



## Designing Commercial Accessibility Solutions: Avoiding the Six Most Common Mistakes

Presented by:



Creating An Accessible World



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Platform lifts are an excellent solution for public accessibility when they are used properly and the application makes sense for users. This paper is intended to help you avoid some common mistakes made by design professionals when using platform lifts for accessibility in public places. These are mistakes that lead to errors: ones that can be costly and time-consuming to resolve.

1. Do not expect too much from the equipment. Platform lifts are designed for use by people with disabilities to gain access. Use of platform lifts for any other purpose is misuse. This opens up the architect, the installation company and the lift owner to liability in the case of an accident. It will also void any warranty in effect and likely cause equipment failure or malfunction. A common mistake is to design a platform lift partly for the purpose of transporting freight. "It also needs to carry an upright piano". This is a quote from an architect seeking a solution online not more than a month ago. The platform lift is for accessibility. You will need to investigate another solution (freight lift?) for the piano.
2. Be sensible when locating platform lifts outdoors in extreme environments. If there are no other alternatives, overhead structures can be built to protect passengers and equipment from excessive water infiltration or snow build up. Expect that platform lifts located in extreme weather environments will require more aggressive maintenance.
3. Do not buy accessibility equipment online for self-installation, or for installation by anyone other than a licensed professional. Accessibility Equipment is regulated in much the same way as elevators. There are residential models and models intended for commercial applications. Using residential equipment or non-licensed installers for commercial accessibility applications will create considerable problems and cost much more than doing it properly the first time. There have been many instances where contractors have had to remove non-compliant equipment and replace it, effectively doubling the cost and the installation time.

4. Lack of planning is another common mistake. All lifts and elevators require solid structure to attach to. Do not design in-floor radiant heating where an inclined platform lift is to be installed. Do not plan to install plumbing, heating or electrical conduit within an elevator hoistway wall. Adequate structural support must always be located correctly within the supporting structure.
5. Consider user friendliness. Just because a particular design is code-compliant, that does not always guarantee that the use of that equipment is practical or even safe. One example is when ramps are used to gain access to a vertical platform lift at the lower landing. This is required to gain access to the platform when the lift is installed without a pit. It may not be required by code to install a powered door operator in such a situation, but this feature will allow the lift to be used safely and easily.

Omitting the power opener would require the user to negotiate calling the lift, opening of the lift door at the same time as being on a ramped incline – a very difficult procedure for most wheelchair users. In addition, the buttons used to call the lift (call station controls) should be located away from the lift where a ramp is used. Again, this may not be required by code in all jurisdictions, but avoids a poor design that compromises user safety. An example of just such an installation is on the cover of this report. Did you notice? You would if you were in a wheelchair and needed to use it, especially if it was raining.

Another example of a poor design element that is normally deemed code-compliant is where a short vertical platform lift enclosure is used at an upper landing. This is a perfectly acceptable solution in many commercial applications, where the barrier around the lift at the upper landing is only required to be 42" high. However, if the location of the lift happens to be at a community center, school or public place frequented by a lot of kids, and it travels 10-12 feet between floors, it could be a hazard. Kids may, at times, be congregating around the lift. In this case, some of them may be tempted to sit on the edge of the enclosure, which is a very dangerous fall hazard if the platform is situated at the lower landing. It is critical to consider each application and design a solution that is user-friendly as well as code-compliant.

6. Speaking of code compliance – electrical codes, elevator and lift codes apply to all installations. In some jurisdictions, residential installations are not directly inspected by government inspectors, but licensed installers ensure code compliance. These people can ensure designs do not create code problems, installations are conducted correctly and that the end result meets all the relevant local codes. Some common mistakes:
  - a. You are not allowed to locate anything in a lift hoistway that is not directly related to the lift. No ducts or conduit of any kind except that which is required for elevator operation.
  - b. A vertical lift hoistway is required to have all walls smooth and finished. It is also critical that hoistways for vertical lifts are built to the size requirements of the manufacturer (+/- 1/8" throughout). Clearances from the hoistway walls to the outside of the platform side walls are tightly specified by code, especially in models that do not feature full cabs.
  - c. Locating an inclined lift where there is not enough overhead clearance by code. Overhead clearance requirements vary by jurisdiction. Contact your local inclined platform lift experts to determine if an inclined platform lift will work for your application.
  - d. All elevating devices have certain clearance dimensions that they must obtain once installed. It is critical that designs for elevating devices allow for the proper clearances and that manufacturers agents are consulted in order to determine all requirements. An example is the distance measured horizontally from the edge of the finished floor at a landing to the edge of the platform. In the USA, this is supposed to be within 3/8" to 3/4". Any tighter and it could pinch clothing. Any wider and it could be a trip hazard. Another example is loading area clearance: it is 60" in the USA and 1500 mm in Canada. This is measured as the diagonal of a circle.
  - e. Stairway width clearance for inclined platform lifts. All jurisdictions require that there be some clearance from the unfolded platform to the nearest obstruction. This requirement is typically only 2" (British Columbia), but in some jurisdictions the requirement can be as much as 72" (Quebec), which effectively eliminates inclined platform lifts from practical consideration in almost all cases.

These issues highlight how much different the interpretation of the code requirements can vary across different jurisdictions. Even though B.C. and Quebec use the same national code standard (CSA B-355), the two jurisdictions have vastly different interpretations of how that code should be applied. Just because an application is code-compliant in one jurisdiction does not mean that it will be acceptable in another jurisdiction, even if the two regions are inspecting the application to the same standard. In Ontario, the authority having jurisdiction (AHJ) has requirements that are not required anywhere else in the world.

This means that designing accessibility solutions using platform lifts can be tricky. So how do designers and architects ensure a user-friendly and code-compliant design? The answer is to consult with an expert as soon as it is determined that a platform lift is under consideration. Reputable companies that install platform lifts are licensed to perform this work by the appropriate AHJ. Usually, these are the same government agencies that are also responsible for inspections and permitting. The AHJ may also publish maintenance requirements for commercial applications to ensure that elevating devices used by the public are properly maintained.

Licensed installers know what kinds of applications are considered acceptable in their region. It is their responsibility to ensure that every lift that they install complies with all of the regulations in effect at the time of installation. They have a close relationship with the AHJ and are expected to know what constitutes a code-compliant installation.

Installers with long track records will have good advice about designing appropriate accessibility solutions. Designing solutions without the benefit of a consultation with an industry professional is ill-advised, so choose one with a solid history of successful installations and take advantage of the most cost-effective solution to commercial accessibility; inclined and vertical platform lifts.

One last note concerns evacuation. As with elevators, platform lifts are not to be used in the event of an emergency. A sensible accessibility plan should also include a proper evacuation plan, using evacuation chairs to facilitate the safe transfer of people with disabilities downstairs in case of emergency. Currently, codes in most jurisdictions require areas of rescue assistance located at the top of the stairs. Requirements have started to change, however. The City of Los Angeles recently made the decision to start the process whereby evacuation plans will be required to include provisions to evacuate people with disabilities at the same time as everyone else.

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