG has been conducting research on fleet management in the humanitarian sector since 2007. Its team combines experience in humanitarian logistics, business processes, operations management, industrial engineering, manufacturing and automotive engineering. HRG gained its particular fleet management experience through research projects conducted with several organizations, such as WFP, UNHCR, ICRC, IFRC, WVI, Oxfam GB, and WHO India.

About the authors
Nathan Kunz, Postdoctoral Research Fellow, INSEAD Humanitarian Research Group
Luk Van Wassenhove, The Henry Ford Chaired Professor of Manufacturing, Professor of Technology and Operations Management, Director INSEAD Humanitarian Research Group

The authors are grateful to Othman Boufaied and José Miguel Fernández Gómez for their assistance with data gathering and analysis. The authors also thank the entire UNHCR Global Fleet Management team for their support throughout the data gathering process.

Contacts
Luk Van Wassenhove
INSEAD Humanitarian Research Group
Bd de Constance - 77305 Fontainebleau - France
Email: luk.van-wassenhove@insead.edu
Web: www.insead.edu/facultyresearch/centres/isic/humanitarian
In January 2014 UNHCR established the Global Fleet Management (GFM) function with the following goal:
To provide UNHCR field offices and operations with appropriate, cost-effective, safe vehicles and professional fleet management services to support optimum programme delivery.

The objectives of GFM are to generate a substantial improvement in operating effectiveness of the vehicles used in UNHCR operations, and to significantly reduce the operating costs of these vehicles, improve asset control, increase staff safety and to safeguard donor funds, thereby enhancing programme delivery.

GFM is provided as a support function to UNHCR operations through the UNHCR Asset & Fleet Management Section, Supply Management and Logistics Service, Division of Emergency, Security and Supply.

Contact
UNHCR Global Fleet Management
Duna Tower - 22 Népfürdő street, 1138 Budapest- Hungary
Email: hqfleet@unhcr.org
Table of Contents

Executive summary .......................................................... 7

Achieved benefits of GFM after
one year of operation ...................................................... 8

UNHCR Fleet Management
prior to GFM ................................................................. 12

Fleet Management in the field
before GFM ................................................................. 14

A pathway to a well-managed
fleet ................................................................. 17

New Fleet Strategy to improve
UNHCR Fleet Management ........................................ 18

Process of change ......................................................... 20

Lifetime of a vehicle ....................................................... 22

Next steps and future benefits
of GFM ................................................................. 25

Conclusion ................................................................. 26
After one year of operation, fleet size decreased by 11%. Average fleet age dropped by 21%, from 5.85 to 4.63 years. Procurement costs tumbled by 21%, a potential annual saving of US$ 5 million.
Executive summary

The objective of this report is to describe the transformation in UNHCR’s fleet management and demonstrate the results after one year of operation.

Light vehicles are mission critical assets. They allow staff to reach persons of concern in remote areas and often challenging conditions.

In 2011, an evaluation of UNHCR’s fleet management found light vehicles were managed in a decentralized manner. Fleet was entirely under the responsibility of field offices and the lack of centralized supervision by headquarters led to low fleet performance, poor asset management and associated increased costs.

In 2014 UNHCR launched its Global Fleet Management (GFM) function, centralizing vehicle asset management at headquarters and aiming to substantially improve effectiveness and efficiency. GFM has developed the UNHCR Fleet Strategy 2014-2018. In the first phase of this 5-year plan vehicles are procured centrally by the GFM function in Budapest, and rented to field offices. A global vehicle insurance scheme has been established and a centralized vehicle disposal service for field offices has been introduced.

After one year of operation, fleet size decreased by 11%. Average vehicle age dropped by 21%, from 5.85 to 4.63 years. Procurement costs fell by 21%, a potential annual saving of US$ 5 million. Centralized disposal has generated approximately US$ 10 million in 2014. The establishment of GFM and the rollout of the UNHCR Fleet Strategy has resulted in an immediate and strong positive financial impact, improved asset control and continuously delivering a significant return on investment to the organization.
Achieved benefits of GFM after one year of operation

GFM has already delivered an impressive number of improvements in fleet control and management. Problems of over-sized and over-aged fleet are being successfully addressed. Average fleet age dropped from 5.85 years in April 2013 to 4.63 years in October 2014, a substantial reduction of 21% (Figure 1). However, sustained efforts are required. By end of October 2014, 36% of the light vehicles were still above the 5-year disposal threshold. Concerted actions to dispose old vehicles should therefore continue unabated in order to achieve a target average fleet age of 2.5 years.

GFM also contributed to fleet size reduction despite a strong increase in programme activities in 2014. Fleet size was estimated at 6500 vehicles in 2011\(^1\) and 5595 vehicles in 2012\(^2\) but these numbers are uncertain due to poor visibility in a decentralized system where field offices managed their fleets independently. Today’s more reliable fleet data indicate a fleet of 4913 light vehicles in 2013, and 4389 light vehicles in October 2014, a clear 11% reduction (Figure 2). Estimates show that 4000 vehicles would be an appropriate fleet size for current programme activities.

GFM standardization of vehicles has resulted in the procurement of a reduced number of models from 35 to 23, a substantial 34% decrease. This also means fewer suppliers, drop from 44 down to 25, representing a 43% decrease. These numbers demonstrate GFM successfully streamlined the vehicle procurement process.

---

**FIGURE 1**

Fleet age before launch of GFM and under GFM

<table>
<thead>
<tr>
<th>Before Global Fleet Management</th>
<th>Under Global Fleet Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average Age of UNHCR Vehicles</strong></td>
<td><strong>Average Age of UNHCR Vehicles</strong></td>
</tr>
<tr>
<td>5.85 years</td>
<td>4.63 years</td>
</tr>
</tbody>
</table>

Fleet Age reduction of 21%
FIGURE 2
Fleet size before launch of GFM and under GFM

<table>
<thead>
<tr>
<th></th>
<th>Before Global Fleet Management</th>
<th>Under Global Fleet Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of UNHCR Light Vehicles</td>
<td>4913 vehicles</td>
<td>4389 vehicles</td>
</tr>
<tr>
<td>Year</td>
<td>2013</td>
<td>2014</td>
</tr>
</tbody>
</table>

Fleet Size decreased by 11%
Comparing average procurement cost of all light vehicles purchased in 2013 and 2014 shows GFM reduced costs by 21% on average. This is largely the result of centralized direct procurement from vehicle manufacturers and higher discounts available with larger order quantities. Considering the average number of vehicles to be procured by GFM, one can safely expect annual savings of US$ 5 million.

GFM has also strongly contributed to smoother cash flow management for field offices, by charging a rental fee of only one third of the cost of the vehicle at the beginning of the first year instead of the full procurement price. This rental fee will progressively decrease over the years and is expected to stabilize at a level which is lower than the procurement cost over 5 years.
In addition, if a vehicle is no longer required the rental can be terminated. This allows field offices to allocate funds to programme related activities instead of investing in vehicles. GFM also introduced a successful centralized vehicle disposal process managed and conducted by the Asset and Fleet Management Section. UNHCR now sells its redundant vehicles through professional auctions generating significant disposal revenues, instead of simply writing-off or donating vehicles to partners. A systematic effort to sell off a large number of over-aged and often broken down and damaged vehicles increased total disposal revenue from US$ 1.2 million in 2012 to US$ 10 million in 2014. This revenue was then used to fund the procurement of vehicles for the vehicle rental scheme programme.
Light vehicles are of key operational importance to UNHCR. Running a large, widely geographically dispersed fleet (Figure 3) in itself generates significant costs and enterprise risk. In 2007, UNHCR operated an overall fleet of 6500 vehicles at an annual cost of more than US$ 100 million. Research shows that 50% of fleet costs are field related running costs, while the other 50% are procurement related costs, usually controlled by headquarters.

In 2011, an evaluation of UNHCR’s fleet concluded light vehicles were managed sub-optimally. UNHCR did not recognize the strategic importance of professional fleet management. Fleet utilization and management were entirely under the responsibility of field offices, with weak control by headquarters. Lack of centralized fleet management led to ineffective asset management in the field. UNHCR had low visibility on vehicles; fleets were generally oversized and over-aged, with consequent negative impacts on costs, safety and the environment. UNHCR guidelines require vehicles to be replaced after 5 years or 150,000 km. However, before GFM, average fleet age was 6 years, and vehicles unfit for use were still in service. For example, an expert seconded to UNHCR found 11 out of 17 vehicles assessed in Uganda to be in an un-roadworthy condition. When GFM created an incentive to dispose of unneeded vehicles in 2013, field offices immediately released 750 vehicles.
FIGURE 3
Geographic distribution of UNHCR vehicle fleet in 2013

Africa
Middle East and North Africa
Asia
Europe
Americas
Fleet Management in the field before GFM

Sub-optimal fleet management at UNHCR before the launch of GFM was driven by three underlying systems and resulting behaviors (Figure 4).

First, the availability of funding clearly drove vehicle procurement by field offices. In 2009 and 2010, over 50% of annual vehicle orders were placed in December, indicating a tendency to spend remaining budgets at year-end. Furthermore, field offices kept vehicles longer than their prescribed end of life when funds were not readily available. Second, fleet management was highly decentralized, preventing headquarters from improving asset management. Third, low institutional awareness of importance of light vehicle fleets resulted in little time dedicated to fleet management in the field and low appreciation of fleet associated risk.

Figure 4 shows how these systems and behaviours led to a series of negative consequences, including over-sized and over-aged fleets. Uncoordinated procurement, poor asset control and lack of visibility of operational fleet costs were obvious other consequences. Low awareness also led to low fleet management capabilities and low appreciation of risks.

The negative consequences identified in Figure 4 posed three major challenges to UNHCR. First, it had low visibility and control over fleet costs. Second, low control over fleet assets entailed high risks for the organization. Operating an over-aged fleet increased accident risk and unreliable vehicles are a safety risk to staff in dangerous areas. Third, over-sized and over-aged fleets substantially increased environmental footprint.
FIGURE 4
Cause and effect analysis of UNHCR fleet operations before GFM

SYSTEMS AND BEHAVIOURS
- Fund driven asset management
- Decentralized fleet management
- Very low awareness of importance of fleet operation

NEGATIVE CONSEQUENCES
- Over-aged fleet
- Over-sized fleet
- Low disposal income
- Non standardized fleet
- Sub-optimal procurement
- Poor asset control
- Poor visibility of operational fleet costs
- Low fleet management capabilities
- Poor oversight of partners fleet use
- Low fleet risk awareness

RESULTING CHALLENGES
- Poor cost control
- High risks
- High environmental impact
The fleet management challenges faced by UNHCR could only be addressed by fundamentally changing underlying system drivers and resulting behaviors. Vehicle asset management should be based on actual transport needs rather than funding availability. The introduction of the vehicle rental scheme programme allows field offices to pay for the vehicles actually required to meet programme needs. The vehicle rental scheme limits end of year remaining budget spending on vehicles.

Decentralized fleet management has been replaced by a centralized unit managing the UNHCR fleet. This was achieved through GFM centralizing life-cycle management from procurement to disposal. Finally, GFM invests in communicating importance of fleet management and delivering training to field offices, thereby addressing low awareness.

Figure 5 illustrates the change process initiated by GFM. The following of this process will ultimately lead to a well-managed fleet. Controlled costs will provide visibility of fleet operations and result in savings. Better asset control will reduce risks to UNHCR. A newer and better-managed fleet will increase safety and lower risk of reputational damage. Finally, operating newer and better-managed fleet will reduce environmental impact and prepare UNHCR to respond to emissions reduction requirements.
Global Fleet Management was launched with the aim of “providing UNHCR field offices and operations with appropriate, cost-effective, safe vehicles and professional fleet management services to support optimum programme delivery.” This initiative responded to the need to address weak fleet management practice at field offices. The UNHCR Fleet Strategy 2014-2018 defined the Global Fleet Management objectives and work plan to deliver its aim. The strategy defines goals and objectives on three dimensions: Efficiency, Safety and Environment. Table 1 shows how goals and objectives of the UNHCR Fleet Strategy 2014-2018 contribute to a well-managed fleet.
Table 1

Goals of UNHCR Fleet Strategy 2014-2018 contribute to well-managed fleet

<table>
<thead>
<tr>
<th>Goals defined in strategy</th>
<th>Objectives</th>
<th>Contribution to well-managed fleet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve <strong>Efficiency</strong> of the UNHCR Fleet</td>
<td>Fleet is reliable</td>
<td>Controlled costs</td>
</tr>
<tr>
<td></td>
<td>Fleet is well-managed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fleet is effective &amp; economical to operate</td>
<td></td>
</tr>
<tr>
<td>Improve <strong>Road Safety</strong> of the UNHCR Fleet</td>
<td>Reduce number &amp; severity of accidents</td>
<td>Lower risks</td>
</tr>
<tr>
<td></td>
<td>Reduce occupational health hazard to drivers and passengers</td>
<td></td>
</tr>
<tr>
<td>Minimize <strong>Environmental Impact</strong> of UNHCR Vehicles</td>
<td>Reduce emissions</td>
<td>Lower environmental impact</td>
</tr>
<tr>
<td></td>
<td>Improve waste disposal</td>
<td></td>
</tr>
</tbody>
</table>
The UNHCR Fleet Strategy 2014-2018 is designed to lead to a well-managed fleet. To achieve a successful delivery of this strategy a set of appropriate actions need to be taken to reach optimal fleet management by 2018.

Figure 6 shows a set of corrective actions to address the negative consequences of the sub-optimal systems and resulting behaviours observed prior to GFM. Some actions are already implemented while others will be introduced in coming years. To be successfully implemented and accepted these actions need to be supported by a framework clarifying rights and obligations of the field offices and the GFM in Budapest. UNHCR uses the “Accountabilities, Responsibilities, and Authorities (ARA) Framework”. It will clarify the responsibilities of field offices and GFM, a prerequisite for achieving a well-managed fleet by 2018.

A scorecard of Key Performance Indicators (KPI) has been developed to enable the performance of the UNHCR fleet to be closely monitored and to inform appropriate action to ensure continuous improvement.
FIGURE 6
Actions required for reaching a well-managed fleet

Fleet management up to 2013

- Over-aged fleet
- Over-sized fleet
- Low disposal income
- Non standardized fleet
- Poor asset control
- Sub-optimal procurement
- Poor visibility of operational fleet cost
- Low fleet management capabilities
- Poor oversight of partner fleet use
- Low fleet risk awareness

Fleet management in 2018

- Right-aged fleet
- Right-sized fleet
- Maximized disposal income
- Standardized fleet
- Accurate asset list
- Optimized procurement
- Visibility of operational fleet cost
- Robust fleet management model
- Partners follow UNHCR fleet management model
- Fleet risks are well-managed

Actions

- Manage disposal
- Apply disposal / Advise on fleet composition
- Manage disposal / auctions
- Limit available specifications
- Roll-out FleetWave
- Central procurement
- Roll-out FleetWave and vehicle tracking
- Build fleet management capacity
- Build fleet management capacity
- Fleet management training
Lifetime of a vehicle
Figure 7 depicts the typical lifecycle of a vehicle before GFM, and compares it to the life of a vehicle today. Under GFM, the vehicle procurement process is streamlined, and vehicles are used for a limited period of 5 years. Vehicle maintenance costs tend to increase over the lifetime of a vehicle. By reducing the vehicle lifetime to 5 years, maintenance costs can be predictable and large scale, expensive repairs avoided. After 5 years, the vehicle is sold through an auction process. Selling a 5-year old vehicle generates high disposal revenue, which is reinvested in buying new UNHCR vehicles.
The first phase of the UNHCR fleet strategy focused on rolling out the global fleet rental and vehicle insurance scheme and on auctioning off redundant vehicles. This new structure contributed to reducing fleet age, fleet size and procurement costs. Centralized disposal of old vehicles led to higher disposal revenues and improved cost control.

Figure 8 describes the future phases of the strategy and their expected benefits.

Vehicle maintenance and repair is the focus of phase two of the strategy, starting in 2015. Phase three is planned to start in 2016 and concentrates on generators, another type of motorized assets requiring proper management to reduce costs and environmental impacts.

Finally, fuel management will be addressed in 2017. This last phase of the strategy has a strong potential to further reduce fleet operating costs.

FIGURE 8
Timeline of UNHCR fleet strategy and expected benefits
Conclusion

Prior to 2013, fleet management at UNHCR was sub-optimal. The organization did not recognize the critical importance of vehicles for delivering its mandate. Fleet management was highly decentralized to field offices, with little oversight by headquarters. UNHCR had low visibility on vehicles. Fleets were over-sized and over-aged, generating negative impacts on costs, safety and environment.

In an effort to better control its vehicles, UNHCR established Global Fleet Management (GFM) in 2014, which is responsible to deliver the UNHCR Fleet Strategy 2014-2018. Centralized vehicle procurement and disposal have been the first steps by GFM in the implementation of the new strategy. Vehicles are procured in large batch orders directly from manufacturers and are rented out to field offices for the length of time they are needed. Field offices benefit from simpler vehicle procurement and smoother cash flow management. In its next steps, the strategy will address areas such as vehicle maintenance and fuel management.

After one year of operation, GFM has successfully implemented the first step of the GFM strategy and achieved several benefits. Fleet size has been reduced by 11% since the implementation of the strategy. The average fleet age has decreased by 21%, from 5.85 years in April 2013 to 4.63 years in October 2014. Centralized procurement reduced the average cost of purchasing vehicles by 21%, representing a saving of US$ 5 million per year. In its first year of operation, the central disposal service run by GFM sold approximately 1000 vehicles through professional auctions, which generated net revenue of US$ 10 million. Vehicle write-offs and donations to partners were significantly reduced.

These achievements were recognized at the Fleet Forum Annual Conference held at World Food Programme HQ in Rome in June 2015 when GFM was awarded the Best Transport Achievement Award.

In addition, UNHCR recently commissioned an evaluation of its supply chain by external experts, who observed: “The new Global Fleet Management programme is well integrated, has a clear, defined strategy, and a business model that generates savings for the organization. Success has stemmed from the ability to articulate the value of this service: to centrally manage fleets of vehicles that are leased to operations and are disposed of at the end of their life cycle. There is great potential in expanding the programme to external parties.”

GFM has led to significant improvements in its first year of operation. In order to lead UNHCR to the objective of running a well-managed fleet in 2018, sustained efforts are required, and the remaining steps of the GFM strategy have to be implemented.

References

1 UNHCR Vehicle Fleet Management Review, 13 May 2011, p.13
2 Report of the Board of Auditors for Financial report and audited financial statements 2012, 18 July 2013, p.59
3 All financial comparisons presented in this report do not take into account the fixed costs of the GFM structure in Budapest, the storage costs and the transportation costs within UNHCR. We limit our cost comparisons to procurement costs, i.e. vehicle costs and transportation costs from supplier to UNHCR.
4 Figures provided by UNHCR
5 UNOIOS Audit Report Assignment No. AR2006/161/01, 6 July 2007
7 UNHCR Vehicle Fleet Management Review, 13 May 2011
8 UNHCR Vehicle Fleet Management Review, 13 May 2011
9 Report from Peter Haussener – SDC staff on secondment to UNHCR, 10 May 2011
11 Fleet strategy 2014-2018
12 UNHCR Supply Chain Review by the Fritz Institute 2015
Best Transport Achievement Award 2015

Presented to

UNHCR
Global Fleet Management

In recognition of excellence in fleet management through collaboration, innovation, and successful implementation of specific strategies that significantly reduced costs while expanding service and effectiveness.

4 June 2015 • Annual Fleet Forum Conference 2015 • Rome, Italy
Year One
Baseline report

Global Fleet Management
Supply Management Logistics Service
hqfleet@unhcr.org