5.3 Defining fleet needs



* This includes security context and regulations that may apply (import options, labour law, etc)

5.3.1 Vehicles

The number and type of vehicles should always be aligned to the operational needs and conditions, including security, terrain, and team movement patterns. Operational fleet decisions must be compliant with IFRC safety and security guidelines (as stated in the IFRC Fleet Manual), with any deviation requiring approval from UKO.

The vehicles selected must comply with Federation standards, unless approval for the use of non-standard vehicles has been obtained from UKO.

When selecting vehicles, consideration should be given to the following factors:

VEHICLE SELECTION CRITERIA				
Local terrain and topography	Local driver capacity (automatic or manual driving, 4x4 driving, left or right- hand drive)	Local and national service/maintenance and the availability of spare parts		
State of road and traffic infrastructure				
Need for specific equipment, such as in- vehicle communications equipment, a tow- bar or winching equipment, or use of the	Distance to be travelled and estimated usage (frequency, payload, etc)	Local rules and regulations, including emission regulations (not all IFRC- standard vehicles meet current emission lougle for all countries)		
vehicle as ambulance	Compatibility with existing fleet	levels for all countries)		
Import and export regulations	composition	climate, including seasonal change		

The IFRC <u>standard product catalogue</u> contains full technical specifications of Federationstandard vehicles.

The key point for organising fleet is knowing what the needs are for the programmes in the country office (including any sub-delegations) and for general operations. It is the role

of logistics to analyse these needs and then optimise the fleet, defining the optimal vehicle fleet requirements. This, combined with the national regulations (i.e. load limits for trucks) and the limitations of the surrounding area (i.e. infrastructure) will provide the necessary information to choose the most effective set-up of fleet.

Defining the number and type of vehicles depends on the volume of the workload and the material or number of passengers to be transported, as well as the distance and terrain covered. Each type of vehicle has its own specifications regarding load, type of goods and passenger capacity.

The below table will help define the type of equipment needed in operations. To help calculate the number required of each type of vehicle, see Annex 9.01, vehicle set-up evaluation in the <u>ICRC fleet management manual</u>.

Consider	Criteria	Decisions
Type of terrain	Town/country/topography Paved/dirt roads Seasonality Warehouse Construction site	Cars, high-range 4x4, low-range 4x4, engine power Specifications of vehicles Tyres, sand plates, motorbikes, etc Forklift Digger
Transport capacity	Bridge and road weight restrictions Local/international distribution Transport of passengers/cargo (see Section 5.4.6)	Light trucks Trucks Bus
Radius of operation	Vehicle fuel capacity and reliability Number and type of vehicles Typical and exceptional journey durations Fuel quality and quantity in area of operation	Refuelling options, linked to typical and exceptional journeys (mileage and duration) Fuel sourcing strategy Storage on site
Availability of electricity	Power for all operations Security	Generators vs. city power

Each department has its own needs in terms of type and number of vehicles to add to the fleet list. For example:

- Administration may require cars for errands or official visits
- Protection teams may need light 4x4 vehicles for field visits and transfers
- Construction and warehousing teams may need pick-ups for equipment
- Teams in charge of distribution (usually called relief team) will need trucks

Combining and analysing these needs into a summary table will help constitute the fleet (in number and type), in a way that meets the needs of each team and minimises the cost

of operation. The vehicle pool system (see Section 5.4.8.1) should be considered, as it maximises vehicle utilisation through avoiding the taking of vehicles without justification.

	Team 1	Team 2	Team 3	Team 4	Team 5	Total
Vehicle type 1						
Vehicle type 2						
Vehicle type 3						
Vehicle type 4						
Total						

5.3.2 Power supply

Generators must be set up and maintained by qualified staff – a mechanic or a head driver. Support is always available from locally available staff from other PNS, IFRC or ICRC or from UKO-based logisticians.

Specialist skills are required to manage generators. Staff involved in plant management processes must be trained electricians or experienced logisticians.

Generators usually produce single-phase electricity, which is used when the loads are mainly lighting and heating, and for small electric motors. A single-phase supply connected to an AC electric motor will not produce a rotating magnetic field, so single-phase motors require additional circuits for start-up and are unusual for power ratings above 10kW. All generators used in BRC operations are single-phase. Seek specialist advice for the operation of three-phase generators.

The output of a generator is measured in KvA (kilovolt-ampere) and volts. They can be air or water-cooled and can be soundproofed (silent) or not. Generators are either petrol or diesel-powered.

The BRC uses hybrid generators when deploying their Logistics or MSM Emergency Response Unit teams (see chapter 8 for details on the ERUs). These provide standard power generation and simultaneously charge a set of batteries, which can be used to provide power once the generator is turned off. The batteries' power demand must therefore be included in the load calculations. Details of the generator specifications as well as a user manual are available from the international logistics team upon request, and provided to the ERU teams when they deploy.

It is important to match the power generated to your electrical needs as closely as possible: if the load is too high, the generator will stop and be damaged. But when the generator is supplying less than 40–50 per cent of its power capacity, fuel consumption increases, the lubricant deteriorates more quickly, and the engine's life cycle is reduced.

Without any power demand to it, a generator will typically already be using 25–30 per cent of its rated power. To maximise the generator potential, the largest electrical motor should be started on its own and further appliances should be switched on thereafter.

Sce	enario	Impact on generator set	
Α	Power demand is less than 40–50% of the	Fuel consumption increases.	
	maximum rated power	Generator life cycle is reduced.	
		Lubricant deteriorates more quickly.	
В	Power demand is between 60-80% of	f Optimal use of the generator.	
	maximum rated power		
С	Power demand is more than 80% of the	Fuel consumption increases (but less than in	
	maximum rated power	Scenario A).	
D	Power demand is more than 100% of the	Generator stops.	
	maximum rated power	Generator life cycle is reduced.	

It is a good idea to have batteries as part of an electricity provision setups, so that they can be charged while the generator is turned on. Critical appliances (communication systems, fridges, alarm and/or security systems) can then work in case neither city power nor the generator can supply power. If the generator is used to charge batteries, make sure their rated kVA is calculated into the total power requirements. Current technology means it is not feasible to rely completely on solar power; at best it may be considered as back-up to supplement generators and battery banks, which can be charged with solar power using solar panels.

To calculate your power supply needs and to choose the right generator, use the below indicative table. The generator size (in kVA) must be equal to or greater than the total consumption of all appliances. The higher starting requirement must be taken into account when calculating the generator size.

Appliance	Rated power	Rated kVA (To	Rated kVA (To start
Appliance	(watts)	o <i>perate</i> appliance)	appliance)
Air conditioner (evaporative	275–1,000	0.34–1.25	1.36–5
model)			
Air conditioner (reverse cycle)	200–2,500	0.25–3.13	1–12.5
Clothes dryer	2,400	3	3.00
Coffee percolator	550	0.69	0.69
Deep freezer	500	0.63	2.52
Dishwasher	1,000–3,000	1.25–3.75	1.25–3.75
Domestic water pumps	275–1,000	0.34–1.25	1.36–5
Exhaust fan	40	0.05	0.20
Floor polisher	350	0.44	1.76
Hair dryer	1,500	1.88	1.88
Hot water service	2,500–3,000	3.13–3.75	3.13–3.75
Iron	800–1,500	1–1.88	1–1.88
Kettle or jug	1,600–3,000	2–3.75	2–3.75
Laptop	60	0.4–0.6	0.5
Lights	25–200	0.03–0.25	0.03–0.25
Microwave	1,500	1.88	1.88

Oven	4,000–8,000	5–10	5–10
Printer	30–50	0.2	0.2
Projector	300	0.28	0.33
Radio	60	0.08	0.08
Radiator	1,000–2,500	1.25–3.13	1.15–3.13
Refrigerator	300	0.38	1.52
Sewing machine	60	0.08	0.32
Space heater	2,000	2–5	2.50
Television	75–200	0.09–0.25	0.09–0.25
Toaster	250–1,250	0.3–1.56	0.3–1.56
Washing machine	500–3,000	0.63–3.75	2.52–15
Welder (140A)	5,000	6.25	8

Consider	Criteria	Decisions
Electrical load	Total load calculations Power (kVA) Local voltage and frequency	Reduce requirements? Alternate generators? (consider whether budget can cover duplicate setup)
Expected usage	Permanent/back-up system Consider requirement for UPS by way of back- up Starting system (manual/electric/automatic)	Alternate generators if constant power supply needed Establish running hours with regular breaks (consider if budget can cover duplicate setup)
Make, brand, Place of manufacture	Local availability and quality of relevant fuel and parts Local maintenance capacity	Budget for fuel and spare parts
Geographical area of use	Altitude Temperature and weather conditions Exhaust emission regulations Cooling system (air/water	Improve electrical safety at location Isolate generator appropriately (consider budget availability)
Place of use	Indoors/outdoors Ventilation Protection from elements Noise and disruption Type (portable/fixed/on trailer) Safety	Budget for generator shelter or noise reduction system Require inspection of terrain Security requirements How to earth it effectively?
Price	Budget, set-up costs, maintenance costs	Within budget / out of budget

Selecting fleet/power supply setup

- Think about how you will use the fleet and how much power you need
- Decision factors for fleet: type of terrain, capacity required, radius of operation
- Decision factors for generators: load, expected uses, place of use, brand
- Calculate your estimated power requirements carefully
- Consider local constraints, but strive for standardisation (see IFRC standard product catalogue)

5.3.3 Fleet options and modalities

The RCRC's aim regarding fleet management is to standardise fleet as much as possible, allowing for easier tracking, resource-sharing and maintenance management. It also allows different parts of the Movement to benefit from competitive pricing from manufacturers.

Vehicles outside the list of standard fleet should only be purchased after approval from a centralised fleet management team (usually HQ logistics, IFRC or ICRC).

The IFRC standard product catalogue and VRP programme include the list of standard vehicles.

Fleet to be used in field operations should always be procured centrally and through the existing agreements with manufacturers.

Where fleet is being procured locally and only for city use, the following criteria should be adhered to as much as possible:

Make	Well-known European or Japanese make, well represented in country of operation
Category	City car (Peugeot 208, Toyota Corolla or equivalent), not necessarily a station wagon
Engine power	Maximum 100 hp or 75 kw
On-board	Alarm/immobiliser, antilock braking system (ABS), electronics stability
security	control and air bag if available
Fuel	Diesel or petrol (check regulations, availability and consider the environmental impact)
Pollution control	Optimum, but at least as per local regulation

Transmission	Two-wheel drive, preferably automatic – unless road conditions in the city require four-wheel drive
Colour	Preferably white, and a light colour if not available – should not clash with Movement visibility
Budget Maintenance	Equivalent to the cost of standard vehicles Access to local maintenance without HQ support

Standardisation and compliance to environmental regulations should also be applied to the choice of generators. In general, ensure that the brand is well-established, that fuel type matches local fuel availability and that spare parts and maintenance are widely available.

5.3.4 Different types of fleet sourcing solutions

5.3.4.1 BRC own fleet

In this option, the BRC purchases the vehicles and uses them for its operations.

The decision of what vehicles and how many to buy will be based on operational needs and the procurement must be controlled and managed through UKO. Such vehicles would be purchased and imported under the HNS and the BRC would donate the vehicles to them once the BRC-supported programme ends.

This option would usually only be considered when:

- It represents better value for money than other options, such as using the IFRC's VRP system
- Vehicles are required for more than two years
- There is assurance that the donation does not place an unnecessary burden on the HNS in terms of maintenance and cost.

In these cases, the BRC usually covers all the costs associated with the vehicles, including maintenance, drivers' charges including per diems, local insurance, registration and fuel. The maintenance of BRCpurchased vehicles outside the UK is done following the IFRC maintenance guidelines, unless it is agreed that the vehicle is managed under the HNS' fleet management procedures..

5.3.4.2 Commercial rentals

Renting vehicles or outsourcing their maintenance can be a requirement for an operation either temporarily (during a short-term surge in activity) or as a long-term solution (where ownership is not an option).

If renting vehicles, the applicable procurement procedure should be followed. The selected rental company must be reputable and offer value for money. See section 1.6 for more details.

5.3.4.3 IFRC vehicle rental programme

For step-by-step guidance on sourcing vehicles through the VRP, refer to the VRP service request management/business process document.

5.3.4.3.1 The Vehicle rental programme

The International Federation's vehicle rental programme (VRP) was established in 1997 to ensure a cost-effective use of vehicles and fleet resources. Revised in 2004, it continues to be an effective means of providing vehicles to International Federation and National Society operations. The programme is run as a not-for-profit service within the International Federation; monthly vehicle rental charges are calculated to cover the vehicles and the operating costs of the VRP.

Depending on the estimated period of vehicles' requirement, it may be cheaper or more straightforward to rent them through the VRP, but a full cost comparison should be done before a decision is made. Cost comparison must cover the cost of the vehicle, shipping, registration, insurance and local insurance, maintenance and PSR of 6.5 per cent.

The overall aim of the VRP is to provide good-quality vehicles as quickly as possible, and with maximum bulk discount. It also enhances standardisation, centralises control and minimises costs, through end-of-lease sale. Vehicles on this programme are managed through the fleet base in Dubai and remain the property of the IFRC. All leases must be organised through the IFRC.

The vehicle rental programme is managed through the global fleet base in Dubai, but a lot of the fleet management team's responsibilities are delegated regionally and implemented through regional fleet coordinators in the Operational Logistics procurement and Supply Chain

The VRP agreement is materialised through a vehicle request form, which must be signed off by the BRC country manager and submitted to the global logistics services (GLS) team in Dubai. Management units (OLPSCM, also known as Regional Logistics Units).

The requesting programme's lead (programme manager, country manager or ops manager) is responsible for authorising the VRP contract with the IFRC fleet base in Dubai, on the recommendation of logistics based on the review of the above options.

Note: Monthly VRP invoices are processed through UKO.

5.3.4.3.2 Global fleet base vs regional units: roles and responsibilities

VRP SYSTEM – ROLES & RESPONSIBILITIES

Global fleet unit (Dubai)	Regional fleet coordinators (in OLPSCMs)
Overall VRP management (operational and financial)	Implementation and maintenance of IFRC standards at a
Maintaining the VRP business plan	regional level
Procurement hub for vehicles and vehicle-related items	Advise on the implementation of preventative maintenance and repairs to maximise lifespan and usage of regional fleet
Managing all incoming requests for dispatch and allocation of new and used vehicles	Coordinate movement of fleet across the region
	Supporting planning of transportation needs in the region
Supporting disposal of VRP vehicles	Implementing standard asset disposal procedures
Preparing vehicles for deployment (technical assessment and repairs)	Ensuring proper maintenance of fleet wave database and analysing data
	Reporting on regional fleet usage to global fleet base
	Maintaining regional fleet files
	Advise and train on fleet sizing, fleet management and VRP
	Managing regional IFRC fleet

5.2.4.3.3 VRP rental costs

To encourage forward planning, cost incentives have been built into the VRP. Rental rates are based on a sliding scale, in which longer rentals benefit from cost savings (i.e. a sliding scale, based on the duration of the contract).

Model	Five-year average	12-month average
	monthly cost (CHF)	monthly cost (CHF)
Toyota Land Cruiser HZJ78	720	830
Toyota Land Cruiser pick-up double cabin HZJ79	671	775
Toyota Land Cruiser pick-up single cabin HZJ79	650	750
Toyota Land Cruiser SWB HZJ76	736	850
Toyota Land Cruiser Prado LJ150	696	800
Toyota Corolla ZZE142	635	TBC
Toyota Hiace minibus LH202	621	715
Nissan Navara pick-up double cabin	546	630

These rates are indicative and may change – quotes can be requested from the Global Fleet team when considering renting vehicles through the VRP. The latest version of the rate sheet is dated from 2016.

An additional 6.5 per cent programme support recovery cost must be added to the total cost of the contract with the VRP, as well as delivery and return shipping costs (including any applicable import duties).

VRP SYSTEM – COST STRUCTURE

Included in VRP rental rate	Not included in VRP rental rate	
Global third-party liability insurance cover (up to CHF 10 million)	Telecom equipment ordered by the operation	
	Additional equipment: snow chains, spare part kits, roof rack	
replacement vehicle)	All charges linked to the delivery of a vehicle: shipping, in-	
Vehicle replaced at the end of its lifetime	warehouse charges, etc	
Fleet management support	All in-country charges: registration, vehicle insurance, local third-party liability insurance, etc	
Accident insurance for driver and passengers	All operating costs, including fuel, maintenance and repairs	
Specialist driver training (depending on context and availability of funding)	All charges linked to the return of the vehicle to a VRP stock centre or secondary destination (as requested by global fleet base): customs	
Access to a web-based fleet management system	duties and taxes for re-export, cost to deregister the vehicle in-country, transportation, port and warehouse charges, etc	
	Any costs for additional repairs resulting from the loss of or improper documentation relating to a vehicle's maintenance history	
	Any costs for additional repairs at the end of the rental period, for damage considered beyond the normal wear and tear.	

5.3.4.4 Using another National Society's vehicles

Most National Societies use a mileage rate that they charge for the use of their vehicles by Partner National Societies. Alternatively, they may charge a monthly fee or let PNS use their vehicles and only charge them the cost of fuel.

Mileage rates and what they include often differ, and it is recommended to clarify what is covered (fuel, driver costs, maintenance, etc), and how the amounts to be recharged will be calculated.

5.3.4.5 Choosing the best vehicle ownership solution

	Benefits for BRC	Risks for BRC
BRC owned vehicles	Vehicles belong to BRC	BRC must source the vehicles and ship to operation where required
	At the end of a project, these can be disposed and realise residual value	Some governments force international organisations to donate vehicles to their governments at the end of a project
	BRC is free to donate these vehicles to any partner of choice after the end of a project or five years	Vehicle must be managed as an asset (including depreciation)
		BRC must spend large sum to buy the vehicles outright
		If mission is cancelled or discontinued at short notice, BRC is stuck with these vehicles
		It is difficult to increase/reduce fleet size at short notice, but surge option plans can be built in
		Donor constraints on expenditure
IFRC's Vehicle Rental Programme	Monthly vehicles rental cost is known, so easy for budgeting purposes	Solution includes shipping the vehicle into operation area and shipping out after the end of the lease, which can delay the availability of the vehicle to the operation
	Access to standard IFRC vehicles	After five years, vehicle still belongs to IFRC and BRC cannot donate it to partners
	Scalability of fleet	Can be expensive in the short term, considering shipping costs into and out
	Vehicles comprehensively insured at global level by IFRC	of operational area.
	IFRC will replace vehicles after 150,000km or five years, whichever comes first (in-country costs associated to vehicle change will need to be covered by the requesting PNS, but all other costs covered by GLS)	
	IFRC will provide fleet management support, including cost tracking and driver training	
	No cost of disposal	
Local vehicle rental	Locally available and no importation costs or delays	Rental rates can be very high
	Easy to scale up or down	There may be a maximum mileage under the rental scheme
	Easy to arrange at short notice	Locally available vehicles may not be of a good standard
		Local maintenance practices may not be safe
	Supports the local market	The right vehicles are not always locally available
	Budgeting is easier when rates (including maintenance and service) are fixed	Renting vehicles from questionable business people could result in bad reputation by association. Consult international sanctions lists before entering a lease agreement.
	No need to have own maintenance facilities or resources	
Using other NS's vehicles	Vehicles are readily available and easy to scale down Gives support to movement partner	Not always easy to scale up (they might not have enough vehicles)
		Only possible with small requirements
		Vehicles are not always of a good standard
	partner	BRC can only use what the partner has excess of or does not
		require

Ownership Options

- Own fleet: Large investment but good control over quality and maintenance. Possibility of selling or donating
- Rented fleet: Light investment and flexible ownership model (can adjust to activity level), but less control and high costs over extended period
- IFRC vehicle rental programme (VRP): High-quality service and easy for budgeting, but a risk that availability is impacted by shipping delays
- Using vehicles from other NS: Support to NS, but difficult to scale up. Only useful for smaller, stable needs