

Good cycle-rail carriage design

Recommendations and
suggestions from UKCA members

Summary of recommendations

- Flexible use of space
- Use space sensibly
- Design for the wheels, not the frame
- If hanging, use the weight of the bike
- Sensible location
- Analyse passenger flows

More detail on recommendations

- Sensible use of space can create much more room e.g. use of gaps behind sloping seat backs, use of empty space in equipment cupboards, height of luggage racks, site of draft boards etc.
- Design for the wheels not the frame – with so many different frame types about the only thing all bikes have in common is two wheels a very similar distance apart. Design solutions around the wheels rather than creating things for frames to link to
- Having the wheels on the ground is much better than hanging and takes up no more space. If hanging, use the weight of the bike to stop swinging
- Make sure any space on trains is easy to identify from the platform, and easy to load and unload bikes and large items
- Analyse passenger flows and create space for usage based on flows

Flexible use of space good practice – Class 455



- Tip up seats enable multi-purpose use
- Wheel Slots use the space behind sloping seats and make bikes secure
- Grab pole provides extra support
- Can be used for any large items

Flexible use of space, good practice – Class 142 SWT



- Changes have added seats
- New design cuts out draft for other passengers
- New design has created space for any large items
- Tip up seats enable multi-purpose use

Flexible use of space, poor practice – Class 323 and 350 London Midland



- No space for large items
- Little space for any luggage
- Large items left in vestibule areas affecting loading and unloading

Flexible use of space, good practice – Class 378



- Perch seats allow multi-use of space
- Location means easy access and easy loading and unloading
- Site of draft screens allows extra room

Hanging, poor practice – Voyager



- Many bikes don't fit at all or take up the space for two bikes
- Hooks damage wheels and spokes
- Vertical hanging angle means bikes swing around damaging walls and bikes
- Difficult to put bikes in and no space is saved because need to have a "run up"
- Used as storage and rubbish also collects in them
- Slow to load and unload

Hanging, good practice – Orion Gamma, Germany



- Tip up seats with extra securing slot
- Hanging angle uses weight of bike to press into the wall to stop it swinging
- Space can be used for seating or storing any large items

Use space sensibly, good practice - Class 158 Northern Rail



- Removal of internal wall allows three bikes to be stored
- Space can be used for seating or storing any large items
- Locations makes loading and unloading simple minimising delays

Use space sensibly, good practice – Class 150



- Height of luggage shelf means bikes can be stored underneath
- Location makes loading and unloading simple
- Space can be used for seating or storing any large items

Use space sensibly, poor practice – Class 165



- Height of shelf means folding bikes can't be stored underneath
- Location makes it hard to reach and makes loading and unloading difficult

Use space sensibly, good practice – Class 155 Northern



- Use of empty space inside equipment cupboard allows for two bikes
- Hanging angle and rack mean bikes don't swing around
- Addition of luggage rack means space isn't used for storage
- Location makes loading and unloading faster

Design for the wheels, good practice - Scotrail Calyx system and Merseyrail 508



- Both systems work and hold bikes securely
- Scotrail system costs £2000, Merseyrail system about £100
- Space can be used for seating or storing any large items
- Location makes loading and unloading faster
- Could be improved if draft boards were moved up to seating level

Design for the wheels, bad practice – Class 442 Gatwick



- Impossible to fit three bikes in to the space designated for three bikes
- Hanging angle causes bikes to swing around
- Many bikes don't fit
- No space is saved due to the need for a “run up”

Location, poor practice – Class 380 Pendolino



- Four places in a locked space which requires the guard to unlock it
- Space often taken by other large items
- Makes loading and unloading more difficult and time consuming
- Difficult to know where on the train the storage is

Location, good practice – Danish suburban trains



- Very easily identified location
- Space able to accommodate bikes or other large items
- Makes loading and unloading simple and faster

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