

The background features several thick, hand-painted style brush strokes in shades of light orange and light blue, scattered across the white background. The text is centered and reads:

**Building Great  
Communities:  
Inclusive Design &  
Homes for All**

# Who Are We?



- Founded in **1981**
- At least 51% of our staff and Board of Directors have some form of disability.
- Our service area spans Kent, Ionia, Montcalm, Mecosta, & Osceola counties.



**Mission:** We work alongside people with disabilities as they seek to lead self-directed lives and to advocate for accessible and welcoming communities.



# ADA

# 35

Celebrate  
July 26, 2025

Americans with Disabilities Act



# Accessibility vs. Universal Design

**“Our communities are accessible and welcoming to all.” (Second half of our vision and mission)**

- **Dis-ability**
- **Dis-invited**
- **Dis-welcomed**

# What do we mean by “*Accessible Housing*”- accessible to whom?

**To those with:**

**Physical disabilities**

**Intellectual/Cognitive disabilities**

**Developmental disabilities**

**Emotional disabilities**

**Mental health conditions**

**Everyone!**

# Is There Really A Market Need for Accessible Housing?

According to the CDC,

**1 in 4 Americans**

has a disability that affects how they interact with their environment to perform daily tasks.



Only

**0.15%**

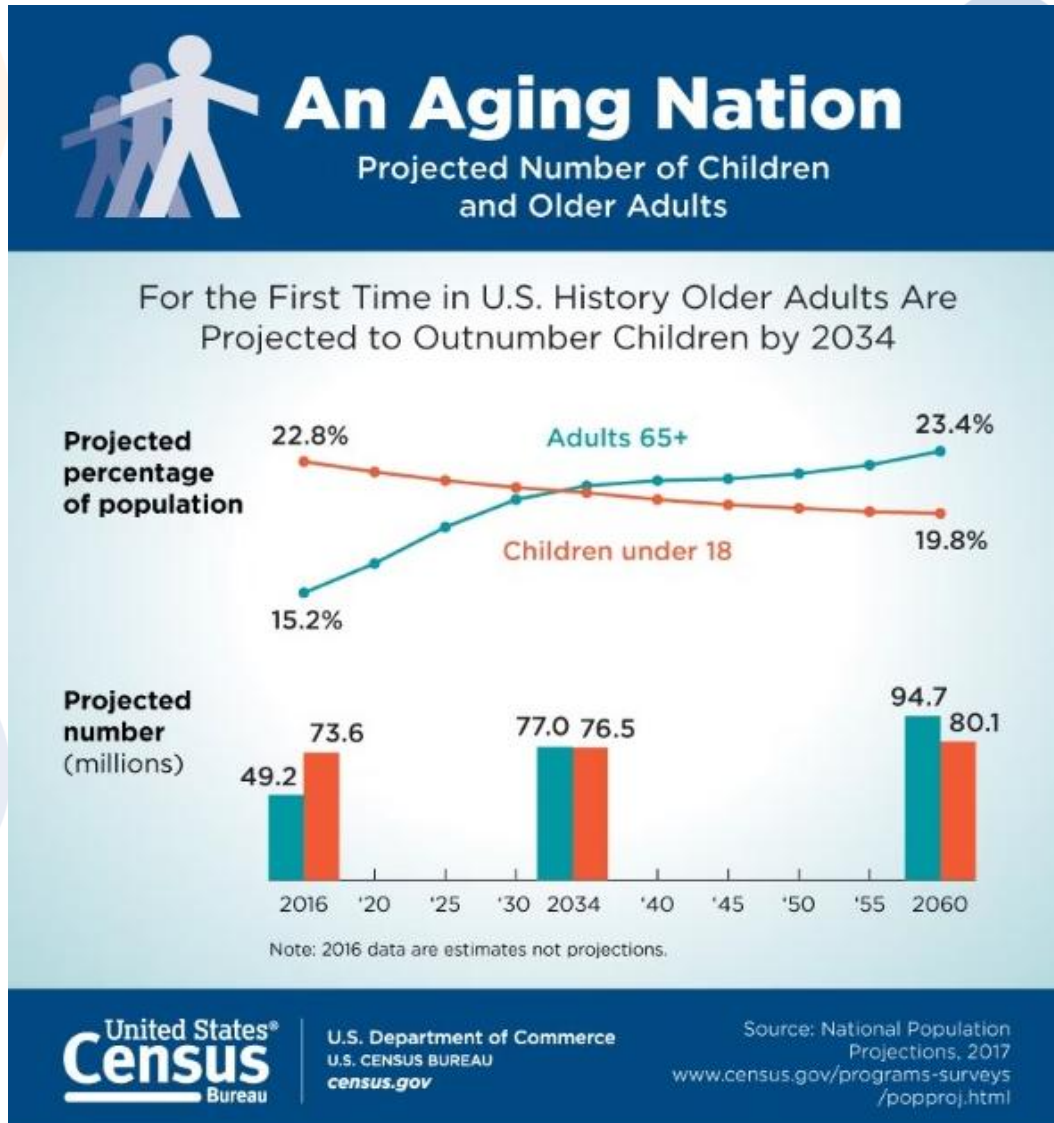
of all homes in the U.S. are wheelchair accessible.



"The availability of accessible homes is critical to enable people with disabilities to live independent lives"

The Need for Increased and Improved Accessible Housing

# This Need Is Only Growing with Natural Aging

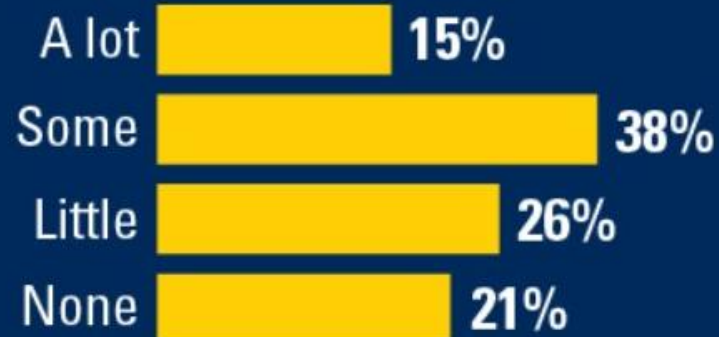


## **Aging in place** AMONG ADULTS AGE 50–80

**88%**

**believe it's  
important to  
age in place**

### **Consideration given to modifications needed to remain at home:**



# Special Needs Addressed During Bathroom Renovations

2023

**66%**

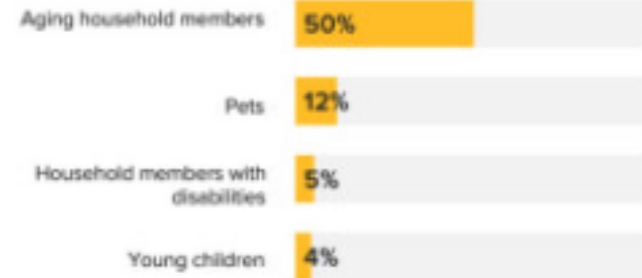
## Current Special Needs



2021

**54%**

## Future Special Needs

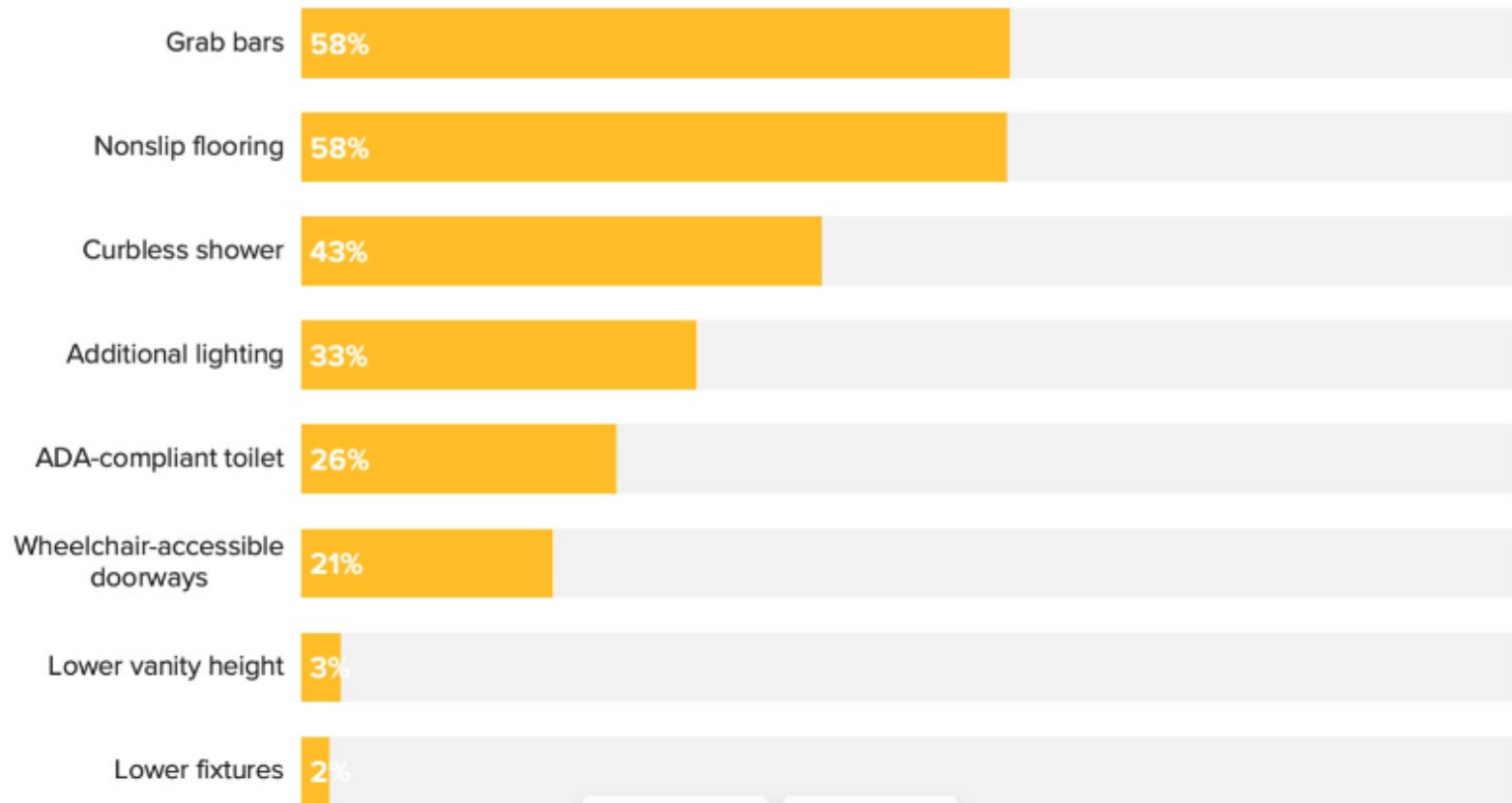


## When Homeowners Expect Future Needs to Arise



Nearly half of renovating homeowners (44%) are preparing for changing needs to arise within the next five years. The needs of aging household members remain the top priority, both currently (38%) and for the future (50%).

## Top Features Incorporated to Address Aging in Place in 2023



**Nearly half of renovating homeowners (44%) are preparing for changing needs to arise within the next five years. The needs of aging household members remain the top priority, both currently (38%) and for the future (50%). \***

# **Key Terms with Key Differences in Accessibility:**

- **Visitable**
- **Adaptable**
- **Barrier-Free (disability specific)**
- **Universal Design**

# Visitable

Visitable homes have **three core features** that allow individuals with mobility disabilities comfortably visit and/or occupy a home temporarily.

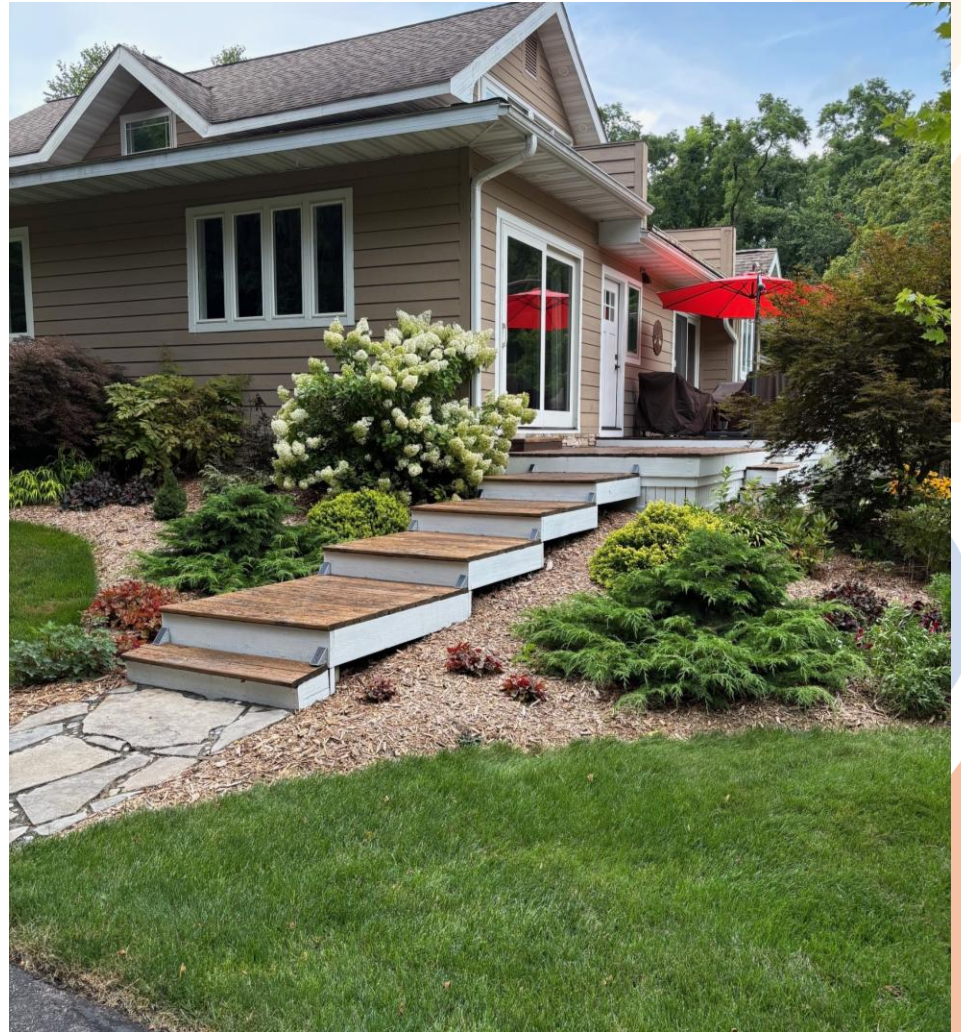
1. A zero-step entrance, which is an entrance without a step or threshold that is on an accessible path of travel from the street, sidewalk, or driveway. An accessible path of travel has no steps, is at least 36 inches wide and is not steeper than 1:20 (5% grade) for walkways or 1:12 for ramps.
2. Ground-floor doorways provide 32 inches of clear space and ground-floor hallways provide at least 36 inches of clear width.
3. Access to a ground-floor bathroom, providing sufficient depth within the bathroom for a wheelchair user to enter and close the door. Basic access to a full bath is preferable to a half bath.

*Source: Center for Inclusive Design and Environmental Access*

# My Home

My Father-in-law cannot get into my home.

My chair-user friend cannot come to gatherings at my home unless they are outdoors (and he hopes he doesn't have to go to the bathroom...)



# Adaptable

**Adaptable spaces may not be readily accessible at first occupancy, but they possess certain features (below) to achieve improved physical accessibility where needed such as:**

- **Parallel Approach at Sinks and Bathroom Vanities**
- **Removable Base Cabinets**
- **Blocking for Future Grab Bars**

# “Accessible” Bathroom

The shower door is not swinging the accessible direction, but it **is** adaptable.

Not a curbless shower though, and not removeable base cabinets.

Not a parallel approach to the sink either.



# **Barrier-Free**

**Typically, a term used to mean that the building or site meets the very basics of the Michigan Barrier Free Code and the Americans with Disabilities Act. This only addresses physical disabilities.**

# Universal Design

**Adapted from a definition by the late Ron Mace of NCSU  
Center for Universal Design**

**The design of products and environments  
to be usable by all people, to the greatest  
extent possible, without the need for  
specialized design.**

# Universal Design Architectural Principles

1. Equitable Use
2. Flexibility in Use
3. Simple and Intuitive Use
4. Perceptible Information



# Universal Design Architectural Principles

- 5. Tolerance for Error**
- 6. Low Physical Effort**
- 7. Size and Space for Approach and Use**



# 2017 ANSI Standards

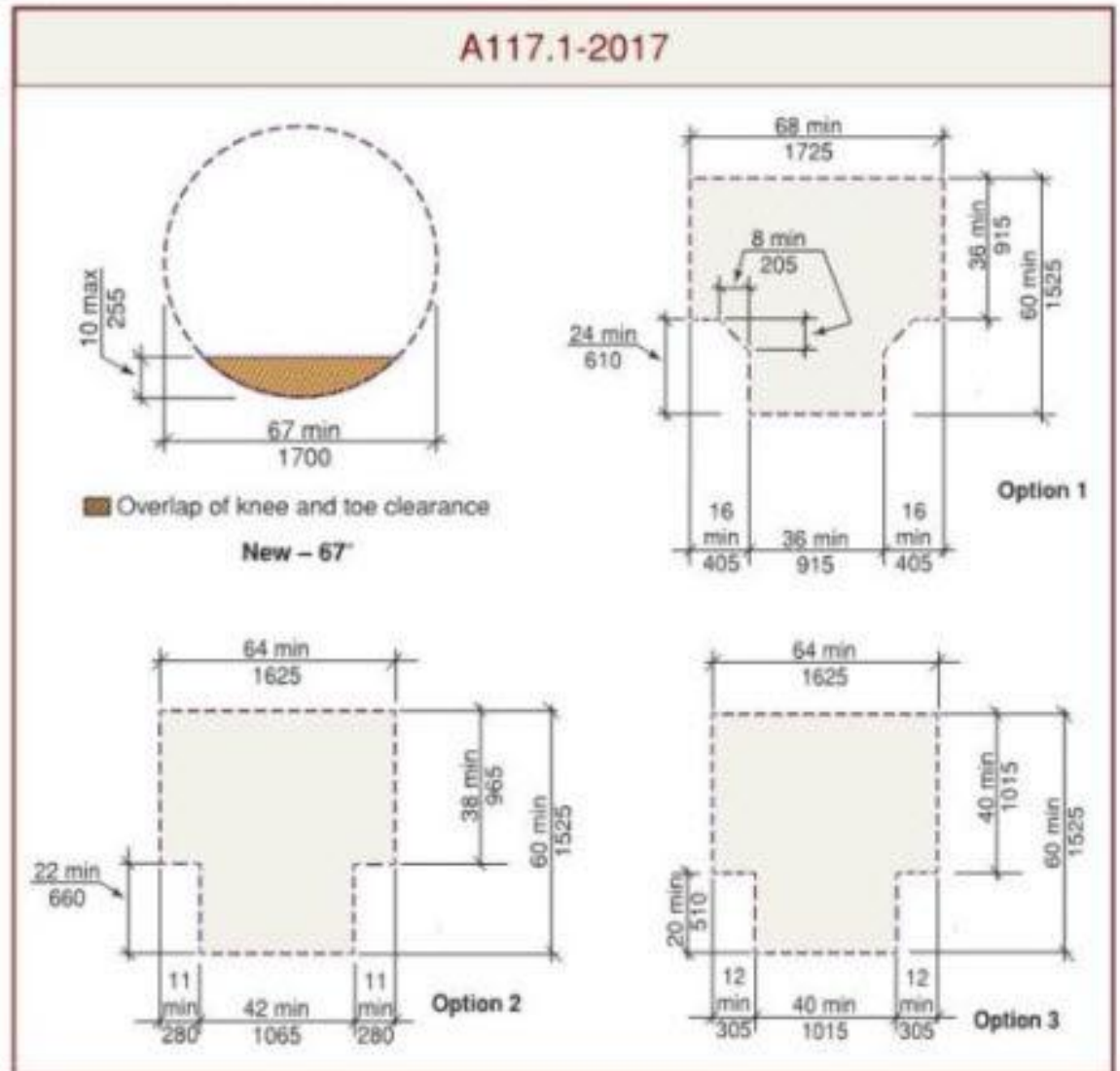
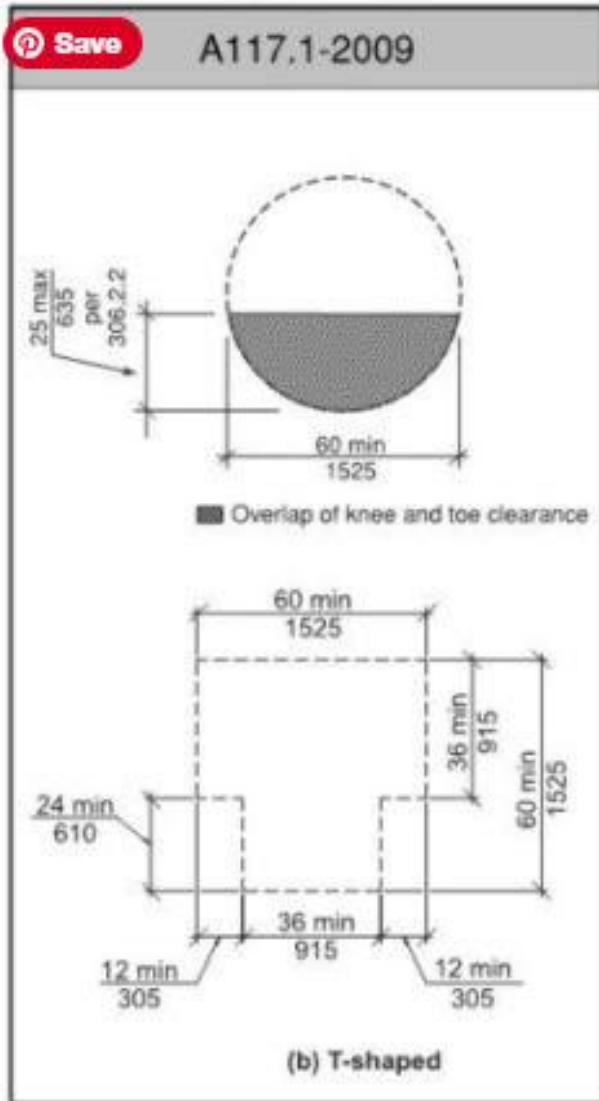
## Turning Space

The 2017 ICC ANSI Standards changed and increased the size of the turning space

- Turning Circle: In A117.1-2017, the circle has expanded to 67" in diameter and only 10" of it is permitted to overlap knee and toe clearance.
- T-Shaped Turn: The previous T-shaped turn was a 60"x60" square with 12"x24" cutouts.

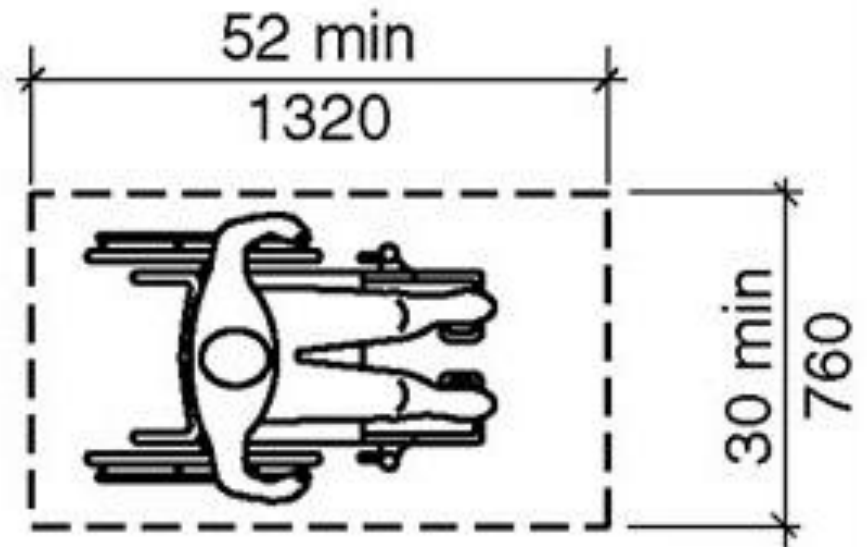
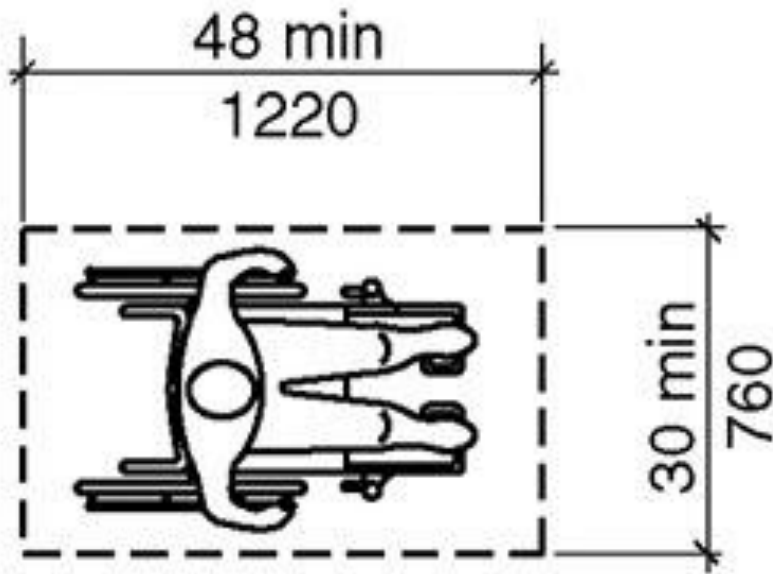
A 117.1-2017 gives three options for a T-shaped turn, as shown in the image in the next slide.

# Turning Space



Turning Space (A117.1-2017 Section 304)

# Clear Floor Space



**The clear floor space increased  
from 30"x48" to 30"x52"**

# Clear Floor Space

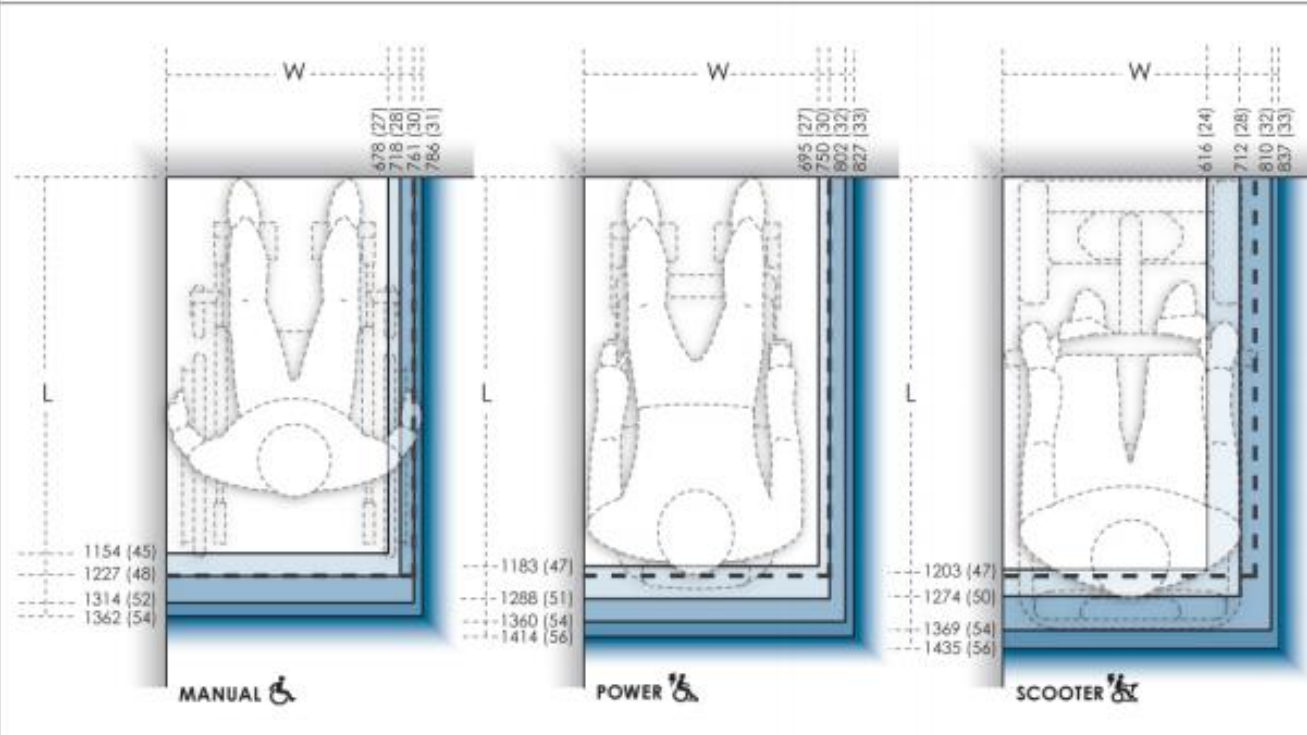
Design Guidelines for People Using Wheeled Mobility Devices



MANUAL, POWER, & SCOOTER

## MINIMUM CLEAR FLOOR SPACE REQUIRED

percent accommodated		W = floor space width, units: mm (in.), L = floor space length, units: mm (in.)		
		MANUAL	POWER	SCOOTER
		276 participants	189 participants	30 participants
< 50%	50%	W: 678 (27)   L: 1154 (45)	W: 695 (27)   L: 1183 (47)	W: 616 (24)   L: 1203 (47)
≥ 50% & < 75%	75%	W: 718 (28)   L: 1227 (48)	W: 750 (30)   L: 1288 (51)	W: 712 (28)   L: 1274 (50)
≥ 75% & < 90%	90%	W: 761 (30)   L: 1314 (52)	W: 802 (32)   L: 1360 (54)	W: 810 (32)   L: 1369 (54)
≥ 90% & < 95%	95%	W: 786 (31)   L: 1362 (54)	W: 827 (33)   L: 1414 (56)	W: 837 (33)   L: 1435 (56)
≥ 95%		- - - - - = ADA-ABA requirement of 1220 (48) x 760 (30)		



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Figure 1: Accommodation model on clear floor space for wheeled mobility users



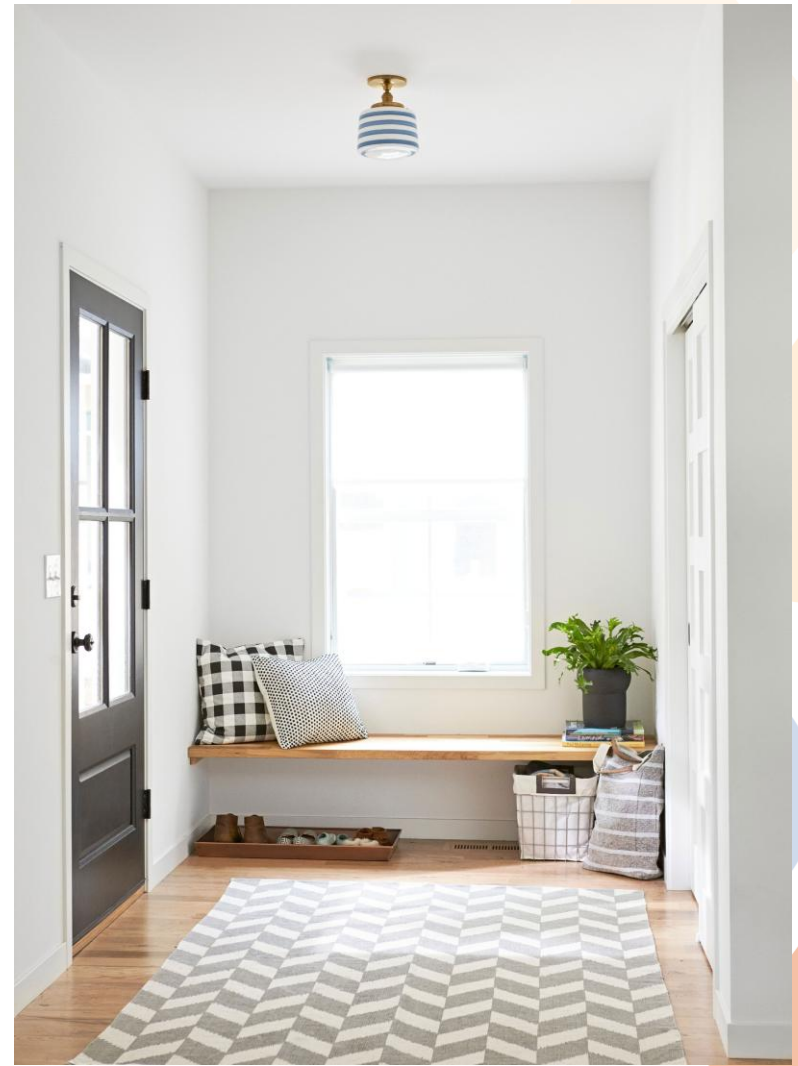
# **General Considerations**



Muted colors and natural light reduce stress.



Fabric wall hangings reduce noise by absorbing sound.



A bench near the entrance helps make the transition from outdoor to indoor. Clean, uncluttered spaces are soothing.

# Simple, Intuitive, and Flexible Controls



Motion Sensing Pull Down Faucet



Rocker Switches



Remote Control Thermostats



Smoke Alarm w/  
Both Visual and  
Auditory Cues



Provide quiet ceiling exhaust fans that eliminate odors quickly in kitchen and bathroom



Smart Technology



# **Garage and Home Entrance Considerations**

Sloped garage floor



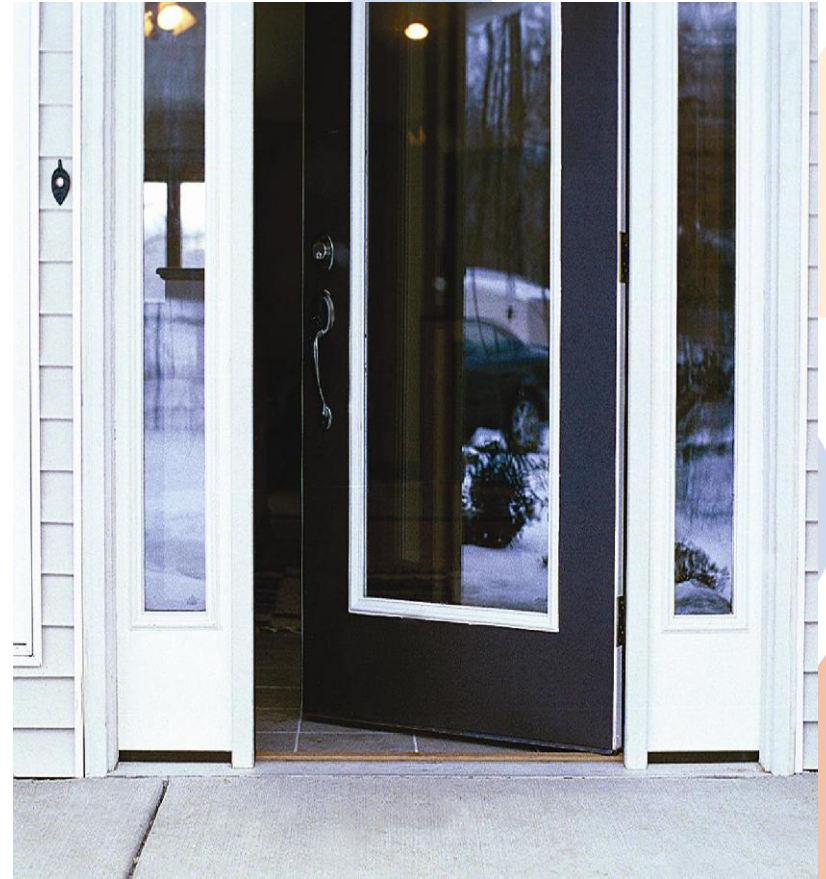
No step from garage into home



No step at front door



36" wide door & sidelites



42" Wide hallways



36" wide interior doors for easy maneuvering



# Door Upgrade and Lever Handle Swap

Twist knob with multiple locks



Key Card System



Lever handle with push button lock





# **Kitchen/Appliance Considerations**

# Variable-Height Counters



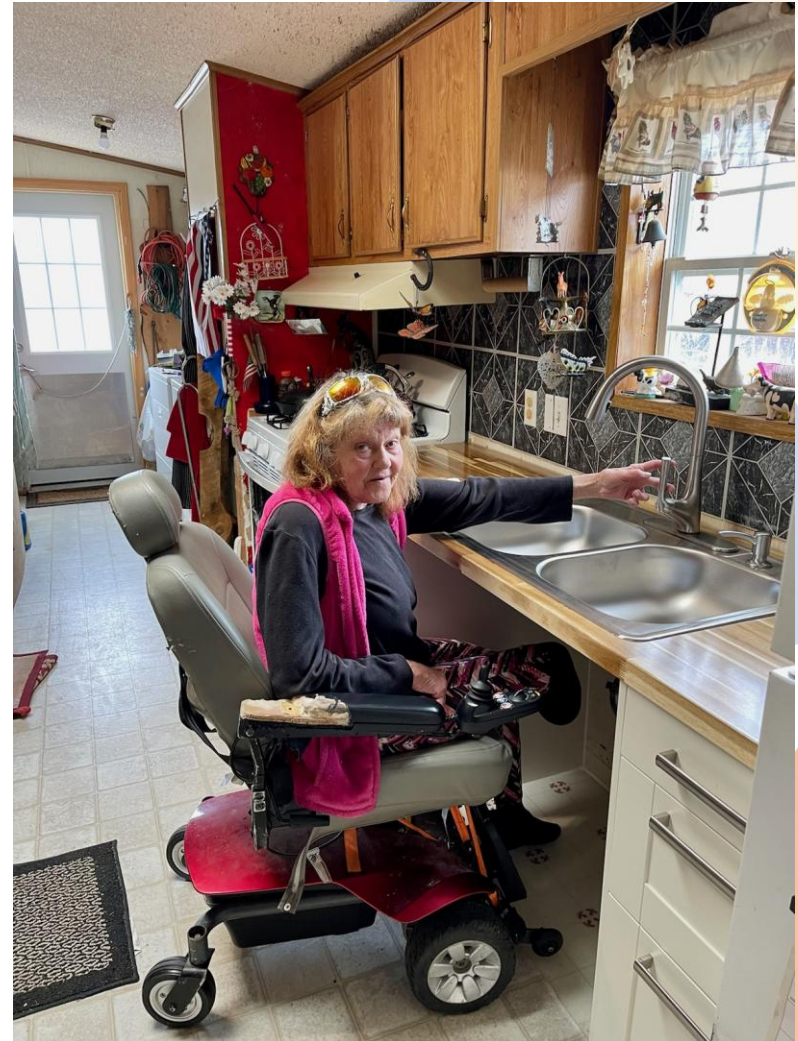


# Knee clearance under sinks

Before



After



# Easy-reach, pull-out drawers



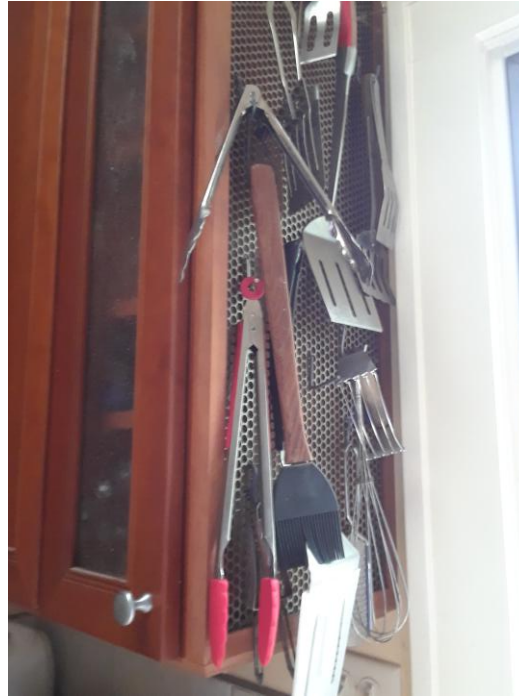
# Pull-out drawers & pull-out shelves



# Glass front cabinets make it easy to find items



# Metal mesh front on a pantry



**Options for storing utensils within sight & easy to find – may need extra counter space or a different finish on a cabinet's end.**

# Refrigerators

Bottom drawer freezer space is usually more accessible.



**Easy-Reach, Side-by-Side**



**Single door refrigerator with freezer drawers below; glass fronts on crisper drawers.**

# Stoves/Ovens



**Induction cooktops to prevent burns – can be portable.**



**Front-Mounted Controls on Appliances**

# Front-Loading Washer & Dryer



**A raised platform helps individuals to reach into the machines.**



# **Bathroom Considerations**

# Reinforcement for Future Grab Bars



Wall reinforcements in shower and around toilet; potentially in hallway



Potential ceiling reinforcements for a ceiling lift in bathroom or bedroom

# Walk-in / Roll-in shower

Handheld Shower Head  
Zero step threshold



Maximum flexibility with a  
shower chair

# Offset Controls in Tub/Shower



# Tub to shower conversion



# Toilet Height



**Comfort Height®**  
Chair height toilet

**Comfort Height®**  
17+ Inches

**Standard Height**  
15 Inches

**Surpasses Standard Toilet Height**  
Sits two inches higher than standard-height toilets.

**Easier to Sit and Stand**  
Chair-height seating makes sitting down and standing up easier for most adults.

**May meet ADA Requirements**  
Many Comfort Height toilets may be installed per applicable guidelines.

THE BOLD LOOK OF **KOHLER**®

# Easy-Approach, Bowl-Shaped Sink





# **Bedroom Considerations**

# Reachable, Adjustable Shelves and Storage



**Windows and curtain or blind controls are easy to reach from sitting or standing**





**But Isn't  
Universal Design  
Substantially  
More Expensive?**

# Minimal Cost to Incorporate Universal Design Features in New Home Plans

## Value & Benefit of Universal Design Heartland Builders – 2023

Price Ranges to incorporate UD for New Construction

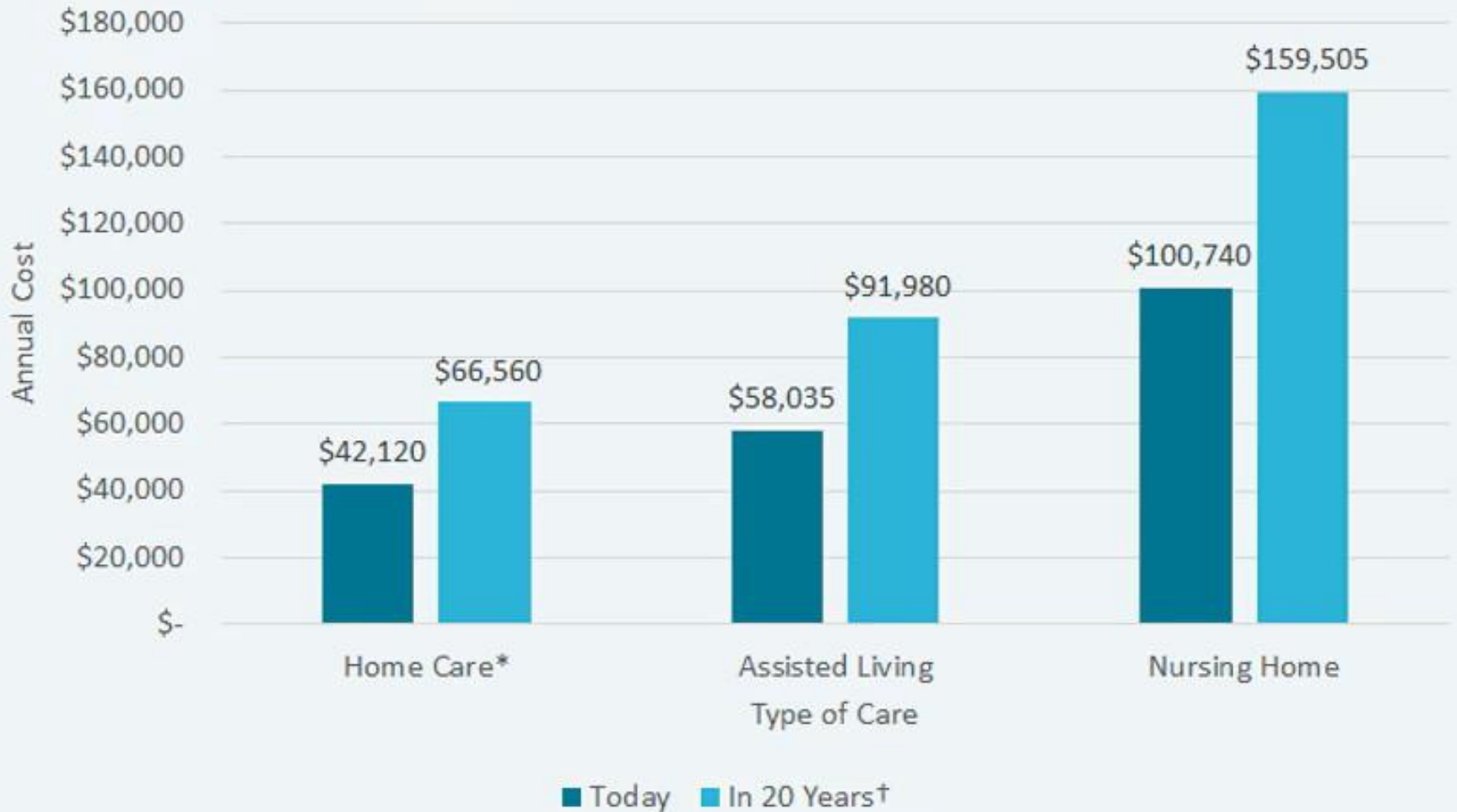
• Design	\$0 to \$100
• Zero-step Threshold	\$2000 to \$2500
• 36” Entry Door	\$35-\$50
• 36” Interior Doors	\$20-\$50
• Flooring	\$10-\$30
• Blocking	\$0
• Toilet	\$35-\$55
• Knobs, levers	<u>\$25 -\$40</u>

**Total Additional Cost**

**\$2,125-\$2,825**

# Even Renovation Costs Can Beat Average Annual Long-Term Care Costs!

National Average Annual Cost of Care<sup>1</sup>



# Key Takeaways

**Residential Inclusive Design when done well is:**

- **In-Demand**
- **Beautiful & Appealing, Not Clinical in Style**
- **Cost-Saving, Not Cost-Draining**
- **Designed to accommodate everyone or to take all abilities into consideration**

# Universal Design

Universal Design is the art of creating environments that are attractive and user-friendly for people of all ages and abilities. It's about creating a home that lasts a lifetime.

**Floor Plans:** Single-story ranch keeps all utilities & amenities on one level. Includes attached garage.

**Garage:** Automatic door opener. Extra space to accommodate larger vehicles for lift or wheelchairs. Heated to melt snow.

**Thresholds/Entries:** Zero-step clearance with adequate lighting.

**Doors:** Min of 36" wide. Thresholds no higher than 0.5".

**Door Handles/Locks:** Lever or loop handles, instead of knobs. Locks operable with 1 hand.

**Hallways:** Min of 42" wide instead of 36" standard.

**All Rooms:** Min of 60" turning radius in the middle of the room, including bathroom, kitchen, & laundry to allow easy maneuver ability for wheelchairs.

**Electrical Switches:** Rocker switches instead of toggle switches at normal height. Door-activated light switches for closets.

**Cabinetry:** Pull out cabinets & open spaces beneath some cabinets to allow easy access to contents, countertops, stove, & sink.

**Appliances:** Elevated & front loading dishwasher, washing machine, & dryer.

**Kitchen/Bath Fixtures:** Most companies offer ADA compliant sinks, toilets, & bath fixtures.

**Faucets:** Lever-type handles instead of knobs.

**Remotes:** Use for ceiling fans, fireplaces, garage doors, thermostats, & window treatments.

**Flooring:** Smooth, durable surfaces (wood, tile, or low pile carpet).



Zero-step entry



60" wide turning space



Curbless shower & roll-under sink



Front-load appliances



Lever handles

## ZeroStep Checklist



102 Parking and Driveways	NA	NO	YES
<b>102.1 Parking and driveways</b>			
There is one accessible parking space on an accessible route to a zero-step entrance. The accessible parking area is 1:48 (2%) in all directions. The accessible driveway portion has a maximum cross slope of 1:48 (2%) and a maximum running slope of 1:20 (5%).			
NA Justification:			
<b>102 OPTIONS</b>			<b>PTS</b>
<b>102 Opt. 1 16' Minimum Width By 8' Minimum Length Loading/Unloading Zone.</b>	There is at least a 16' wide by 8' minimum length loading/unloading zone with an accessible route to the home.		<b>1</b>
<b>102 Opt. 2 Surface Materials.</b>	The driveway is covered with a firm surface material.		<b>2</b>
<b>102 Opt. 3 24' Minimum Level Parking Space.</b>	A minimum length of 24' of the driveway has a slope and cross slope of 1:48 (2%).		<b>2</b>
<b>Total Points</b>			

103 Garage	NA	NO	YES
<b>103.1 Garage Minimum Measurements – One Stall.</b>			
A one stall garage has a minimum of 16' clear width, 24' minimum depth. There is a minimum of a 5' width access aisle located on an accessible route into the home. There is a minimum of a 3' width access aisle on the opposite side of the vehicle.			
<b>103.2 Garage Minimum Measurements – Two Stall.</b>			
A two stall garage has a minimum of 27' clear width, 24' minimum depth. There is a minimum of a 5' width access aisle located on an accessible route into the home. There is a minimum of a 3' width access aisle on the opposite side of the vehicle.			
NA Justification:			

# ZeroStep Guidelines



## ZeroStep Guidelines [Print Replica] Kindle Edition



by Disability Advocates (Author), Margaret Biggs Interior Designer CAPS (Author), & 2 more  
| Format: Kindle Edition

[See all formats and editions](#)

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These are comprehensive Guidelines in order to help people understand how to incorporate universal design elements into their homes and achieve the most flexible and usable home possible. The ZeroStep™ Checklist comes immediately after the guidelines. Keep it at your side when designing or reviewing floor plans. The checklist is also extremely helpful when gathering client needs during the design phase. The ZeroStep™ Guidelines have been

# Visit Disability Advocates' Home Accessibility Center!



# Visit Disability Advocates' Home Accessibility Center in Grand Rapids!



# Questions?

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