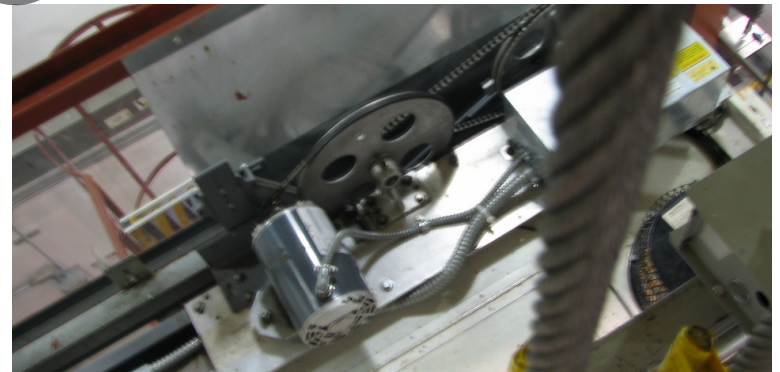
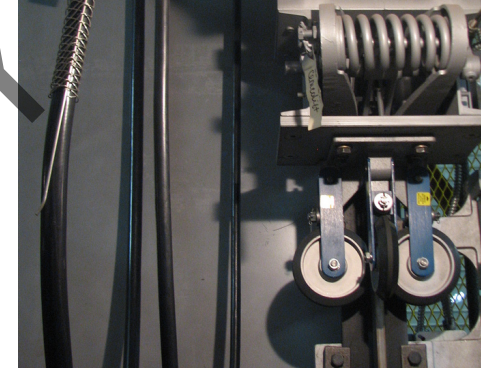


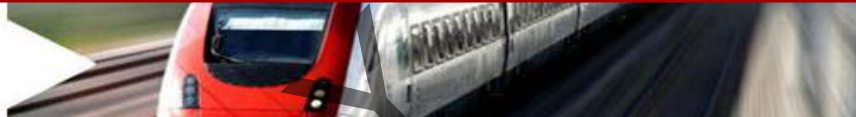
# Instructor Guide



## 220: Elevator: Other Systems Module 3: ADA Accessibility (Wheelchair Lifts)

# Elevator – Other Systems Wheelchair Lifts

*Instructor's Guide*



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Inclined Platform Lift.....	24
Inclined Stairway Chairlift.....	49
Vertical Platform Lift.....	67
Summary.....	56


PREVIEW ONLY

# Elevator – Other Systems Wheelchair Lifts

*Instructor's Guide*



## Icons Used In This Guide

- 

**REVIEW** slides
- 

**INDIVIDUAL ACTIVITY**
- 

**ASK**
- 

**WRITE**
- 

**CLASSROOM ACTIVITY**
- 

Multimedia
- 

**SMALL GROUP ACTIVITY**
- 

**REFER** participants to

## Agenda

Topic #	Topic Title	Duration
1	Overview	30 minutes
2	Inclined Platform Lift	45 minutes
3	Inclined Stairway Chairlift	30 minutes
4	Vertical Platform Lift	45 minutes
5	Summary	30 minutes
	<b>Total Time:</b>	180 minutes

PREVIEW ONLY

# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 180 min

This section: 30 min (16 slides)

Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO



**REVIEW** introduction slides

### Instructor's Notes

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### SAY

#### In your own words:

Welcome to the course on Elevator Other System Wheelchair Lifts.

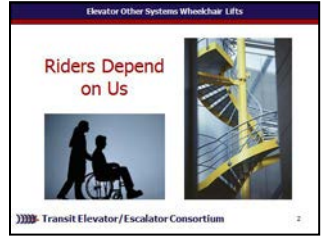
**Advance**

Riders depend on us.

**Advance**

### Materials Needed

✓ PPT slides 1, 2



# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 180 min

This section: 30 min (16 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

DO	SAY	Materials Needed
<div data-bbox="34 464 144 564" data-label="Image"> </div> <div data-bbox="150 499 618 549" data-label="Text"> <p><b>REVIEW</b> module objectives</p> </div> <div data-bbox="28 792 444 835" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="672 421 1023 464" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="705 485 917 528" data-label="Text"> <p>We will also</p> </div> <div data-bbox="705 535 1391 1013" data-label="List-Group"> <ul style="list-style-type: none"> <li>- Identify safety features for each type of wheelchair lift</li> <li>- Identify common faults and troubleshooting techniques for each type of wheelchair lift</li> <li>- Identify maintenance requirements for each type of wheelchair lift</li> <li>- Identify code requirements specific to wheelchair lifts</li> <li>- Identify ADA requirements specific to wheelchair lifts</li> </ul> </div> <div data-bbox="705 1021 879 1063" data-label="Section-Header"> <p><b>Advance</b></p> </div>	<div data-bbox="1497 471 1729 514" data-label="Text"> <p>✓ PPT slide 4</p> </div> <div data-bbox="1535 528 1854 763" data-label="Image"> </div>

# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min      Time remaining: 180 min      This section: 30 min (16 slides)      Section start time: \_\_\_\_\_      Section End Time: \_\_\_\_\_

DO	SAY	Materials Needed
<div data-bbox="34 464 144 564" data-label="Image"> </div> <div data-bbox="164 492 415 535" data-label="Text"> <p><b>REVIEW</b> slide</p> </div> <div data-bbox="28 792 454 835" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 428 1033 464" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="666 492 1439 1063" data-label="Text"> <p>The Americans with Disabilities Act (ADA) is a federal law that went into effect in 1991. The law is designed to eliminate any discrimination because of disabilities. The ADA addresses accessibility. Under Section 504 of the ADA, the Architectural and Transportation Barriers Compliance Board, also known as "Access Board" was required to develop and issue guidelines which would become the final ADA accessibility standards. The American with Disabilities Act Accessibility Guidelines (ADAAG) was written and went into effect in January of 1992</p> </div> <div data-bbox="666 1078 1207 1120" data-label="Text"> <p><b><i>Continued – Do Not Advance</i></b></p> </div>	<div data-bbox="1497 471 1729 506" data-label="Text"> <p>✓ PPT slide 7</p> </div> <div data-bbox="1535 528 1854 763" data-label="Image"> </div>

# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 180 min

This section: 30 min (16 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO

### SAY

### Materials Needed



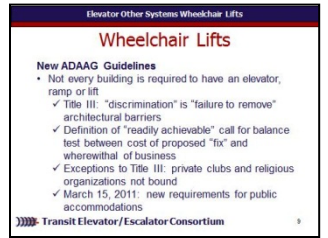
**REVIEW** slide

**In your own words:**

- The statutory definition of "readily achievable" calls for a balancing test between the cost of the proposed "fix" and the wherewithal of the business and/or owners of the business. Thus, what might be "readily achievable" for a sophisticated and financially capable corporation might not be readily achievable for a small or local business. **Advance**
- There are exceptions to this title; many private clubs and religious organizations may not be bound by Title III. With regard to historic properties (those properties that are listed or that are eligible for listing in the National Register of Historic Places, or properties designated as historic under State or local law),

**Continued – Do Not Advance**

✓ PPT slide 9



### Instructor's Notes

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# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 150 min

This section: 45 min (30 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

DO	SAY	Materials Needed
<div data-bbox="34 464 144 564" data-label="Image"> </div> <div data-bbox="164 492 415 535" data-label="Text"> <p><b>REVIEW</b> slide</p> </div> <div data-bbox="28 792 454 835" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 428 1033 464" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="666 492 1449 885" data-label="Text"> <p>The walls must be of smooth construction and pass a strength test (per code specifications) and can't be used for access. A grab rail must extend the full length and be at least 34" to 38" from the floor surface and there must be a running clearance of 2" between walls and any adjacent surface. Sometimes a grab rail and safety arms or doors are used interchangeably.</p> </div> <div data-bbox="666 935 1449 1192" data-label="Text"> <p>Many wheelchair platform lifts are built to a standard platform and carriage, with the only special requirement being the length of rails or tracks. Other lifts are special order and built to specifications &amp; measurements with special rails.</p> </div> <div data-bbox="666 1242 840 1278" data-label="Text"> <p><b>Advance</b></p> </div>	<div data-bbox="1497 471 1748 506" data-label="Text"> <p>✓ PPT slide 20</p> </div> <div data-bbox="1535 528 1854 763" data-label="Image"> </div>



# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 150 min

This section: 45 min (30 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO

### SAY

### Materials Needed



**REVIEW** slide

#### In your own words:

After a passenger pushes the unfold button at the hall station, they must then travel to the unfolded platform that is now ready to operate. Once on the platform, the unit's weight sensor is activated and the controls are alerted that operation can begin.

Movement of the platform occurs by pressing the direction buttons on the lift or via station agent remote control as shown in this photo.

When these directional buttons are pressed, the ramps will fold up and the grab rails lower to ensure the safety of the passenger as the platform moves to the intended level. With ramps raised and grab rails lowered, the platform will begin moving the passenger and wheelchair to the next level.

**Advance**

✓ PPT slide 28



### Instructor's Notes

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\_\_\_\_\_

# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 150 min

This section: 45 min (30 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO



**REVIEW** slide

### Instructor's Notes

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### SAY

#### In your own words:

The drive box contains the unit's controller, drive, and power supply as seen in *Figure 10*. Typically on either the right or left side of the unit, a mainline power switch is found. In most transit systems, drive power consists of the chain sprocket type in which a motor rotates a chain or belt as seen here which in turn rotates the cable attached to the platform in a suspension bar. The movement of the cable thus moves the platform along the bar like a pulley system as seen in the earlier photo of the suspension bar and cable.

**Advance**

### Materials Needed

✓ PPT slide 33



# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 150 min

This section: 45 min (30 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

DO	SAY	Materials Needed
<div data-bbox="28 464 144 564" data-label="Image"> </div> <div data-bbox="164 492 415 535" data-label="Text"> <p><b>REVIEW</b> slide</p> </div> <div data-bbox="28 792 454 842" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 421 1033 464" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="666 485 1458 706" data-label="Text"> <p>Safeties such as overspeed devices, obstruction devices or sensors, emergency stop buttons, as well as weight and movement sensors are all contained on the inclined platform lift. <b>Advance</b></p> </div> <div data-bbox="666 721 1458 985" data-label="Text"> <p>An overspeed device is typically found at the lift limits and landings as seen in earlier. This device locks the platform in place while the platform is not moving so that in the event of a failure, the platform will not descend in a downward direction. <b>Advance</b></p> </div> <div data-bbox="666 999 1439 1178" data-label="Text"> <p>These lifts are also equipped with obstruction devices or sensors to detect obstructions in the path of the unit. If an obstruction is detected, the unit will come to a stop.</p> </div> <div data-bbox="666 1178 1062 1220" data-label="Text"> <p><b>Continued - Advance</b></p> </div>	<div data-bbox="1487 471 1758 514" data-label="Text"> <p>✓ PPT slide 39</p> </div> <div data-bbox="1535 528 1864 763" data-label="Image"> </div>

# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 150 min

This section: 45 min (30 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO

### SAY

### Materials Needed



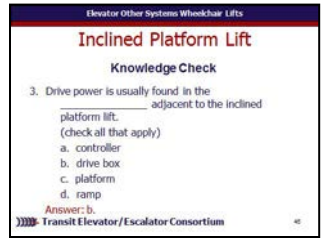
**ASK**

**In your own words:**  
 Safety features of a inclined platform lift Drive power is usually found in the \_\_\_\_\_ adjacent to the inclined platform lift.  
 (check all that apply)

- a. controller
- b. drive box
- c. platform
- d. Ramp

**Call on participants for answer**  
**Advance once given the correct answer**  
**Answer: b.**  
**Advance**

✓PPT slide 46



### Instructor's Notes

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# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 105 min

This section: 30 min (14 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

DO	SAY	Materials Needed
<div data-bbox="28 464 144 564" data-label="Image"> </div> <div data-bbox="164 492 415 535" data-label="Text"> <p><b>REVIEW</b> slide</p> </div> <div data-bbox="28 792 454 842" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 421 1033 471" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="666 485 1449 1199" data-label="Text"> <p>Another type of rail is a curved rail. The rail or rails are may be curved as necessary. These rails are normally cost more than those with straight rails because they have to be manufactured to suit the individual staircase (curved stairs). This sometimes involves careful measurement, design and manufacturing. The installation process usually takes longer than for a straight stairlift. Curved rails are made from materials such as steel or aluminum and come in various cross-sectional shapes according to the designer. Individual designs vary a lot and probably the key criterion is to make the curves with the smallest radius possible so they will wrap tightly around objects such as newel posts.</p> </div> <div data-bbox="666 1199 840 1242" data-label="Text"> <p><b>Advance</b></p> </div>	<div data-bbox="1487 471 1758 514" data-label="Text"> <p>✓ PPT slide 50</p> </div> <div data-bbox="1535 528 1864 763" data-label="Image"> </div>

# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 75 min

This section: 45 min (29 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

**DO**

**SAY**

**Materials Needed**



**REVIEW** slides

**In your own words:**

The **platform** is the area that rises or descends in the lift and where a wheel chair and passenger resides during travel as seen. As per code, the platform frame must be constructed from metal. Also, the floor must be of metal or wood construction with a nonskid surface. There are requirements for protecting the platforms against fire. The floor and controls must be illuminated to a least 50 lx (5 fc). While full passenger enclosure is not permitted; a top is permitted if it is marked as non-load bearing.

**Advance**

Here is a platform in a transit vertical platform lift.

**Advance**

✓ PPT slides 65, 66



### Instructor's Notes

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# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 75 min

This section: 45 min (29 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

DO	SAY	Materials Needed
<div data-bbox="34 464 144 564" data-label="Image"> </div> <div data-bbox="164 492 415 535" data-label="Text"> <p><b>REVIEW</b> slide</p> </div> <div data-bbox="28 792 454 835" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 428 1033 471" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="666 492 1439 885" data-label="Text"> <p>A continuous-pressure type control device for the operation of the lift from the platform and landings is required by code. The control device must be located between 15” (minimum) and 48” (maximum) about the platform floor or the facility floor or ground level. The control device must be designed so both UP and DOWN circuits cannot be operated at the same time.</p> </div> <div data-bbox="666 892 1439 1192" data-label="Text"> <p>The controller is very similar to a simple elevator and depending on year installed will have solid –state circuitry and components. The location of the controller depends on the manufacturer. On the screw type vertical platform lift the controller is normally inside the house of the jack</p> </div> <div data-bbox="666 1199 840 1242" data-label="Text"> <p><b>Advance</b></p> </div>	<div data-bbox="1497 471 1748 514" data-label="Text"> <p>✓ PPT slide 79</p> </div> <div data-bbox="1535 528 1854 763" data-label="Image"> </div>

# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 75 min

This section: 45 min (29 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

DO	SAY	Materials Needed
<div data-bbox="34 464 144 564" data-label="Image"> </div> <div data-bbox="164 492 415 535" data-label="Text"> <p><b>REVIEW</b> slide</p> </div> <div data-bbox="28 792 454 835" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 428 1033 471" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="666 485 1449 1149" data-label="Text"> <p>Follow the manufacturer's specifications and transit agencies procedures. For wire rope, cable, and chain types always check for wear and the connections. On hydraulic units; always check for leaks and hydraulic fluid levels. On friction machine guides &amp; rollers, lever type, screw, and rack &amp; pinion types; always check for engagement (of rollers, guides, teeth or gears), missing or broken rollers, guides, teeth or gears. Also on screw types, the screw located on the cross member at the top of the hoistway and jackscrew should be tight, bearings should be lubricated when needed, zerk fitting lubricated, and lock nut should be tight as seen earlier.</p> </div> <div data-bbox="666 1156 1072 1199" data-label="Text"> <p><b><i>Continued – Advance</i></b></p> </div>	<div data-bbox="1497 471 1748 514" data-label="Text"> <p>✓ PPT slide 85</p> </div> <div data-bbox="1535 528 1854 763" data-label="Image"> </div>



# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 75 min

This section: 45 min (29 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

DO	SAY	Materials Needed
<div data-bbox="28 464 144 578" data-label="Image"> </div> <div data-bbox="173 499 270 549" data-label="Text"> <p><b>ASK</b></p> </div> <div data-bbox="28 792 454 842" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 421 1033 471" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="666 471 1342 606" data-label="Text"> <p>Lets see what we have learned so far: Maintenance requirements for a vertical platform lift include</p> </div> <div data-bbox="666 606 1033 649" data-label="Text"> <p>(check all that apply)</p> </div> <div data-bbox="705 649 1265 821" data-label="List-Group"> <ul style="list-style-type: none"> <li>a. Check belt tension</li> <li>b. Lubricate according to type</li> <li>c. Check switches for operation</li> <li>d. Check for belt wear</li> </ul> </div> <div data-bbox="666 821 1236 871" data-label="Text"> <p><b>Call on participants for answer</b></p> </div> <div data-bbox="666 871 1400 913" data-label="Text"> <p><b>Advance once given the correct answer</b></p> </div> <div data-bbox="666 913 1014 963" data-label="Text"> <p>Answer: a., b, c., d.</p> </div> <div data-bbox="666 963 840 1006" data-label="Text"> <p><b>Advance</b></p> </div>	<div data-bbox="1487 471 1758 514" data-label="Text"> <p>✓PPT slide 88</p> </div> <div data-bbox="1535 528 1864 763" data-label="Image"> </div>

# Elevator – Other Systems Wheelchair Lifts

## Instructor's Guide



Module Length: 180 min

Time remaining: 30 min

This section: 30 min (4 slides)

Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

**DO**

**SAY**

**Materials Needed**



**CLASSROOM  
ACTIVITY**



**INDIVIDUAL ACTIVITY**

**Instructor's Notes**

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**In your own words:**

*Administer quizzes.*

- ✓ PPT slides 93
- ✓ Quizzes
- ✓ Pencils

