

PROVINCIAL GOVERNMENT OF WESTERN CAPE
GUIDELINES FOR DONATIONS OF WHEELCHAIRS

PART 2: FACTORS TO CONSIDER

To ensure suitability and durability, the product must always be accurately matched with the user with regard to his / her individual physical and environmental needs.

1. USER'S PHYSICAL FACTORS:

○ **Postural support needs**

The majority of wheelchair users have some form of weakness or paralysis which prevents them from sitting in good alignment. Sitting without adequate postural support in asymmetrical postures can cause secondary complications such as pressure sores, contractures and spinal- or postural deformities. Wheelchairs should offer adjustable seating systems or these systems should be offered separately for users who are at risk of developing postural deformities. Postural support systems include wheelchair cushions, tension adjustable back upholstery, rigid adjustable- and modular adjustable back systems.

○ **Activity level**

To prevent shoulder and other injuries, active users require wheelchairs with adjustable wheelbase set-ups. This will ensure optimal ergonomic positioning for propelling, as well as the required stability of the chair. This is influenced by user skill, terrain and disability.

2. ENVIRONMENTAL FACTORS:

The user weight, combined with distances and type of terrain covered will impact significantly on durability of the chair. Wheelchair designs specifically cater for different activity levels over different types of terrain. The wheelchair most suitable for the type of terrain and level of activity should be selected.

3. GENERAL REQUIREMENTS OF APPROPRIATE WHEELCHAIRS

There are 4 criteria that should be met, i.e., adjustability, suitability, durability and sustainability.

- **Adjustability**

The design should be such that the seating system (back and seat system) can be adjusted to give the user the necessary postural support. A seat cushion forms an integral part of the seating system, not only for pressure relief, but to ensure optimal positioning and postural support. Children in particular, require wheelchairs which provide adequate postural support to ensure growth without deformities developing. (Studies have shown that between 60%-100% of wheelchair bound children develop postural deformities.)

- **Suitability**

The wheelchair should be suitable for use with regard to 3 critical aspects, namely the physical postural support requirements of the user, the activity level of the user and the terrain over which the chair will primarily be used. The more postural support the user requires, the more complex the postural support system that will be required. High activity levels, combined with long hours in the chair being used over rough / mixed terrain will require a chair of suitable strength and durability. Active users require chairs with active style adjustability options, i.e. so called active use chairs. Children in particular, require wheelchairs light enough for them to be functional propellers in the community.

- **Durability**

The design and durability of the chair should at least adhere to local (South African Bureau of Standards) or international standards (ISO Standards 7176). This ensures that the chair will withstand the rigours of use over the intended terrain. In addition to ensuring a minimum lifespan of 3-5 years, it also protects the user against injury caused by design failure, as is so often the case in chairs which do not meet these minimum standards.

- **Sustainability**

To ensure sustainable use, regular repairs and maintenance of wheelchairs is required. The majority of users dependent on State Health Care Services, do

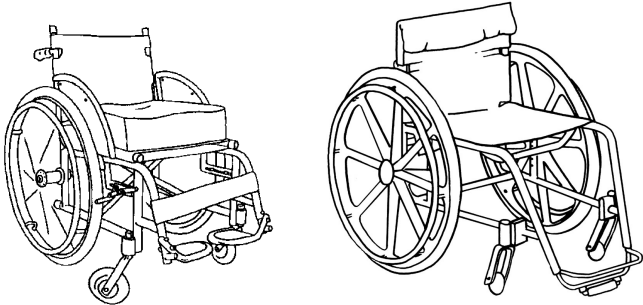
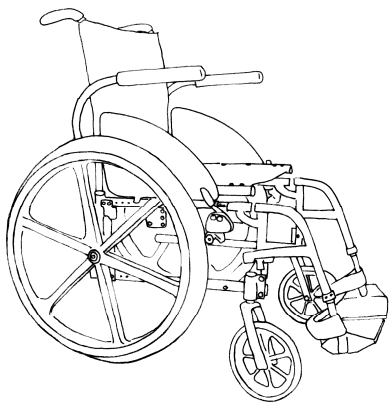
not have the means to access private wheelchair workshops and are dependent on State repair centres where services are subsidised. To ensure that chairs can be repaired locally, spares and components of donated chairs should be compatible with local chairs, spares and components.

4. SPECIFIC WHEELCHAIR FACTORS

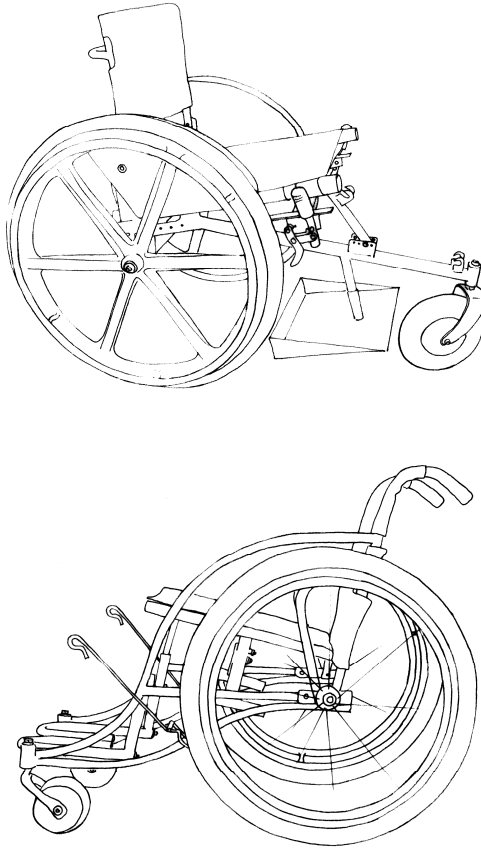
- Plastic mag-wheels are more durable and require less maintenance than spoked wheels and are the design of choice to ensure sustainable use.
- Pneumatic rear wheels and castors also require increased maintenance. Wheels should preferably be fitted with one-piece semi-solid tyres. Solid tyres (thin, smooth, hard rubber rear tyres) are suitable only for indoor use and therefore their application in South Africa is very limited.

5. SUMMARY OF TYPES OF WHEELCHAIRS AND DONATION POINTERS

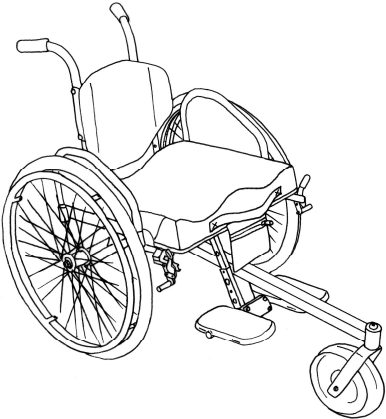
ACTIVE USE WHEELCHAIRS

	DONATION POINTERS
	<p>Type of wheelchair:</p> <ul style="list-style-type: none"> ▪ Adjustable folding / rigid frame, low back height <p>Purpose:</p> <ul style="list-style-type: none"> ▪ High active use ▪ Users require excellent wheelchair skills for use over uneven terrain <p>Type of terrain:</p> <ul style="list-style-type: none"> ▪ Indoor ▪ Urban and peri-urban <p>Donation priority: Low to medium</p>
	<p>Type of wheelchair:</p> <ul style="list-style-type: none"> ▪ Adjustable folding frame, full to medium back height <p>Purpose:</p> <ul style="list-style-type: none"> ▪ Low to medium active use ▪ Users require excellent wheelchair skills for use over uneven terrain <p>Type of terrain:</p> <ul style="list-style-type: none"> ▪ Indoor ▪ Urban and peri-urban <p>Donation priority:</p> <ul style="list-style-type: none"> ▪ Low to medium

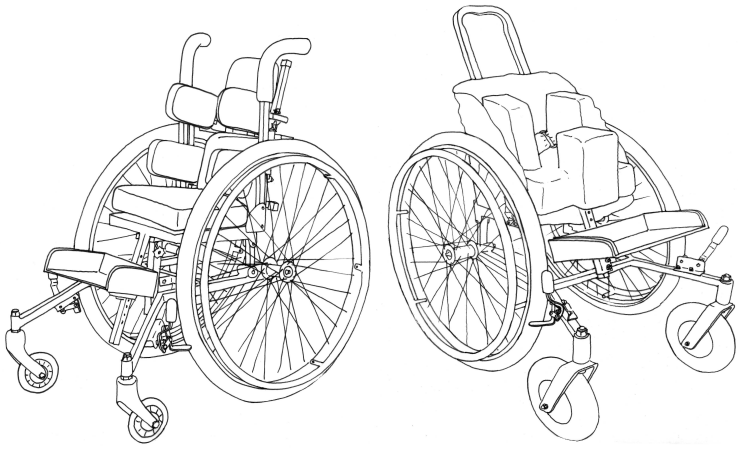
ACTIVE USE HYBRID WHEELCHAIRS (IN- AND OUTDOOR USE)


	DONATION POINTERS
	<p>Type of wheelchair</p> <ul style="list-style-type: none"> ▪ Hybrid / dual purpose chair <p>Purpose:</p> <ul style="list-style-type: none"> ▪ High active use ▪ Excellent use for active children who do not need postural support systems ▪ Chair can compensate to some degree for users who do not have good / advanced wheelchair skills <p>Type of terrain:</p> <ul style="list-style-type: none"> ▪ Indoor ▪ Urban and peri-urban ▪ Moderate rural terrain use <p>Donation priority:</p> <ul style="list-style-type: none"> ▪ Medium – 3-wheeler design ▪ High – 3-wheeler design for active children ▪ High – 4-wheeler folding frame design

ACTIVE USE RURAL WHEELCHAIRS (OUTDOOR USE ONLY)

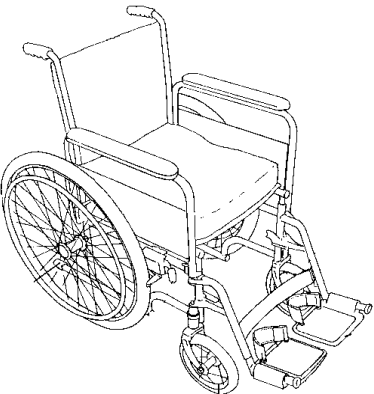
	DONATION POINTERS
	<p>Type of wheelchair:</p> <ul style="list-style-type: none"> ▪ Active use rural chair <p>Purpose:</p> <ul style="list-style-type: none"> ▪ High active use ▪ Chair can compensate to some degree for users who do not have good / advanced wheelchair skills <p>Type of terrain:</p> <ul style="list-style-type: none"> ▪ Exclusive outdoor use ▪ Rough terrain <p>Donation priority:</p> <ul style="list-style-type: none"> ▪ Low

POSTURE SUPPORT WHEELCHAIRS

	<p style="text-align: center;">DONATION POINTERS</p> <p>Type of wheelchair:</p> <ul style="list-style-type: none"> ▪ Posture support chairs <p>Purpose:</p> <ul style="list-style-type: none"> ▪ Medium to high active use ▪ Gives postural support and alignment for those unable to be managed in the other categories of chairs <p>Type of terrain:</p> <ul style="list-style-type: none"> ▪ Indoor use ▪ Urban and peri-urban ▪ Limited mixed terrain, depending on wheelchair skill <p>Donation priority:</p> <ul style="list-style-type: none"> ○ High
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	<p style="text-align: center;">DONATION POINTERS</p> <p>Type of wheelchair:</p> <ul style="list-style-type: none"> ▪ Posture support buggies <p>Purpose:</p> <ul style="list-style-type: none"> ▪ Low active use ▪ Gives postural support and alignment for those unable to be managed in the other categories of chairs ▪ To manage clients with severe postural deformities <p>Type of terrain:</p> <ul style="list-style-type: none"> ▪ Indoor / outdoor use <p>Donation priority:</p> <ul style="list-style-type: none"> ○ High
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INDOOR (LOW ACTIVE) USE WHEELCHAIRS

	<p style="text-align: center;">DONATION POINTERS</p> <p>Type of wheelchair:</p> <ul style="list-style-type: none"> ▪ Basic folding frame (Orthopaedic / depot style chair) ▪ Footplates and armrests MUST be removable <p>Purpose:</p> <ul style="list-style-type: none"> ▪ Low-active use <p>Type of terrain:</p> <ul style="list-style-type: none"> ▪ Indoor and level urban terrain <p>Donation priority:</p> <ul style="list-style-type: none"> ▪ High
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