



Lift Installations

by Thomas D. Davies Jr., A.I.A., and Carol Peredo Lopez, A.I.A. / photos by Mark Lichter, A.I.A.

Looking for equipment to provide access between floor levels? Each type has advantages and disadvantages.

For many practical reasons, few single-story homes are constructed in certain areas of the United States. In the Northeast, for example, homes have full or partial basements because of the cold climate and hilly topography. In urban areas, builders construct multistory homes because of high land costs.

If wheelchair users already own a multistory home or decide to purchase one, there are three

alternatives to provide access to two or more interior floor levels. These are (1) residential elevators, (2) stair lifts, and (3) inclined platform lifts.

Of these choices, a residential elevator is the most accessible alternative. Installing an elevator, however, can be costly and may not be practical in your existing home.

A lift installation can be a less expensive option that may meet your accessibility needs.



in Your Home

Two types of residential lifts are suitable for vertical travel: the stair lift and the inclined platform lift. If you need a lift for horizontal travel, ceiling lifts can be installed in one or more rooms of your house.

Stair Lifts

Stair lifts are less expensive but less accessible alternatives to residential elevators. For any lift or elevator installation, there are two kinds of costs: the purchase of the equipment and the modifications to existing (or new) construction to accommodate the device. In many existing homes, because of space restrictions or budget limitations, a stair lift may be the most practical option.

The cost to purchase stair lifts is relatively

low, and they can be retrofitted to most stair configurations. Installation costs, however, increase exponentially for complex stair layouts. If you have a single, straight stair run, installation expenses are low. If you have multiple runs with turns and intermediate landings, these costs increase significantly.

Stair lifts have several functional disadvantages compared to elevators. The most significant is that users must be capable of transferring to the lift seat. The transfer is particularly difficult because lift seats must be swiveled in order to allow the user to sit (or rise) and then swiveled back for the ascent (or descent). Furthermore, making the transfer requires the wheelchair to be precariously positioned at the upper landing's

THESE TWO PAGES:
This inclined platform lift provides wheelchair access between the first floor and the basement. The cost to retrofit a single-run lift is significantly less than an elevator installation and requires no additional floor space.

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A ceiling-lift installation will help caregivers transfer family members with mobility impairments. The lift is motorized to move up and down and also forward and back. The tracks can be suspended from the ceilings or walls.

very edge. For independent lift use, an extra wheelchair must be kept at the top or bottom stair landing within reach from the lift seat.

For some homeowners, however, these limi-

tations may be acceptable, and the chair lift may be the best choice.

Inclined Platform Lifts

Inclined platform lifts are also an option for access between interior floors. Platform lifts do not require wheelchair users to transfer from their chairs. However, these lifts are difficult to retrofit for existing homes.

Platform-lift installations must have a wide, straight, single-run stair with an extra-long lower landing. These requirements are difficult to accommodate in most existing residential stairwells. In addition, a reinforced wall must be available along the stairway for structural support. If extensive stairwell modifications are necessary in order to adapt a platform lift to your home, installation costs increase significantly.

While an inclined lift may not always be a practical retrofit option, it may be more economical in a new home or addition specifically designed with a suitable stair configuration. In new construction, homeowners can also elect to provide future capacity for a lift installation. To do this, select a home design that includes a single, straight stair without turns, intermediate landings, or switchbacks. With a straight-run stair plan, minor modifications—such as slightly longer bottom landings (five feet recommended) and slightly wider stairs (four feet recommended)—can be made to accommodate a future platform lift. In many cases, these changes add little to the project's initial cost.

Choosing Among Options

There are many factors to consider when determining whether to add vertical accessibility to a multistory home. When comparing new construction costs for single- and multi-level homes, for example, it is important to consider all project expenditures, not just an elevator's or lift's cost.

If the user anticipates construction of a large home, for example, the choice of a two-story house plan (rather than a one-story plan) will require less land. This can be a savings in many urban or suburban settings. In addition, a two-story home is less expensive to construct, particularly on hilly terrain. In these circum-



An inclined stair lift provides access suitable for some homeowners. The lift seat swivels forward to allow the user to seat him- or herself, and then sideways for transit and egress. Installation costs for these lifts vary with the complexity of your stair arrangement. In most cases, this is the lowest-cost accessibility option, if it meets your needs.

stances, the associated construction savings could easily offset a residential elevator's or lift's installation cost. When you evaluate costs, remember that lifts and elevators require periodic maintenance.

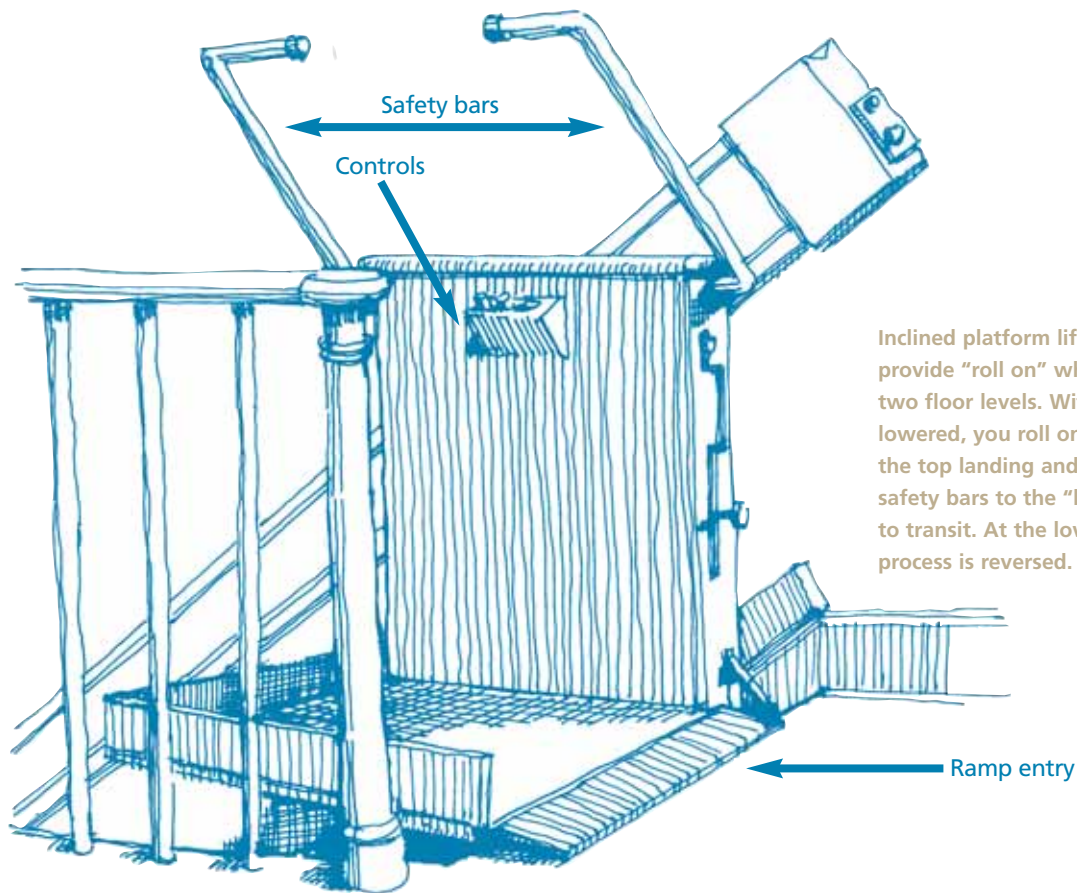
Another consideration is the number of floors you want to serve. Incremental costs for adding a third floor (stop) to an elevator and shaft are relatively low. On the other hand, if you use a lift to access another floor, your costs will typically double.

In general, elevator installations offer wheelchair users the best access and, in spite of the high purchase price, are often economical alternatives. Even retrofitting an elevator for an existing home can be more affordable than you might think, and residential elevator installations can add to your home's value so some of the extra

cost can be recovered if you sell at a later date. This is not necessarily true of the other alternatives. Lifts, however, can be appropriate installations in many instances.

Ceiling Lifts for Horizontal Travel

The lift equipment that is becoming increasingly common in new spinal-cord-injury centers is ceiling-mounted electric motors that move horizontally along tracks. This type of equipment can be installed in private homes to help caregivers transfer family members with mobility impairments. The lift track can be suspended from a pair of fixed perpendicular tracks. This arrangement allows the motor and sling occupant to move in any direction. The sliding tracks can, in turn, be connected to similar tracks installed in other rooms such as a bathroom that is adjacent to a child's bedroom.



Inclined platform lifts use a stairway to provide "roll on" wheelchair access to two floor levels. With the small ramp lowered, you roll onto the platform at the top landing and rotate the upper safety bars to the "locked" position prior to transit. At the lower landing, the process is reversed.

To plan for ceiling lifts, ensure that the ceiling structure is strong enough to support the concentrated weight of the lift and its occupant. In some one-story homes, this may require reinforcing the ceiling joists. Selecting a simple rectangular-shaped room will also facilitate track layouts that can service the entire space. In irregular-shaped rooms, ceiling-lift tracks may not be able to reach every part of the space.

Summary

If you are planning an accessible project, be sure to consider your needs with regard to vertical or horizontal lift capacity. With advance planning, your installation costs can be reduced and the usefulness of the selected lift equipment can be greatly increased.

Contact: PVA Architecture, (800) 424-8200 / (202) 872-1300 / www.pva.org. ■

Accessible Home Design: Architectural Solutions for the Wheelchair User, © 1999 Paralyzed Veterans of America, explains and illustrates practical and economical designs that will help make new and renovated single-family homes accessible. Chapters focus on critical areas such as kitchens, bathrooms, and multiple levels. It is available for \$22.95. (A new edition is pending in 2006.)

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