



2022

Accessibility in Rural America

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Accessibility in Rural America

By

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A Scholarly Project

Submitted to the Occupational Therapy Department of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Occupational Therapy Doctorate

Grand Forks, North Dakota

May 2022

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APPROVAL PAGE

This scholarly project, submitted by Ashley Osbjornson is in partial fulfillment of the requirements for the Degree of Occupational Therapy Doctorate from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

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PERMISSION

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ACKNOWLEDGEMENT

The author of this project would like to acknowledge my advisor, Dr. Nielsen. Dr. Nielsen has provided tremendous support and guidance throughout this process, and without her this project would not have been possible. I would also like to thank my family, friends, and other faculty for their continuous support throughout this project and my time here in the UND Occupational Therapy program.

Ashley Osbjornson

ABSTRACT

Introduction: Individuals with disabilities are often faced with barriers when trying to access public spaces out in the community, which results in lack of inclusion (Chibaya et al., 2021; Sandwood, 2019). This is an ongoing barrier that if addressed, may expand inclusion for those with disabilities (CDC, 2020a). The purpose of this scholarly project was to increase accessibility and usability for rural shoppers. Thus, a manual was created for Minnesota stores to use as a guide when assessing accessibility and usability. In addition, this manual was created to help store owners understand disability and its impact and identify strategies store owners can implement to address common barriers.

Methodology: A needs assessment and literature review were conducted to understand the need for, and importance of, accessibility and usability of stores in rural America. Sources used throughout this process include textbooks, government, and national websites, as well as online databases such as Academic Search Premier, CINAHL, and PubMed. The Person-Environment-Occupation (PEO) model guided the development of this manual (Baptiste, 2017). PEO was chosen to guide this project as it examines the person, environment, occupation, and the transaction between them. This provide a unique perspective on the relationship between shopping, the store/store owner, and the environment and how each component is influenced.

Results: The literature review revealed the stores should be equipped with the following: (a) enhanced accessibility of public spaces, (b) enhanced usability of public spaces, and (c) increased support from local organizations that advocate for enhancement of accessibility and usability in public spaces such as stores. As a result of this, *Enhancing Accessibility and*

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Usability in Rural America: Minnesota Store Owner's Manual was developed to address these needs and provide information to assist Minnesota store owners in making improvements in these areas.

Conclusions: Accessibility and usability of public spaces is crucial as it allows for inclusion and equal opportunity for individuals of all abilities (ADA National Network, 2020a; Illinois Library, 2021). With the implementation of *Enhancing Accessibility and Usability in Rural America: Minnesota Store Owner's Manual*, store owners will be provided the opportunity to enhance accessibility and usability of their store and improve the experience of shoppers.

Key Terms: Accessibility, usability, rural shopping

CHAPTER I

Introduction

In 2014, there were over 5,000 lawsuits against retail stores across America due to non-compliance with the Americans with Disabilities Act (ADA) guidelines, costing these stores over 100 million dollars in fees and settlements (Crowd Control Warehouse, 2018). With ADA's current regulations, stores do not have to be notified of ADA non-compliance for a chance to make changes before a suit is filed (Crowd Control Warehouse, 2018). With approximately 50 million Americans having a type of disability (Crowd Control Warehouse, 2018), ADA compliance, accessibility, and usability are crucial for customers and businesses. The purpose of this project was to provide stores with a complied checklist of ADA guidelines in order to enhance accessibility and usability of their stores, as well as an information packet including information on funding options such as grants or other payer resources. Further, the author will produce a product that addresses accessibility an ADA compliance checklist as well as a supplemental list of tips and strategies for usability. Further, the usability tips and strategies is provided as an added benefit with the ADA checklist as accessibility lawsuits only result in accessibility noncompliance, and not as a result of lack of usability.

Key terminology that will be used throughout includes accessibility, usability, ADA, rural, barriers, and shopping in different contexts. **Accessible** is described as “a person with a disability is afforded the opportunity to acquire the same information, engage in the same interactions, and enjoy the same services as a person without a disability in an equally effective and equally integrated manner, with substantially equivalent ease of use” (NC State University,

2022). **Usability** is defined as the “effectiveness, efficiency, and satisfaction with which a specified set of users can achieve a specified set of tasks in a particular environment” (Burgstahler, 2021; University of Washington, 2022). The **ADA** “is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public” (ADA National Network, 2022a). **Rural** is defined as, “any population, housing, or territory not in an urban area” (United States Census Bureau, 2021a). **Shopping (or shop)** is defined as, “to examine goods or services with intent to buy” (Merriam-Webster, n.d.). **Barrier** is defined as, “factors in a person’s environment that, through their absence or presence, limit functioning and create disability” (World Health Organization [WHO], 2021).

Objectives for this project included (a) comprehending literature on enhancing community accessibility, usability, and ADA compliance; (b) comprehending literature containing information regarding potential funding sources; (c) synthesize literature on effective advocacy strategies and assert them to enhance accessibility and compliance with ADA guidelines; (d) examine research by USDA regarding accessibility; (e) examine local organizations that advocate for accessibility; (f) analyze a public space such as a grocery store to determine accessibility; (g) synthesize knowledge gained and identified need and develop a product or program to assist with accessibility; (h) pilot evaluation tool on the site. These objectives helped the author gain a deeper understanding of the ADA, accessibility, usability, and funding resources in order to enhance accessibility and usability of retail stores.

To meet these objectives, various learning activities were completed including (a) analyzing ADA guidelines to enhance accessibility; (b) meet with USDA board member to gather more information on accessibility and usability of public spaces; (c) review PEO model

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(Baptiste, 2017); (d) compile a list of potential funding sources; (e) construct strategies after synthesizing literature in order to advocate for accessibility in public spaces; (f) gather specific information on additional laws and policies regarding accessibility; (g) analyze laws and policies regarding advocacy and accessibility; (h) conduct an evaluation of store accessibility and compliance with the ADA; (i) evaluate tools to assess store accessibility and compliance with ADA or construct a new one. These learning activities helped the author meet the objectives by furthering their understanding of ADA through research and discussion with experts in accessibility, usability, and ADA guidelines.

For this project, PEO was used as it looks at the “fit” of the person, environment, and occupation, which is a critical aspect to examine when looking at these components within the community. In addition, PEO also looks at changing the environment with a transactive perspective. The “P” stands for person, and includes the physical, cognitive, sensory, affective, and spiritual parts of the person (Baptiste, 2017). The “E” stands for environment and can include the physical, social, cultural, institutional, and virtual environments (Baptiste, 2017). The “O” stands for occupation, and is broken down into three parts including self-care, leisure, and productivity (Baptiste, 2017). In addition, it also looks at the institutional environment, which is important as for the DEP the author will be in an institutional environment and potentially looking at laws, policies, finances, education, and justice (Baptiste, 2017).

For this project, P, the person, will be the store itself and the author will examine what current literature states about the accessibility and usability of stores in rural America as well as the cognitive and physical demands (Baptiste, 2017). In addition, the author will also examine affective, spiritual, and sensory demands of the store (Baptiste, 2017). In regard to the “E,” the environment, will be the environment of the store (Baptiste, 2017). This may include the

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cognitive, physical, and social demands required to effectively navigate the environment (Baptiste, 2017). In regard to the “O,” the occupation, will be shopping (Baptiste, 2017). The author will examine what the literature currently states that the cognitive, social, and physical demands of shopping are (Baptiste, 2017). I will then examine current barriers and supports to the occupation of shopping. Lastly, I will use the model PEO as my guide throughout this project to ensure the best “fit” for the environment (Baptiste, 2017).

The next few chapters will further discuss this topic. Chapter II will include a literature review with research gathered and synthesized by the author regarding accessibility and usability of public buildings including barriers, supports, benefits, to enhance these areas to better serve individuals. Chapter III describes the methodology used when designing this project including the product design as well as the theoretical framework used to guide the design, timeline of project, procedures for completion, ethical considerations, and inclusion and exclusion criteria. In addition, in chapter III gaps in the literature are identified and the reasoning behind the need for this product is discussed. Chapter IV includes a presentation of results, the product, and their relation to project objectives. Lastly, Chapter V includes a summary of the key findings of this project.

CHAPTER II

Literature Review

Having stores that are not only accessible, but usable for individuals is crucial in order to improve access and support individuals' activities of daily living and maintain health and wellness (American Occupational Therapy Association [AOTA], 2020; Banda-Chalwe, Nitz, & de Jong, 2014; National Center on Deaf-Blindness, 2022). Seventy-two percent of individuals who use mobility devices such as a wheelchair or a walker have experienced no less than one barrier to accessibility that has inhibited their access to a specific place (Sandwood, 2019). Physical barriers are not the only barrier individuals with disabilities experience, the most common accessibility barriers experienced include attitudinal, communication, physical, policy, programmatic, social, and transportation (Center for Disease Control [CDC], 2020a; WHO, 2021). For example, barriers to communication may include stigma and/or discrimination against individuals with disabilities from others in society (CDC, 2020a). This lack of accessibility leads to lack of inclusion and thus individuals experiencing isolation from society (Chibaya et al., 2021; Sandwood, 2019). Further, Chibaya et al. (2021) reported that individuals with disabilities experience occupational alienation, occupational marginalization, occupational deprivation, and occupational inconsideration due to inaccessibility of public spaces. Therefore, the need for accessible and usable spaces continues to be crucial for individuals of all abilities, especially those with disabilities.

This led the author to further examine what the literature states about the following questions through the lens of the Person-Environment-Occupation (PEO) Model from the

perspectives of “P”, the person, “E”, the environment, and “O”, the occupation (Baptiste, 2017).

The questions will be discussed in the following paragraphs as well as how their transactive components impact each other as well as the overall “fit” (Baptiste, 2017).

Accessibility: Understanding the Store

In this instance the person is defined as the store. In order to better understand the store, the literature was reviewed to answer the following questions:

- What does current literature say about the accessibility of stores?
- What does the literature state about usability of grocery stores?
- What does the literature state about physical and cognitive demands require of the store?
- What does the literature say about affective and spiritual aspects of stores and how are they inclusive?
- What does literature say about the sensory aspects of stores and how are they inclusive of others sensory needs?

In order to be accessible, stores must maintain the minimum standards set by the Americans with Disabilities Act (ADA) as well as follow their state laws on requirements for public spaces in order to be accessible to individuals. Stores are only required to make changes if they are “readily achievable,” meaning it is able to be accomplished with little difficulty or little expense (U.S. Department of Justice, 2010; Rose, 2013). The ADA was designed and enacted to forbid discrimination against those with disabilities to ensure equal opportunity, and Title III of the ADA is specifically related to Public Accommodations (ADA National Network, 2022a). Title III states that places open to the public are prohibited against discrimination against those with disabilities (ADA National Network, 2022a; Crowd Control Warehouse, 2018). In addition, Title III also requires these businesses to provide modifications that are reasonable for

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individuals with disabilities to ensure equal opportunity (ADA National Network, 2022a; Crowd Control Warehouse, 2018). With the ADA and its titles in place, the goal is to create accessible spaces in grocery and retail stores in order for individuals with disabilities to participate in daily life activities just as those without disabilities do.

To assist stores in improving accessibility of the store, organizations such as the United States Department of Agriculture (USDA), United States Department of Justice (US DOJ), and the Minnesota Council on Disability, and the ADA have created checklists for stores to use to assess accessibility of all areas of the building. These checklists examine specific areas of each building including the parking lot, entrance of the building, routes and aisles throughout the building, restrooms, and elevators to determine accessibility for individuals to access (Minnesota Council on Disability, 2022; USDA, 2020; U.S. DOJ, 2009). A short checklist created by the U.S. DOJ (2009) with twenty-five questions covering areas in and outside of the store including parking lots, curbs, store aisles, restrooms, checkout counter spaces, among other areas are all accessible to individuals. The checklists designed by these organizations are great resources for stores to use to measure accessibility and to determine how they can improve accessibility for all individuals.

Approximately nineteen percent of the United States population had a disability in 2010, and of those individuals, over 15 million individuals reported having difficulty with at least one instrumental activity of daily living, thus impacting their daily life (United States Census Bureau, 2012). Instrumental activities of daily living include health management, education, work, play, leisure, social participation, activities of daily living, and health management, of which may include shopping and accessible stores and other buildings (AOTA, 2020). With 19 percent accounting for over 56 million people in the US, stores must maintain accessible features

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throughout the entirety of the buildings for individuals with disabilities to have equal access and participate in activities of daily living (AOTA, 2020; United States Census Bureau, 2012).

The International Organization for Standardization has defined usability as the, “effectiveness, efficiency, and satisfaction with which a specified set of users can achieve a specified set of tasks in a particular environment” (Burgstahler, 2021; University of Washington, 2022). Usability is closely related to the term “universal design” or “inclusive design” which is defined by The Center for Universal Design (2008) as “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (University of Washington, 2022; Burgstahler, 2021). More recently Maisel and Steinfeld (2012) refined the definition of universal design to be more inclusive of those who experience disability as, “a process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation” (Maisel & Ranahan, 2017). In addition to ADA guidelines, stores can also examine usability of their store. At a minimum, public spaces such as grocery stores and retail stores must meet the ADA guidelines set, but stores are not held to the same standard when assessing usability. Universal design is important as it ensures that spaces such as public stores or other buildings are created to be used with ease and be usable for all (Maisel & Ranahan, 2017; Maisel & Steinfeld, 2012). For example, establishments such as grocery stores and retail stores are not required by state or federal law to provide mobility devices such as motorized carts or scooters for individuals, only requiring the store to be accessible for use of these devices (ADA, 2005; Rose, 2012, United States Department of Justice, 2014). To be more inclusive and enhance usability of stores, offering devices such as motorized carts or scooters for individuals experiencing disability is one strategy for these businesses can do to best assist their customers. From an individual with

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disability's perspective, having a motorized scooter for someone with a physical impairment, experiencing fatigue, or who has difficulty ambulating, the store would be far more usable for them if these devices were provided for their use.

In addition, another aspect from a usability standpoint is the size of the shopping carts attached to these carts. The Disability Rights Education & Defense (DREDF) reported that individuals who are not able to use typical shopping carts are often forced to use baskets that are significantly smaller in size, which do not allow space for more than a few items, thus requiring more than one trip (DREDF, 2021). This further identified the need for increased usability within grocery stores for individuals with disabilities, especially those who have physical impairments and may use wheelchairs for mobility. A strategy to advocate for usability in this situation would be for stores to purchase motorized carts with larger baskets or have an employee available to assist individuals who may need it (Roy, 2019).

Another important strategy stores can use in ensuring usability of stores and their items is making it a priority to keep lighter items on shelves that are higher and items that are heavier on lower shelves to help those with mobility impairments (DREDF, 2021; Roy, 2019).

In addition, to help individuals reach those items, a beneficial usability strategy to advocate for may be to offer an inexpensive device such as a reacher for individuals to better use the store (Roy, 2019). This strategy is also one that could carryover at other departments within the store such as the deli/meats counter to grab the bag if the individual is wheelchair bound for this department to be more usable for individuals at the store (DREDF, 2021; Roy, 2019).

While there are many beneficial options to enhance the usability of stores, for this project, one final strategy found while examining the literature through the lens of the PEO Model. This was for the store to offer delivery services or curbside pickup for individuals

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(Cason, 2021; SF 2469, 92nd Congress, 2021). Minnesota Legislature created a bill for an act in 2021 to provide grants relating to food and food access; there are various grants including Food access Grants available for stores to fund usability to stores in the way of curbside pickup and delivery (SF 2469, 92nd Congress, 2021). These grants would greatly improve not only accessibility of the store and its products, but the usability for customers with and without disabilities.

When examining usability in the layout of stores, a key observation noted is customers not being able to reach various items due to being wheelchair bound, having limited range of motion in extremities, or other impairments in vision, etc. With a number of products being out of reach, it is extremely important that stores are placing their products where they are usable for customers with disabilities (Smith, 2018). When examining the literature on product placement, literature stated that manufacturers of products pay money to have their product placed at a specific location and level in a store to increase the likelihood a customer will buy their product (Chiakpo, 2020). Food manufacturers typically spend up to \$50 billion each year to have specific placement of their products and have them promoted in order to boost sales of their product (Blosch, 2021). The manufacturers that are able to pay large amounts of money chose to have their products placed at eye level as that is where most customers look when shopping (Trax Retail, 2017). For example, Blosch (2021) reported that manufacturers may pay tens of thousands of dollars for their products to be placed on the endcaps of the aisles for just a few weeks as endcaps are high traffic areas where sales are highest, and most people are able to see and place them in their carts. While manufacturers pay a large amount of money for specific product placement in stores, it is important for the store owner to examine how this may impact shoppers with disabilities to advocate for inclusive shopping (Smith, 2018).

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When looking at the physical, cognitive, affective, spiritual, and sensory aspects of a store, the store, or the owner must pay special attention to accessibility as well as usability in order to address these needs adequately. The owner of the store and the employees must actively engage in the task of making the store more usable and accessible for the individuals who shop there; this would include many things among understanding the law, the business, their own abilities and abilities of their employees to enhance accessibility and usability to name a few.

First, in order to address accessibility and usability for individuals with sensory difficulties, the store or the store owner may look at adapting strategies to become a more sensory friendly place for individuals when shopping (Autism Speaks, 2022, Matusiak, 2022; Seeberger, 2020). Some individuals had difficulty with sensory processing or sensory overload when out in the community as there is a lot going on around them, which may make it very difficult to focus on the task at hand and hinder their ability to participate (Autism Speaks, 2022, Matusiak, 2022; Seeberger, 2020). There are many strategies stores can adopt to be more sensory friendly, and one strategy may be offering an hour during the shopping day to address the sensory needs of these individuals. This may include dimming the lights, lowering the noise level, limiting the number of shoppers at one time, and limit scents around the store (Autism Speaks, 2022, Matusiak, 2022; Seeberger, 2020). A few other strategies that may be beneficial might include offering noise-cancelling headphones, offer simple sensory kits, make a quiet room or quiet zone available, offering store personnel to help assist these individuals if they need (Clinkard, 2022; Seeberger, 2020). These are just a few strategies stores and their employees can adopt to enhance accessibility and usability for their shoppers that allows them to participate and have equal opportunity (ADA National Network, 2022a; ADA National Network, 2022c).

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In addition to becoming more sensory friendly, stores may also become more accessible and usable to their customers experience cognitive disabilities. In 2020, approximately 10.8% of Americans reported having serious cognitive impairment, meaning they have difficulty with memory, concentration, and making decisions (CDC, 2020b). In 2019, over 3 million children, approximately 4.3% have a disability, and of that percentage, the most common disability was cognitive (Young, 2019). A cognitive impairment also includes intellectual disability, and this may impact an individual's communication, mental, and social skills (Michigan Alliance for Families, 2022). Stores and their employees can become more accessible and usable to these individuals through a number of strategies. These strategies may include ensuring signs are simple and easy to read, customer service locations are apparent and easy to find, ensuring employees are available to assist individuals, and train employees so they understand individuals with cognitive impairments and how they might help them (DREDF, 2021; Retail Council of Canada [RCC], 2019).

Helping these individuals may look like assisting them in locating items in the store or reading labels and price tags, and employees should be provided training on how to best assist these individuals (DREDF, 2021). When training employees on what they can do to make sure the store is more accessible and usable for individuals with cognitive disabilities, employees should be patient with the individual, speak in simple and direct language, speak directly to the individual, and ensure you and the individual both understand what was said (DREDF, 2021; RCC, 2019). While these strategies will enhance accessibility and usability to customers with cognitive impairments, these are also all beneficial strategies to those who experience visual impairments. All of these strategies will help to ensure stores are more accessible and usable for individuals with disabilities and help them complete their daily tasks.

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While being accessible and usable for customers with disabilities is a must, there is not much literature published on the affective and spiritual aspects of stores. There are a number of factors stores look at when targeting shoppers and their mood to shop and buy their products (Waters, 2019; Yoo, Park, & MacInnis, 1998). These factors may include how products are set up and assorted, how displays are put together to market products, variety of products, quality of the products, customer service, return/repair policies, location of the store and space, and the atmosphere including décor, music, and design of the store (Waters, 2019; Yoo, Park, & MacInnis, 1998). All of these factors influence shoppers affect or mood and influence the way they shop. While there is little literature published on the spiritual aspects of store, a few strategies stores could utilize to be more inclusive of their customers is to create a survey and ask individuals what their spiritual beliefs are and how they might be more inclusive. Another strategy is to include more variety of products that are from other countries and spiritualities in order for that store and its products to be more accessible to these individuals.

Environment

In order to better understand the store, the literature was reviewed to answer the following questions:

- Based on literature, what are the physical demands required to use/navigate the environment?
- What are the social demands of the environment?
- What are the cultural aspects of the environment?

These questions were examined during the literature review and will be synthesized in the following paragraphs.

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First, when examining the literature regarding the physical aspect of the environment, this may include the lighting, indoor air quality, temperature, noise level, layout of the store, look of the store and the feel, how inclusive it is, amenities available, and the community space (Better Places for People, 2016). These are all physical aspects of the store environment and have a large influence on individuals when shopping. While these factors should all be at an adequate level to best support individuals going about their daily activity of shopping, accessibility and usability of the physical environment is essential. A few simple ways stores can improve accessibility and usability in the physical environment is to keep aisles clear of large displays or clutter on the ground, ensure employees are available to help assist individuals, make sure all areas of the store are accessible and usable with enough space to adequately maneuver around, and ensure spaces such as restrooms and doorways are accessible and usable (U.S. DOJ, 2009; National Disability Association [NDA], 2014). Using these strategies to enhance the physical environment will help not only individuals with disabilities to navigate the environment more freely, but individuals who do not experience disability as well. Finally, stores should understand how to plan for accessibility, usability, and inclusivity of the physical environment and how they can enhance these areas and most effectively serve individuals.

When examining the literature regarding the social and cultural environment, this consists of a few factors. The social component of the environment may be comprised of groups of people, employees, other shoppers, store delivery personnel, family, friends, among others (Baptiste, 2017). When looking at the social environment within a store may involve employee behavior and interaction with other individuals, interaction between consumers, social norms of the environment and store, and shopping behaviors (Shpak, 2019). When examining the cultural environment, this includes rituals, special foods, behaviors, and costumes of cultures (Baptiste,

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2017). Cultures differ in the ways of prices, advertisements, how they display items, coupons, as well as behaviors when in the store environment (Shavitt & Barnes, 2019; Shpak, 2019).

Individuals orientation and values depending on their culture will also be a large part of the cultural environment (Shavitt & Barnes, 2019). Overall, when examining the social and cultural aspects of the environment there may be differences in behavior patterns, interaction, as well as norms demonstrated in the environment.

Lastly, when touching on the virtual and institutional environment, these include laws and policies impacting the environment, as well as technology and social networks of the environment (Baptiste, 2017). As stated above, there are many laws and policies stores have to comply with in order for be open to the public such as the ADA, USDA, DOJ, among others. Regarding the virtual environment, this may include if the store has a website or app available and that it is accessible and usable to all individuals.

Shopping Demands

The occupation of shopping comes with quite a few demands and in order to better understand them, literature was examined. In order to better understand the occupation of shopping, the literature was reviewed to answer the following questions:

- What does the literature say are the visual and cognitive demands of shopping?
- What are the physical demands of shopping?
- What are current barriers to the occupation of shopping?
- What are the current supports to the occupation of shopping?

These questions were examined during the literature review and will be synthesized in the following paragraphs. Individuals are defined as shoppers and when typically, shopping, and what shoppers bring to the store with them may vary. Shoppers would need a form of

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transportation such as a car, bike, or walking as well as a form of payment. Some shoppers may bring other items such as a bag for their purchased items, a mobility device such as a motorized scooter, wheelchair, walker, etc.

Johns Hopkins University reported that approximately 74.6 million Americans have a physical disability (Monsido, 2021). In addition to physical disabilities, over 300 million Americans experience hearing and vision difficulties, and over 200 million Americans experience cognitive disability, ambulatory disability, self-care disability, and independent living difficulty (United States Census Bureau, 2021b). While understanding this number of individuals experiences a disability of some sort it is important to take this into account when examining the literature through the lens of the model and discussing the occupational demands of shopping.

Vision is also another component when examining the occupation of grocery shopping. There are overhead signs in most grocery and retail stores guiding individuals where to find the items they need, but these still may be difficult for individuals with visual impairments to see. In addition, it may be difficult for individuals to see labels on packaging or small tags, thus impacting the occupation of shopping. The American Foundation for the Blind (2020) discussed adaptations to make grocery shopping more accessible and usable for individuals experiencing visual impairments. One major suggestion was making online shopping more accessible for individuals as well as offering delivery services (American Foundation for the Blind, 2020). It was also noted how offering online or delivery services would enable individuals to order from the comfort of their own home and either have it picked up or have it delivered for a small fee (American Foundation for the Blind, 2020; The Chicago Lighthouse, 2015).

Further, this will reduce the potential stress and anxiety of going through store aisles trying to locate items that may be difficult to locate for individuals with visual impairments

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(American Foundation for the Blind, 2020). A potential problem for some online ordering systems, the authors reported that some stores may not be completely accessible as some products may not have images or complicated checkout processes (American Foundation for the Blind, 2020). If this is not an option for individuals with visual impairments, those with disabilities may ask for a shopping assistant such as an employee or shop with a family member or friend as well (The Chicago Lighthouse, 2015).

The cognitive demands of shopping include being able to make decisions when picking items, spatial awareness of self in store, understanding speech, thought, attention, and reasoning to list a few (AOTA, 2020; Azeez, Gambatese, & Liu, 2019). Further, other demands include memory and ability to recall items needed, ability to read and comprehend writing on signs and items, ability to locate items, ability to understand money and ability to correctly pay for items (AOTA, 2020; Fong et al., 2015). When examining physical demands required when engaging in the occupation of shopping may include and are not limited to strength, coordination, muscle function, movement function, balance, and endurance (AOTA, 2020; Azeez, Gambatese, & Liu, 2019). These physical factors are at play when individuals must push carts, carry items, reach for items, walk or roll themselves in mobility devices. Overall, all of these cognitive and physical aspects include demands of the occupation of grocery shopping and are the functions of the mind and body used throughout.

There are many supports and barriers when examining the occupation of shopping through the lens of the model PEO (Baptiste, 2017). When looking at the barriers, this leads us back to accessibility and usability of stores. When stores are not accessible nor usable this is a huge barrier to individuals with and without disability. Additional barriers may include difficulties with cognition, physical mobility, social, and communication which interfere with an

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individual's ability to complete the occupation of shopping (CDC, 2020a). Supports of the occupation of grocery shopping include assistive technology when there is difficulty with vision, speech, hearing, mobility, among others; employees available to help assist with shopping; as well as laws and policies such as the ADA that help support the occupation of shopping by enforcing spaces to be accessible.

Transactions

After examining and synthesizing the literature, the following transactions were developed to understand what was most important to address in the product to be used by rural retail. In order to have a good fit, store owners need to be informed and apply ADA and usability guidelines to improve the shopping experience. In order to develop a good fit, store owners need to understand grants available in the environment.

The first transaction examines the P (person), E (environment), and O (shopping) and in order for a "good fit" the store owner would need to enhance accessibility by ADA guidelines and apply usability strategies (person – store/store owner), be inclusive of all aspects of the environment (environment), thus creating a transaction for the occupation of shopping (occupation) to be completed, therefore deeming this P x E x O transaction a good fit (Baptiste, 2017). The following transactions all are examples of what a good fit would look like as examples. The second transaction examined is P x E. This would include modifications of the store environment to meet ADA guidelines and usability strategies (person – store/store owner) as well as be inclusive of all aspects of the environment including social, cultural, physical, and virtual (environment). When looking at the transaction between E x O, a good fit would look like the environment being inclusive of the social, cultural, physical, virtual, and institutional aspects and that all items are in the appropriate location, so the occupation of shopping may be

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completed successfully. Lastly, when examining O x P, if the store is compliant with the ADA guidelines, using usability strategies, and items are poorly located throughout the store, the occupation of shopping is able to be successfully completed and this transaction would be a good fit.

These interactions between the model are examples of the transaction and how a “good fit” is determined (Baptiste, 2017). The interactions between the P, E, and the O are crucial as if one of them is off, the transaction will most likely not be a good fit. It is important when examining store accessibility and usability to look through the lens of this model, and assess the level of fit, and if it is not, examine what can be done with the person, the environment, or the occupation to make it a good fit. Therefore, a product that supports stores in examining good fit is needed.

CHAPTER III

Methodology

Chapter III includes the discussion on evaluation of literature on accessibility and usability of retail/grocery stores in rural America. This chapter also includes the theoretical framework used, describes the timeline and procedures of the project, ethical considerations, as well as inclusion and exclusion criteria. The idea surrounding this project was created after spending years working with individuals with disabilities and seeing non-compliance with the Americans with Disabilities Act (ADA) guidelines, thus hindering these individuals access to stores as abled bodied individuals or individuals without disabilities do. This led to the author seeking out advocacy for ADA accessibility and usability of rural grocery/retail stores for this project in order to develop a product for stores to use to overall enhance these areas for customers.

Timeline of Project

The timeline of this project was broken down into fourteen weeks split between two sites. At each site the author had a weekly schedule compiled with objectives and learning activities that served as a guideline to stay on track when accomplishing the project. The groundwork of the project included completing a needs assessment and literature review. The first few weeks of the project included reviewing laws and policies regarding accessibility and usability, synthesizing literature on effective advocacy strategies, examining local organizations that advocate for accessibility, and selecting a tool to analyze public spaces to assess accessibility. The author tested out various checklists from state and federal organizations at both sites to

determine level of accessibility in order to better inform the product. The latter part of the project consisted of analyzing grants that supported funding accessibility in public spaces, continuing to form the tool for the project and examining how laws and policies impact accessibility and usability in public spaces. The author compiled a table of various funding sources from both state, federal, and private funding sources that would be viable options for enhancements in accessibility and usability of the sites.

Procedures for Completing the Project

The starting phases of reviewing literature for this project did not yield many current results in relation to grocery store accessibility, let alone usability. Databases such as CINAHL, PubMed, EBSCO were search as well as the United States Department of Agriculture (USDA), ADA, Department of Justice (DOJ), Google Scholar, online textbooks, among others with key words and phrases to yield information. These key terms and phrases included “Americans with Disabilities Act,” “Accessibility,” Usability,” and “occupational therapy.”

After reviewing literature, the author and the author’s advisor met with Sandy Hanebrink, OTR/L who is an expert in ADA and accessibility of public spaces to gather more information on the need for accessibility and usability in public spaces. The author also met with another ADA expert, Robin Ann Jones who is the Director of the Great Lakes ADA Center in Chicago Illinois to learn more about laws, policies, and funding options related to accessibility and usability (University of Chicago Illinois, 2022). After the author completed the initial literature searches, needs assessment, literature review, and met with expert individuals in accessibility and usability, the author identified the importance of the project. In addition, the author also identified the lack of current literature on the impacts of accessibility and usability.

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The author found gaps in the literature related to the cultural and social norms of stores as well as a large gap relating to store owners' knowledge of disability and promoting an accessible, usable, and inclusive space for individuals with disabilities. The gaps in the literature led to the creation of the project and developing a manual for store owners to use in order to assess accessibility and usability of their stores. Further, this manual was developed for store owners to gain further insight into disability and how it may impact shopping experience, and what store owners can do to enhance accessibility and usability of their store.

Inclusion and Exclusion Criteria

Inclusion criteria for this project included rural areas, populations 250,000 or less, published 1999 or after, and published in English. Exclusion criteria included urban areas, populations over 250,000, published before 1999, not published in English and any material not related to accessibility or usability.

Ethical Considerations

Regarding ethical considerations in this project, there was no testing on human subjects therefore Institutional Review Board (IRB) approval was not warranted. Throughout this project development, the author was working within the stores and asking customers thoughts on accessibility and usability of the store to further enhance the development of the product. Each customer was asked questions, prior consent was obtained in the way of asking customers permission to ask a few questions.

Project design described including theoretical framework

There are several occupation-based models, and the two the author had chosen between were the Person-Environment-Occupation (PEO) Model (Baptiste, 2017) and the Ecology of Human Performance (EHP) Model (Dunn, 2017). The author viewed the principles of each

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model and chose the Person-Environment-Occupation Model (Baptiste, 2017) as the guiding model for the project. One of the main principles of PEO is that “An individual’s satisfaction with his or her functioning has a direct relationship to the ‘fit’ between the person, environment, and occupation” (Baptiste, 2017). This main point of the model was one of the leading reasons for selection in guiding this project, as when changes are made, such as changes to accessibility and usability of the environment, it can greatly impact participation in daily activities (Baptiste, 2017). After reviewing literature, the need was identified for increased accessibility and usability within stores for individuals with disabilities, especially those who use wheelchairs for mobility. With proper modifications to enhance accessibility and usability of public spaces, this can drastically improve an individual’s overall health, well-being, and participation within their community when able to complete their daily activities (Chibaya et al., 2021; Sandwood, 2019).

The “Person” part of this model includes the physical, cognitive, sensory, affective, and spiritual aspect of the individual (Baptiste, 2017). These aspects of the person all interact with the environment and occupation, forming transactions throughout daily activities (Baptiste, 2017). The “Environment” aspect of this model includes physical, social, cultural, institutional, and virtual, and are what surround the individual (Baptiste, 2017). The “Occupation” part of the model consists of “self-directed tasks that a person engages in over the course of their life” and these include self-care, productivity, and leisure (Baptiste, 2017). All of these components of the PEO model were evident throughout the literature and when designing the product. When designing this project through the lens of PEO, the person is the grocery store itself, the occupation is shopping, and the environment are the aspects of the store. When looking at the transaction between the P, E, and the O, they each must have a transaction that creates the best “fit” for the individual (Baptiste, 2017).

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When the literature was examined through the P, E, and O components of the model, the author broke the information down into tables exemplifying the aspects of the store and individual in relation to the model. The author then completed transactions such as P x E, P x O, E x O, and P x E x O to best inform the development of the product.

CHAPTER IV

Results

The purpose of this manual, *Enhancing Accessibility and Usability in Rural America: Minnesota Store Owner's Manual*, is to increase accessibility and usability of stores in rural America. Further, this manual was developed to assist store owners in viewing their store through the lens of someone experiencing disability, how their shopping experience may be impacted, and what strategies can be adopted to enhance their experience. With implementation of this manual, store owners will have several tools and resources to assess for accessibility and usability, as well as information related to the laws and potential funding sources to cover the cost of any accessibility and usability changes.

Included in the manual is: (a) Template for Self-Evaluation & Action plan, (b) a Store Profile for store owners to use and reflect upon for necessary change to enhance accessibility and usability, (c) information on knowledge of disability and common terms used, (d) information on related laws, potential funding options, and tools to assess for accessibility and usability, (d) a narration of shopping demands, (e) modifications to task demands to enhance usability of stores, (d) case examples and usability strategies, and (e) a final case example illustrating the use of the manual and application of the Template for Self-Reflection & Action Plan. A complete copy of the manual can be found in Appendix A.

CHAPTER V

Summary

The purpose of this guide was to increase accessibility and usability for shoppers in rural America. The information for this scholarly project was found through completion of a needs assessment and literature review from various resources. These resources include databases such as Academic Search Premier, PubMed, CINAHL, as well as credible national organizations such as the ADA National Network, the Department of Justice, the United States Department of Agriculture, among many others. Upon completion of the needs assessment and literature review, the following gaps were identified: (a) lack of accessibility of public spaces, (b) lack of usability of public spaces, and (c) lack of support from local organizations that advocate for enhancement of accessibility and usability in public spaces such as stores. Due to these gaps, a need was identified for the development of a guide to enhance accessibility and usability of stores in rural America. As a result of this, *Enhancing Accessibility and Usability in Rural America: Minnesota Store Owner's Manual* was developed for store owners to use to enhance the necessary areas of their store to be more accessible and usable for shoppers.

Model

This project was developed through the lens of the Person Environment Occupation (PEO) Model (Baptiste, 2017). The PEO model was chosen as it examines the transactions between the person, environment, and occupation and provides a unique perspective when looking at the fit between them (Baptiste, 2017). When looking at the person, in this case the

store/store owner, the environment, the physical, social, and institutional environments, and the occupation, which is shopping, the transactions provide important information through the development of this product. When examining the transactions, transactions help to identify needed changes to enhance accessibility and usability to create the best fit. The purpose of this guide is to assist store owners in not only enhancing accessibility and usability but to also look through the lens of this model and those experiencing disability to create the best fit for shoppers.

Implications

This guide was created in hopes that it will be used by store owners as well as occupational therapy practitioners to advocate for the importance of accessibility and usability in public spaces to enhance engagement in occupation for all individuals.

Future Recommendations

One future recommendation would be to have occupational therapy practitioners use the product with advocacy and in consultation with businesses. Another recommendation would be to gather feedback from additional store owners. This product was developed in collaboration with two sites along with the authors and would benefit from further feedback from additional store owners and occupational therapy practitioners.

Strengths and Limitations

One strength of this product has been that the need was identified and the hope of this product is to work toward filling that need. Another strength so far has been positive feedback from store owners and was created in collaboration with these individuals. Another strength would be that it was designed for ease of use and for any individual to apply to their store. One of the largest limitations is the short-time frame of developing the product and time spent

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piloting the tool, which was approximately three months. This product would benefit from further feedback and time spent piloting at additional store sites.

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Appendix A



Arbyreed (2016)

Enhancing Accessibility and Usability in Rural America: Minnesota Store Owner's Manual



Bart Everson (2011)

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Introduction

This manual, *Enhancing Accessibility and Usability in Rural America: Minnesota Store Owners Guide*, was created to assist the store owner in enhancing accessibility and usability of the store. This manual was developed with several tools and resources for store owners to use to enhance accessibility and usability to increase the shopping experience. The template above is designed as a supplemental tool to use alongside this manual and guide store owners through each step. This manual was developed using the Person-Environment-Occupation (PEO) Model as a guide which examines the relationship between the person, the environment, and occupation (Baptiste, 2017). The PEO Model also has a unique perspective as it examines the relationship between these components to create the best fit (Baptiste, 2017).

This manual is divided into three main sections following the model which are, the person, environment, occupation, with case examples to guide store owners. The person, which in this case is identified as the store/store owner, includes the (a) store profile, (b) knowledge of disability, and (c) common terms used throughout. The environment section, which in this case is the physical, social, virtual, institutional environment of the store, contains (a) required laws and application to stores, (b) tools that can be used to assess stores and the level of accessibility and usability, and (c) information on funding changes to enhance accessibility and usability of stores. The occupation section, in this case is identified as shopping, includes (a) a narrative of taking a trip to the store and discussion of various factors that go into going shopping as well as (b) task modifications and usability strategies, and (c) case examples illustrating usability strategies. Each of these sections will further the store owner's understanding and provide strategies to enhance these areas.

Important Note

If the user of this manual has any further questions, please contact an occupational therapist for consultation. To find one in Minnesota, the user may contact the Minnesota Board of Occupational Therapy Practice at (612) – 548 – 2179 or through email, at occupational.therapy@state.mn.us. It is important to reach out to an occupational therapist for further consultation as they have the knowledge and skills for collaboration and when looking at the person, environment, and occupation for the best fit of the environment (Baptiste, 2017).

Template for Self-Evaluation & Action Plan

This template will serve as a supplemental tool to the manual and guide you, the store owner through each step and assist you in enhancing accessibility and usability of your store. Please follow each step below.

Person

Numbers 1 and 2 pair with the person section. This section will have a person icon above it as shown below. The person section is identified as the store/store owner and will cover the store profile, knowledge of disability, and common terms. You will have finished the person section once you see the environment section with the store icon on the top of page 18 of the manual.



Microsoft Icon

1. **Ask questions and complete the store profile.** The first step is to answer questions and complete a short profile of the store. Completing the store profile will assist you in reflecting upon the why and how your store is set up the way it is as well as start thinking about individuals experiencing disabilities and their shopping experience in your store. Please turn to the person section on **page 13** and complete the store profile.

2. **Review knowledge of disability and common terms used.** Please turn to **pages 14-17** with the matching blue color in the person section in the manual and review these topics. This will further your understanding of disability, how individuals with disabilities shopping experiences may differ, and understand common terms used regarding accessibility and usability. Please use the space below for reflection.
 - a. **What is something new you learned?**

4. **Examine tools related to accessibility and usability.** Please turn to **pages 28-32** and review tools to assess for accessibility and usability of your store. Tables 3-5 review tools available to assess accessibility and usability of the physical and virtual environment. Each table includes a description of each tool, a link to the tool, and pros and cons of each tool.

a. **Are there areas of your store you feel need further assessment?**

b. **Which tool(s) might you select to further assess these areas of your store?**

c. **What are areas of strength in your store? (What are you already doing well that demonstrates accessibility and usability)**

d. **What are potential areas of growth in your store?**

5. **Review potential funding options.** Please turn to **pages 33-36** and review potential funding options. Each icon is hyperlinked with a description of each funding source.

a. **What are potential funding options for your store?**

Action Plan

Now that you have completed steps 1-6, the next step is to complete an action plan. For your action plan, create 2-3 objectives, plans, or ideas you now have to increase the accessibility and usability of your store. These plans might be to include a printed-out map with large print for those with visual difficulty or to apply for funding and make changes to the necessary areas of the store.

1.

2.

3.



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Person

This section includes information on the person, which is defined as the store/store owner. There are endless factors that go into the layout and set up of your store for customers and gaining a better understanding of disability and common terms used important to consider when thinking about these factors. This section includes the store profile, knowledge of disability, and common terms used to allow for reflection and further understand disability, accessibility, and usability.

Store Profile

The store profile is intended for store owners written reflection on the questions listed. Please reflect on and answer each of the questions below. This section pairs with number 1 on the Template for Self-Evaluation & Action Plan starting on page 7.

1. When you consider the layout of the store, what factors do you consider as your top priorities?
2. What are methods and/or reasons for the layout of your store?
3. How does product placement impact the layout of your store?
4. When setting up your store, are individuals with disabilities also taken into consideration? Please explain.
5. In what ways do you feel your store is accessible and usable for individuals with disabilities?
6. What do you feel you could do to enhance accessibility and usability of your store?

Knowledge of Disability

This section pairs with number 2 on page 7 on the Template for Self-Evaluation and Action Plan.

◇ **What is a disability?**

A disability is an impairment of the mind or body that creates difficulty for the individual with the condition that impacts their ability to participate in daily activities (Center for Disease Control [CDC], 2020c). According to the Americans with Disabilities Act (ADA), an individual with a disability is defined as someone who has mental or physical impairment that hinders at least one life activity (2022). An individual who has a disability may have difficulty with their hearing, remembering, vision, mental health, communicating, socializing, movement, or learning (CDC, 2020c).

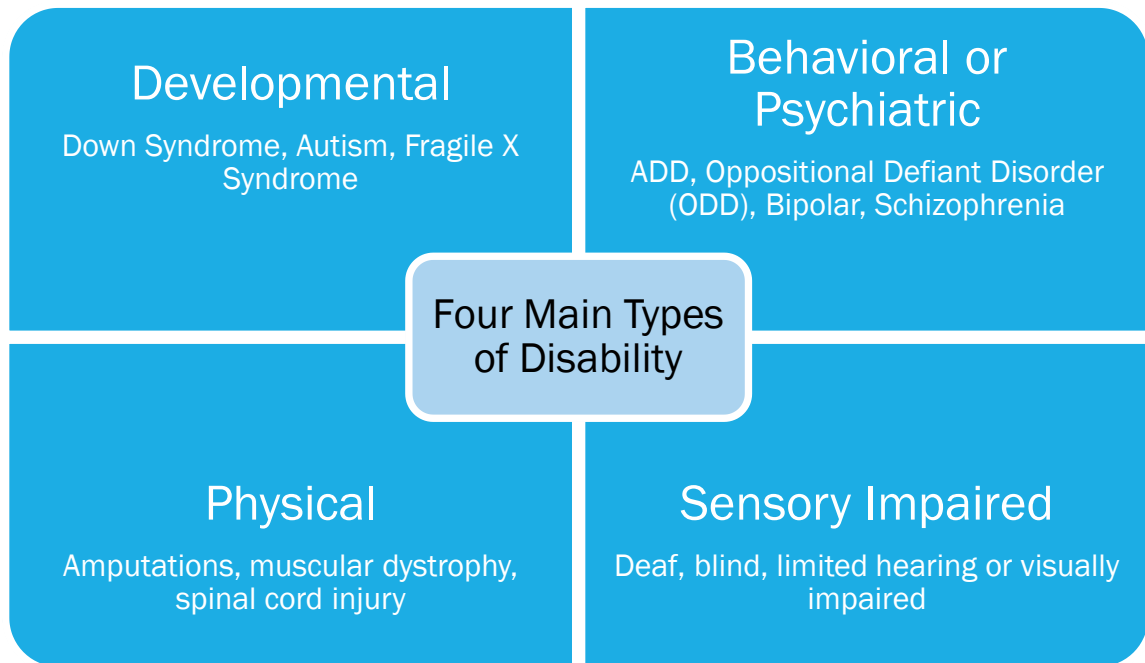
◇ **What are the types of disability?**

There are four main types of disability which include developmental, behavioral or psychological, physical, or sensory impairment (Landmann, 2018). In addition, there are also neurological disabilities that are related to nervous system damage and as a result an individual suffers loss of function mentally or physically (National Educational Association of Disabled Students [NEADS], 2022). This may impact an individual's ability to manipulate objects as well as their ability to process information (NEADS, 2022). Examples of the types of disabilities are listed in the table below.



Microsoft Icons

Figure 1
Four Main Types of Disability



(Landman, 2018; NEADS, 2022)

◇ **How might a disability impact shopping?**

For example, someone may have difficulty moving around due to a physical disability and require the assistance of a mobility device such as a wheelchair, walker, or motorized scooter. Additionally, someone who has an intellectual disability may require assistance with decision making, finding items, and paying for them. Any type of disability may result in someone requiring extra assistance with shopping, moving around the store, and checking out and paying for items as a result.



Microsoft Icon

Common Terms Used

This section pairs with number 2 on page 7 on the Template for Self-Evaluation and Action Plan.

◇ **Accessibility**

Accessibility is defined as “the quality of being easy to approach, reach, enter, speak with, use, or understand; the quality of being usable, reachable, obtainable, etc.”

(Dictionary.com, n.d.).

◇ **Usability**

Usability is defined as the “effectiveness, efficiency, and satisfaction with which a specified set of users can achieve a specified set of tasks in a particular environment”

(Burgstahler, 2021; University of Washington, 2022).

○ **Universal Design**

This term is also closely related to the term “inclusive design” which is defined by The Center for Universal Design (2008) as “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (Burgstahler, 2021; University of Washington, 2022). This definition has been refined and updated within the last few years and states that universal design is, “a process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation” (Maisel & Ranahan, 2017; Maisel & Steinfeld, 2012).

◇ **Built Environment**

The built environment is one that “touches all aspects of our lives, encompassing the buildings we live in, and transportation systems that provide us with water and electricity, and the roads, bridges, and transportation systems we use to get from place to place” (United States Environmental Protection Agency [EPA], 2022). Further, the built environment is also “described as the man-made or modified structures that provide people with living, working, and recreational spaces (EPA, 2022).



Microsoft Icon



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Microsoft Icon

Environment

This section pairs with numbers 3-5 on pages 8 and 9 of the Template for Self-Evaluation & Action Plan. This section includes information on the environment, which is defined as the various environments such as the physical and social environments of the store. This section includes the laws and their application to your store, potential funding sources to cover the costs of changes regarding accessibility and usability, and tools you can use to assess your store.

Laws

There are disability laws and policies at the federal and state level regarding accessibility that all businesses and public spaces are required to follow. Section 508 of the Rehabilitation Act (Section 508) and the Americans with Disabilities Act of 1990 are a few main Federal laws that impact accessibility, and the MN Statutes 16E.03, 363A.42, and 363.43, and the State of Minnesota Accessibility Standard are the state laws regarding accessibility in Minnesota (Minnesota IT Services, 2020). In tables 1 and 2 the federal and state laws are displayed as well as an explanation of how the law may impact the store. Figures 5-10 include a breakdown of the ADA laws and application of them to the store.



Microsoft Icon



Microsoft Icon



Microsoft Icon

Table 1

Application of Federal Laws to the Store

Federal Laws		
Law	Description of Law	What does this mean for your store?
Section 508 of the Rehabilitation Act (Minnesota IT Services, 2020; United States Environmental Protection Agency [EPA], 2022)	Forbids all programs that are funded using Federal assistance against discrimination in regard to disability. Requires that federal organizations make electronic and IT (Information Technology) accessible to individuals experiencing disability.	This means that all employees with disabilities must be able to complete their work and training tasks on accessible devices. This also means that any individuals with disabilities must be able to access any website or online information.
Americans with Disabilities Act of 1990 (Minnesota IT Services, 2020)	Forbids discrimination against those experiencing disability and ensures equal opportunity for all.	This federal law is broken down into five separate sections or titles that all public spaces must follow to ensure equal opportunity for all.
Architectural Barriers Act (ABA) of 1968 (Office of the Assistant Secretary for Administration & Management, 1986)	This law states, “as amended, stipulates that all buildings which as (1) financed with Federal funds, and (2) intended for use by the public, or which may result in employment or residence therein of physically handicapped persons to be designed and constructed in accordance with standards prescribed by the ABA to ensure that such buildings are fully accessible to and usable by handicapped individuals.”	Store owners are required by the ABA to ensure their facility is accessible and usable by these standards. For more information, the link to these standards can be found below in Table 3 of Tools.

Table 2*Application of State Laws to the Store*

State Laws		
Law	Description of Law	What does this mean for your store?
<p>MN Statute 16E.03</p> <p>(Minnesota IT Services, 2020; Minnesota Legislature, 2021a; Office of the Chief Information Officer, State of Minnesota [MN], 2018)</p>	<p>Subdivision 9, effective 7/1/2009 or when standards become effective – requires that all organizations of the state follow the guidelines for accessibility as stated by the State Chief Information Officer.</p>	<p>Store owners can find the most current guidelines from the Minnesota State Chief Information officer here:</p> <p>https://mn.gov/mnit/assets/accessibility-guidelines-2018_tcm38-336072.pdf</p>
<p>MN Statute 363A.42</p> <p>(Minnesota Council on Disability, 2017; Minnesota IT Services, 2020; Minnesota Legislature, 2021b)</p>	<p>Effective 1/1/2013 – when documents (public records) are inaccessible after the effective date, this Statute provides penalties to the organizations that are not accessible.</p>	<p>Ensure all documents are accessible by following the ADA accessibility guidelines regarding online content. The Minnesota Council on Disability has created the “ADA Digital Toolkit: A Guide to Digital Accessibility” on the following link:</p> <p>https://www.disability.state.mn.us/information-and-assistance/digital-accessibility/</p>
<p>MN Statues 363.43</p> <p>(Minnesota IT Services, 2020; Minnesota Legislature, 2021c)</p>	<p>Effective 1/1/2013 – requires that all materials in professional development and/or continuing education courses are in accessible formats to those with disabilities.</p>	<p>As a store owner, ensuring all content related to employee trainings, work related tasks, and other materials are in formats accessible to individuals with disabilities.</p>
<p>State of Minnesota Accessibility Standard</p> <p>(Minnesota IT Services, 2020; W3C WAI, 2020)</p>	<p>“Requires all State information systems, tools, and information content to comply with WCAG 2.0 Level AA compliance and to comply with selected provisions of Section 508 or to apply for a written exception.”</p>	<p>WCAG stands for Web Content Accessibility Guidelines and describes how online web information such as can be made more accessible to individuals with disabilities.</p>

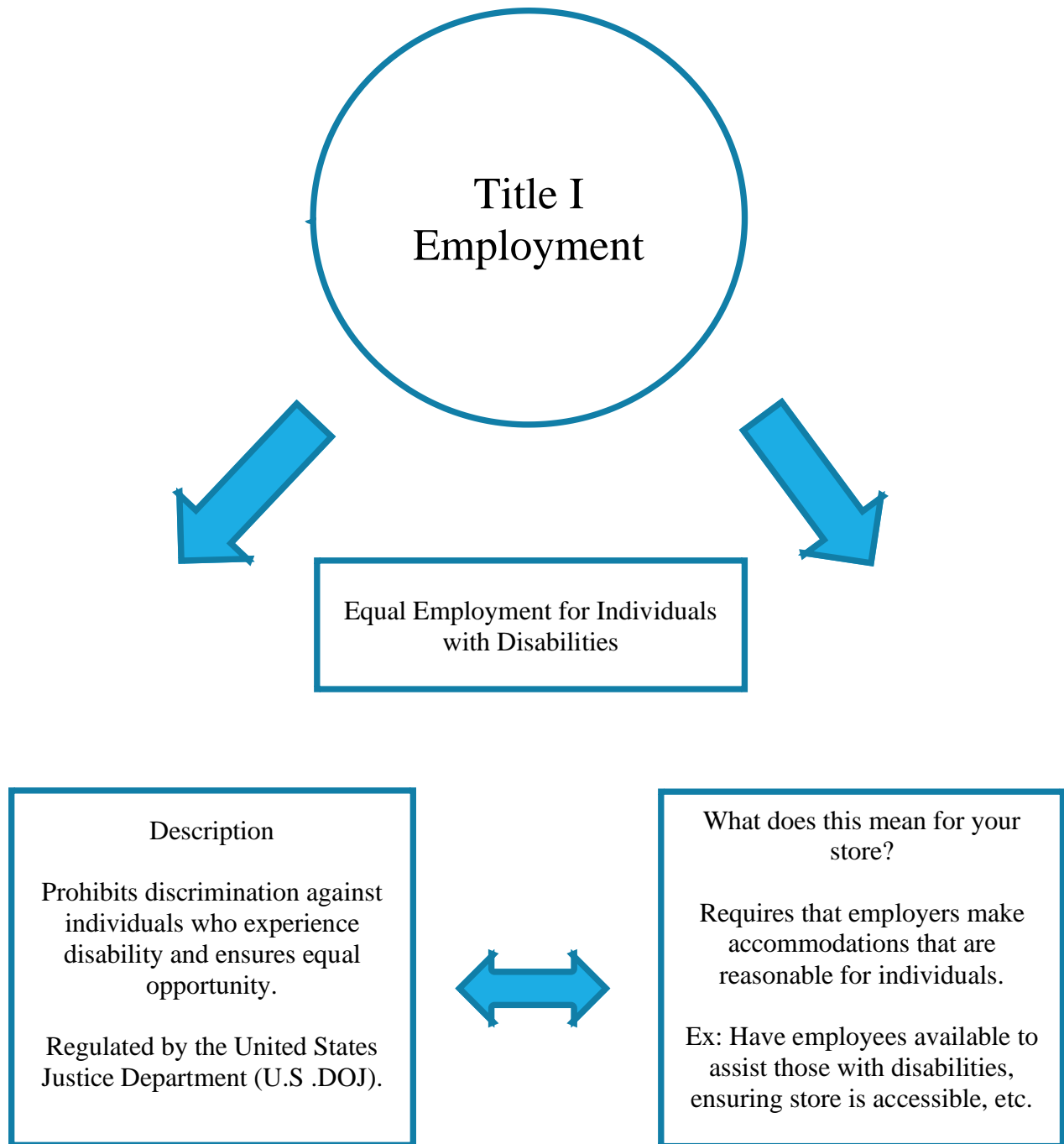
ADA Laws

This section pairs with number 3 on the Template for Self-Evaluation & Action Plan on page 8. In addition to the overview of laws provided in Tables 1 and 2, the Americans with Disabilities Act (ADA) is broken down into five titles or sections that apply to public spaces and protects individuals with disabilities (ADA National Network, 2022a). The following pages contain a figure of each ADA Title stores can use for quick reference and understanding, Figures 2-7. Figures 2-7 on the following pages include each title, a description of the title, and how each title may impact your store.



Figure 2

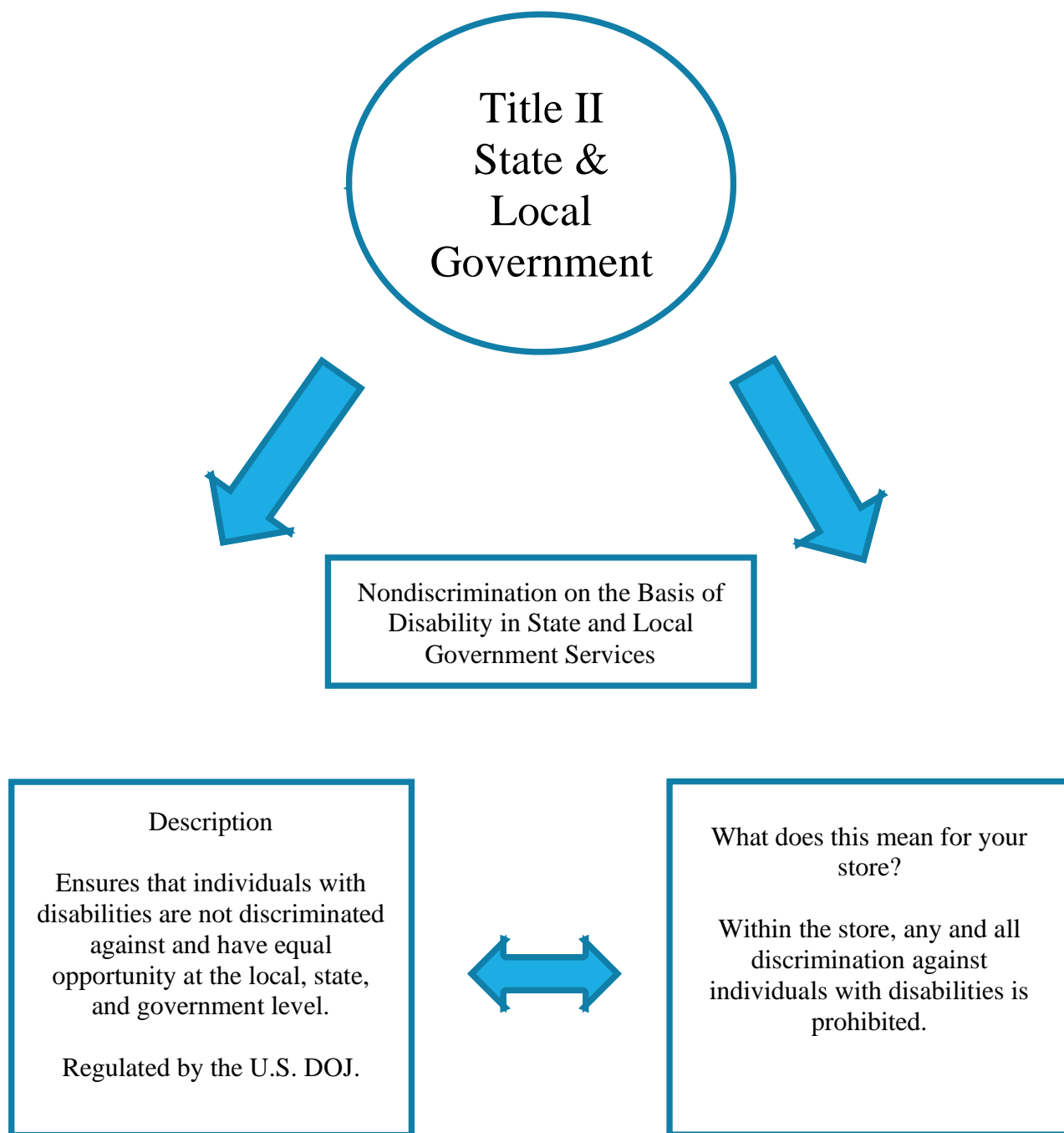
What does this mean for your store?



(ADA National Network, 2022a)

Figure 3

What does this mean for your store?



(ADA National Network, 2022a)

Figure 4

What does this mean for your store?

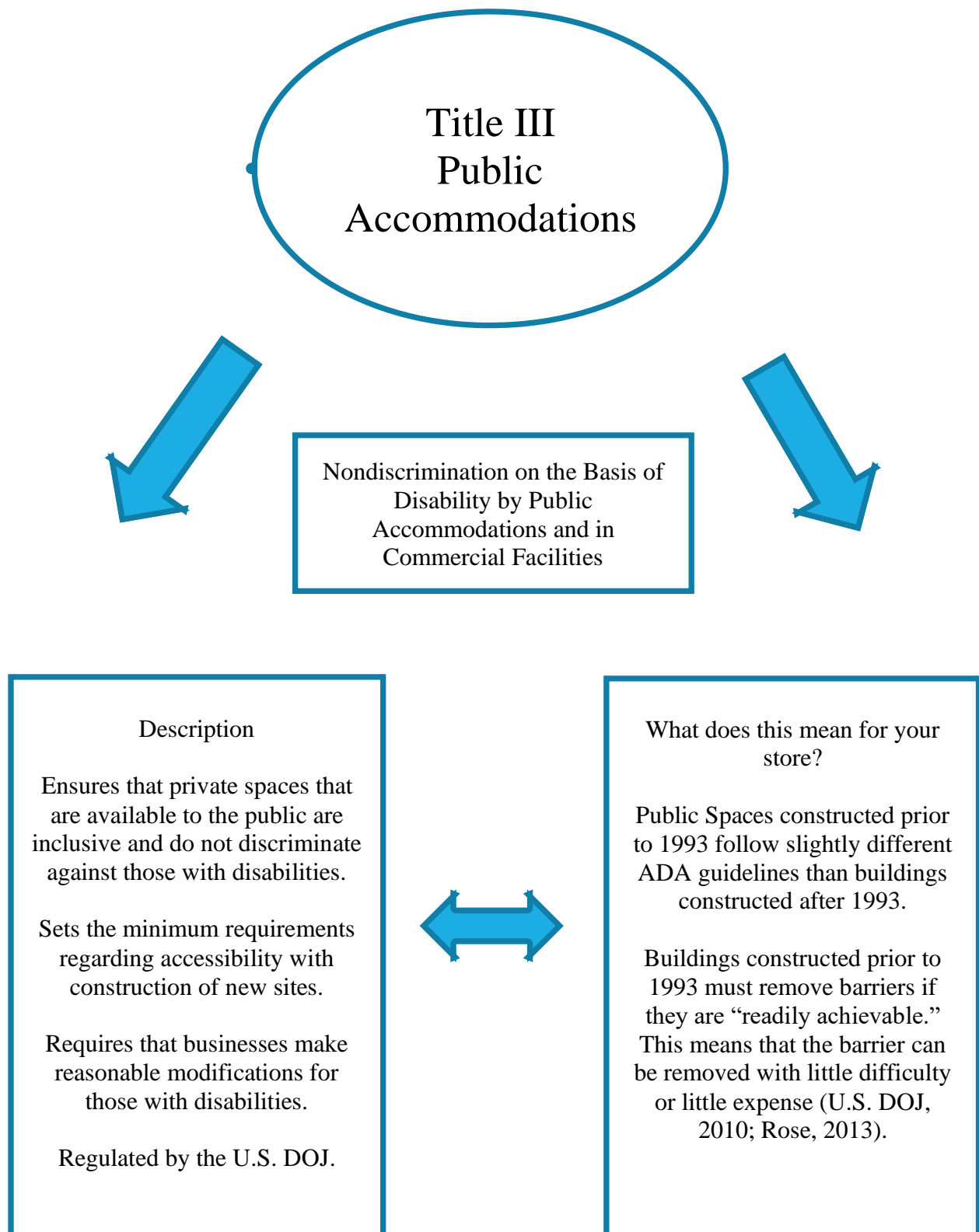
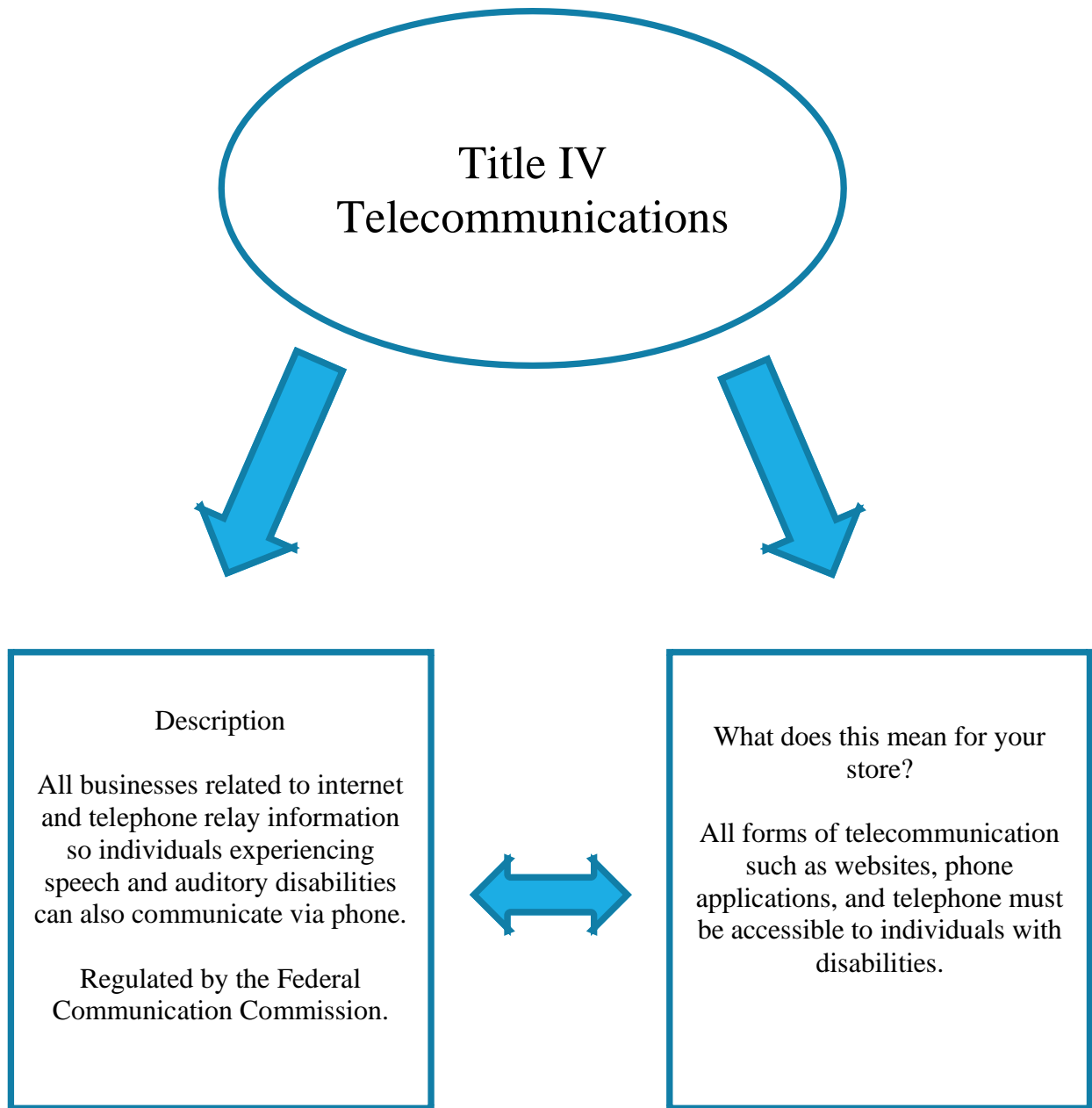


Figure 5

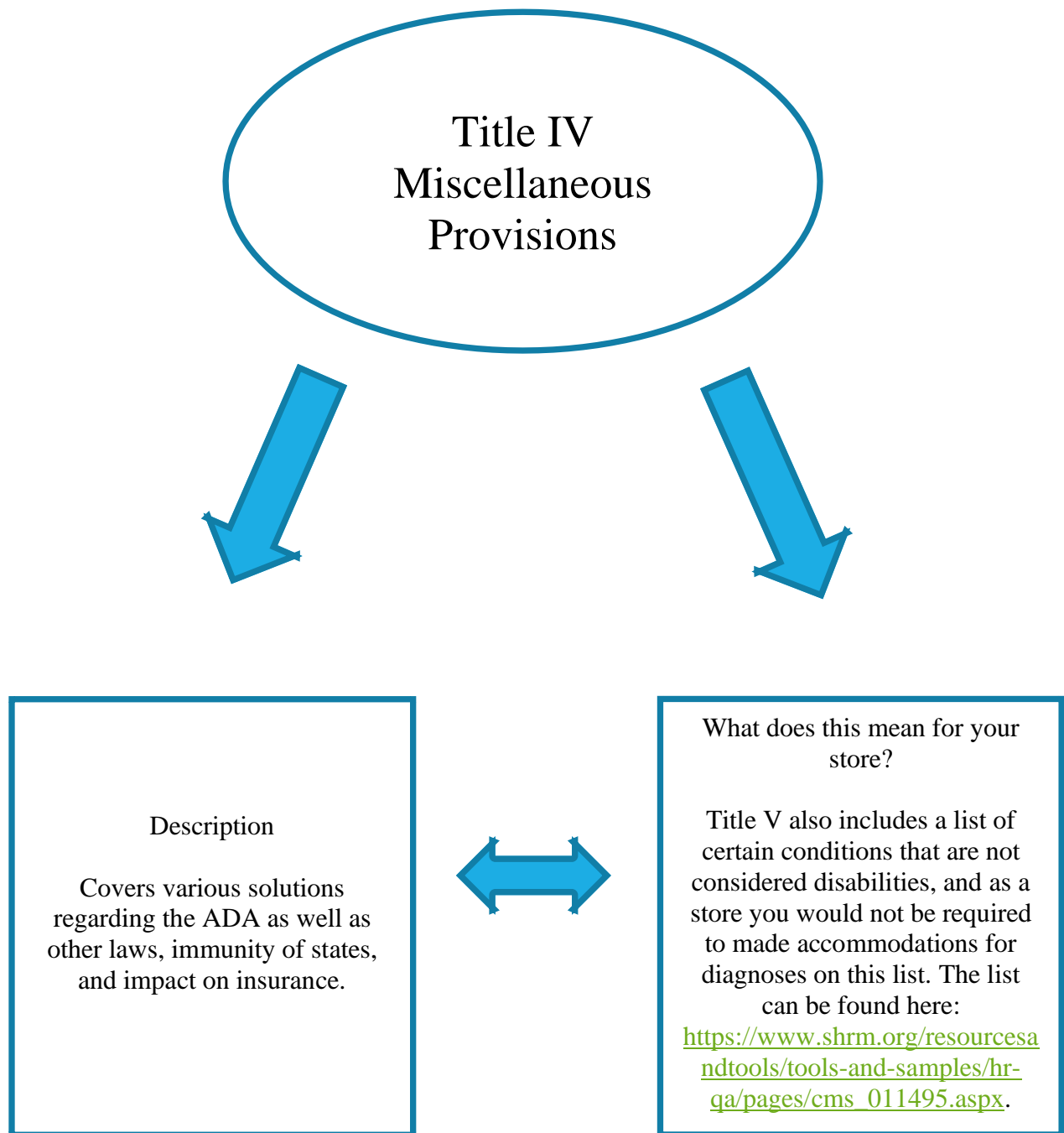
What does this mean for your store?



(ADA National Network, 2022a)

Figure 6

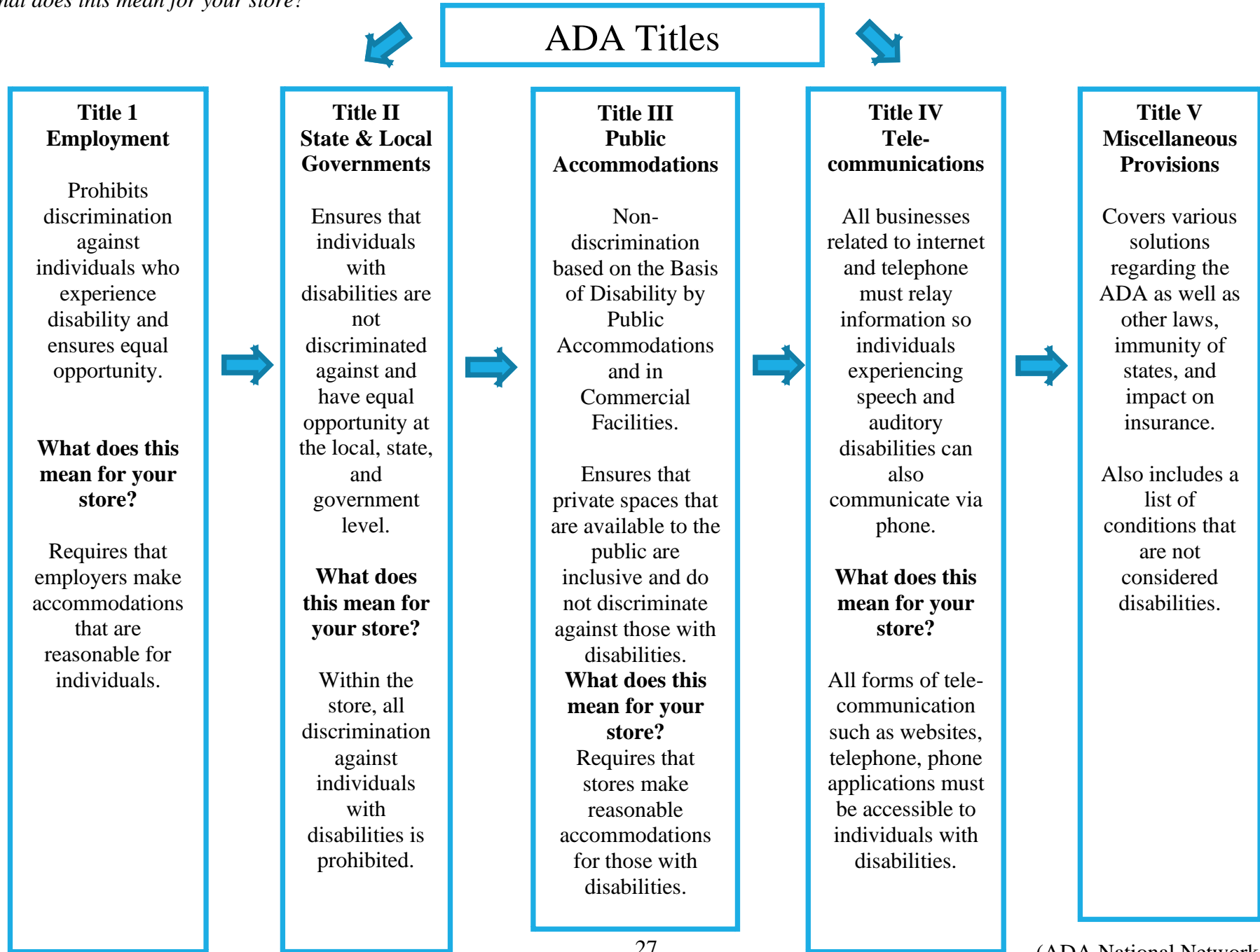
What does this mean for your store?



(ADA National Network, 2022a)

Figure 7

What does this mean for your store?



Tools

This section pairs with number 4 on the Template for Self-Evaluation & Action Plan on page 9. There are several tools available related to accessibility and usability/universal design. Tables 3, 4, and 5 below are a compilation of tools including guides and checklists for accessibility, accessibility and usability of websites and digital content, as well as usability and universal design.

The compilation is not an exhaustive list.

Table 3

Assessing Accessibility of the Physical Environment

Accessibility			
Title of Tool	Description	Link & How To	Pros & Cons
U.S Department of Justice - Checklist for Maintaining Accessible Features	A brief checklist compiled with twenty-five yes or no questions regarding all areas of the establishment. <p style="text-align: right;">(U.S. DOJ, 2009)</p>	Click here How to use: Click the link above to review the checklist. You can print the checklist if you wish and move through each question on the checklist to assess the areas of the facility.	Pros: Brief Cons: May need to use additional tool to assess store in greater detail
2010 ADA Standards for Accessible Design	A guide containing all ADA requirements for local government facilities, public accommodations and commercial facilities, and	Click here <i>How to use:</i> Click the link above to review the pdf guidelines for requirements of each area. This is not a	Pros: Guidelines for accessible standards Cons: Provides detailed guidelines but does not provide a checklist within the guide

	standards for Title II and Title III facilities. (Department of Justice, 2010)	checklist but provides extensive information on the ADA requirements.	
U.S Access Board Guide – Architectural Barriers Act (ABA) Standards (2015)	A guide that applies to all spaces that are built, leased, designed, or altered using federal funding.	Click here <i>How to use:</i> Click the link above to review each chapter of the ABA guidelines for your facility.	Pros: Includes all necessary standards and requirements of business Cons: Provides detailed guidelines and technical measurements which may be difficult to follow
Minnesota (MN) Council on Disability	The MN Council on Disability has a webpage full of information and resources on how to identify barriers, resources on assessing for accessibility, various quick reference guides such as disability parking, accessible entrance, accessible toilet rooms, and more.	Click here <i>How to use:</i> Click the link above to view all the available resources. Under “Access Tools” there are downloadable documents including quick reference guides and accessibility checklists.	Pros: Includes short and long checklists on various areas of the store Cons: May need to consult with an ADA specialist or MN Council on Disability for questions related to the technicality of measurement within checklists
Uniform Federal Accessibility Standards (UFAS)	Guidelines for following proper requirements according to the Architectural Barriers Act.	Click here <i>How to use:</i> Using a device to access this online content, click the link above and review the guidelines. For guidelines on stores, this can be found under section 7, Mercantile.	Pros: Contains valuable guidelines to follow, website is easy to follow when looking at requirements Cons: Easy to use but technical terms with measurements may be difficult to follow without consult or reaching out to UFAS

<p align="center">USDA Accessibility Checklist A</p>	<p>The USDA developed a six-page checklist to assess accessibility of public spaces.</p>	<p>Click here</p> <p><i>How to use:</i> Click the link above to use the checklist. It may be easiest to print it out as you go through and assess each area on the checklist.</p>	<p>Pros: Relatively brief as a six-page checklist</p> <p>Cons: Technical terms with measurements in each area that may be difficult to follow without assistance or consult</p>
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Table 4
Assessing Usability/Universal Design of Environment

<p align="center">Usability – Universal Design</p>			
<p align="center">Title of Tool</p>	<p align="center">Description</p>	<p align="center">Link & How To</p>	<p align="center">Pros & Cons</p>
<p>Universal Design: What is it?</p>	<p>This tool is a webpage that includes information on universal design (UD) and UD principles.</p>	<p>Click here</p> <p><i>How to use:</i> Click the link above to access further information on understanding UD.</p>	<p>Pros: Includes a good introduction that is easy to follow and explains what universal design is as well as the principles</p> <p>Cons: Does not include a checklist.</p>
<p>Universal Design Handbook</p>	<p>This handbook has all information on universal design, principles, accessibility related to UD, and UD related to public spaces.</p>	<p>Click here</p> <p><i>How to use:</i> Click the link above to access the online version of the UD Handbook. Part one discusses UD, part two discusses the principles and standards of UD, and part four discusses public and private spaces.</p>	<p>Pros: Thorough information on universal design and how it applies</p> <p>Cons: Provides great detail, may require consultation from an expert to appropriately assess universal design of space</p>

Table 5

Assessing Website Accessibility & Usability of the Environment – Universal Design/Usability

Website Accessibility & Usability			
Title of Tool	Description	Link & How To	Pros & Cons
Accessibility Fundamentals Overview	<p>The W3C Web Accessibility Initiative (WAI) has introduced website accessibility, why it is important, how to make your website accessible, and examples.</p> <p>(W3C WAI, 2013)</p>	<p>Click here</p> <p><i>How to use:</i> Click the link above to review website accessibility. The side bar on the left side of the page has various tabs you can click on to review various components of website accessibility. Click the link above to review website accessibility.</p>	<p>Pros: Includes valuable information regarding what website accessibility is, how to improve accessibility and usability, written in an understandable way for most individuals</p> <p>Cons: Some terms may be difficult to understand for some users, may require consult from specialist to further understand requirements</p>
Website Accessibility Under Title II of the ADA	<p>This webpage includes information on why websites should be accessible, basic terms, barriers individuals face as well as solutions, and how to develop a successful plan to ensure web accessibility.</p>	<p>Click here</p> <p><i>How to use:</i> Click the link above to review the ADA guidelines on website accessibility.</p>	<p>Pros: Relatively brief, includes an easy-to-understand introduction for those who do not understand website accessibility, easy to follow</p> <p>Cons: Strictly for websites, does not include requirements for phone applications</p>
Chapter 5 Addendum: Title II Checklist (Website Accessibility)	<p>This checklist follows the ADA guidelines and is designed to assess the accessibility of your facilities website.</p>	<p>Click here</p> <p><i>How to use:</i> Click the link above. It may be easiest to print this checklist and check</p>	<p>Pros: Brief, easy to follow</p> <p>Cons: Is a preliminary assessment, requires assistance from a website manager</p>

	Composed of twenty-six yes or no questions.	yes or no when answering the twenty-six-question checklist.	
ADA Digital Toolkit: A Guide to Digital Accessibility	This document provided by the MN Council on Disability designed to guide you through digital accessibility, what it is, barriers, and more.	Click here <i>How to use:</i> Click the link above to download the toolkit to review.	Pros: Thorough, includes information on all digital content not just regarding websites Cons: Lengthy
Usability and Accessibility Web Guidelines	This PowerPoint from Ashenfelter (2013) with the U.S. Census Bureau includes related information on guidelines for website accessibility and usability.	Click here <i>How to use:</i> Click the link above to review the brief PowerPoint on how to ensure website accessibility and usability for users.	Pros: Brief, includes examples Cons: May need to use an additional checklist or guidelines as this is very general

Funding

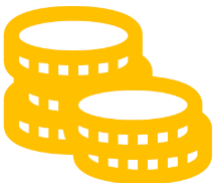
This section pairs with number 5 on the Template for Self-Evaluation & Action Plan on page 9. When looking at potential options to fund enhancements for stores related to accessibility and usability, there are several options. There are federal, state, and local grants available as well as private organizations that offer funding. Below are hyperlinked icons with the name of the grant, a brief description, and by clicking on the icon, it will bring you directly to the funding source site for further information. There may be deadlines that have passed but reaching out to the listed contact person store owners may be provided with information on applying the following cycle or redirected to an additional funding source. There are also links provided to direct organization webpages such as the Minnesota (MN) Grocer's Association that may provide funding after contacting them. To the right of each icon below is a description of each grant option and upon clicking you will be directed to the correct webpage for further detail on the grant. All hyperlinked icons on the left side of the following pages are from Microsoft Icons.



Community Innovation State Grants. Awards funding to nonprofits working to create effective, equitable, and sustainable changes (RHI, 2022).



Community Benefit Financial Company Emergency Fund State Grant. Funding for rebuilding community assets such as damaged infrastructure, small businesses hurt by the economic crisis, and investments (RHI, 2022).



Minnesota Good Food Access Program Equipment and Physical Improvement Grant. Aids grocery stores in making physical improvements and purchasing equipment to increase access to affordable, nutritious, and culturally appropriate food for underserved communities in low- and moderate-income areas (RHI, 2022).



Otto Bremer Trust Private Foundation Grant. The Otto Bremer Trust awards funding to organizations working toward helping individuals in the community meet their basic needs as well as community asset building.



League of Minnesota Cities Private Funding Sources. The League of Minnesota Twin Cities is an organization that offers grant opportunities ranging from federal, state, and private funding opportunities. They also provide grant proposal writing resources.



U.S. Department of the Treasury Grant Opportunities. This organization has grant programs including the Social Impact Partnership to Pay for Results Act (SIPPRA), the Restore Act, and Community Development Financial Institutions (CDFI) Fund.



FM Area Foundation Organization potential funding options. This organization offers grants to Cass County, North Dakota, and Clay County Minnesota. They offer grants to organizations who address community needs within the arts, basic human needs, community building, education, and women's fund.



National Grocers Association (NGA) and potential funding options. NGA represents community grocers who are independent as well as their wholesalers (NGA, n.d.). Upon contact of NGA, your store may be further directed to current funding opportunities.



Minnesota Grocers Association (MGA) and potential funding options. MGA represents the states industry in supporting food from "farm to fork" (MGA, n.d.). In the past MGA has had community grants available, and upon contact, your store may be directed to funding opportunities from this organization.



Food Access Grants. The Minnesota Legislature has a bill regarding food access grants that relate to access to funding food and grocery stores. For further detail on these grants, click the hyperlinked icon to the left.

Grant Sources (links from hyperlinked icons above)

Community Innovation Grant: <https://www.ruralhealthinfo.org/funding/3458>

Community Benefit Financial Company Emergency Fund:

<https://www.ruralhealthinfo.org/funding/4927>

Equipment and Physical Improvement Grant: <https://www.ruralhealthinfo.org/funding/4100>

Otto Bremer Trust Foundation: <https://ottobremer.org/social-return/>

League of Minnesota Cities: <https://www.lmc.org/resources/private-foundation-grant-opportunities/>

U.S. Department of the Treasury: <https://home.treasury.gov/services/grant-programs>

FM Area Foundation: <https://areafoundation.org/nonprofits/grant-rounds/guidelines-and-timeline/>

National Grocers Association: <https://www.nationalgrocers.org/>

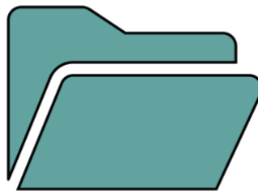
Minnesota Grocers Association: <https://www.mngrocers.com/>

Food Access Grant Information:

https://www.revisor.mn.gov/bills/text.php?number=SF2469&version=latest&session=ls92&session_year=2021&session_number=0

Business Tax Incentives

This section pairs with number 5 on the Template for Self-Evaluation & Action Plan on page 9. In addition to the above funding opportunities, there are also other options for businesses making changes to enhance accessibility including federal tax incentives (ADA National Network, 2022b). The first tax incentive is the Disabled Access Credit which is offered to assist small business enhance accessibility and “is equal to 50% of the eligible access expenditures in a year, up to a maximum expenditure of \$10,250” (ADA National Network, 2022b). The second option is a tax deduction for any size business for expenses relating to the removal of barriers (ADA National Network, 2022b). Businesses are allowed to take deductions up to \$15,000 for removal of these barriers (ADA National Network, 2022b). Both of these incentives may be used together for businesses that qualify. Click the icon below for additional details.



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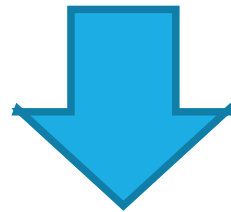
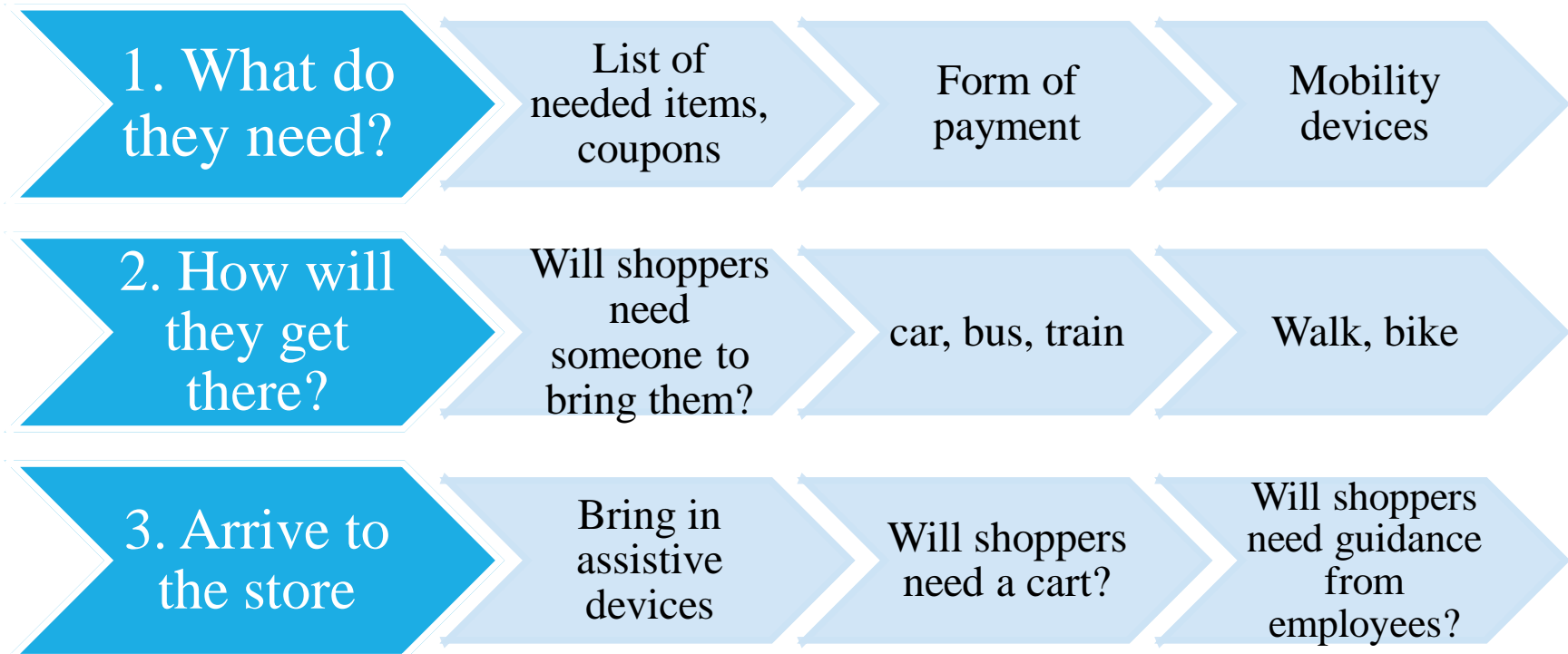
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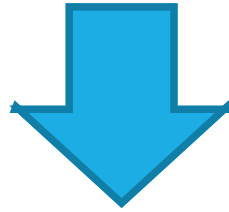
Occupation

This section includes information on the occupation, which is shopping. Occupations are defined as “The things that people do that occupy their time and attention; meaningful, purposeful activity; the personal activities that individuals choose or need to engage in and the ways in which each individual actually experiences them” (AOTA, 2020; Schell et al., 2014). Further, an occupation is anything you do from the moment you wake up, to the moment you go to bed. For examples, shopping, brushing your teeth, working are all occupations. As a store owner, you often think about appeal and selling products. Another angle to think about is the experience of the shopping based on ability. This section of the product will assist you in thinking about the experience or requirements of the shopper. This section begins with a visual figure of taking a trip to the store, Figure 8, and then a narrative of taking a shopping trip and discussion of factors that go into shopping. This section also includes task modifications and usability strategies which are also illustrated in Table 6.

Figure 8
Taking a Trip to the Store

Take a Trip to the Store





Taking A Trip to the Store

This section pairs with number 6 on the Template for Self-Evaluation & Action Plan on page 10. When looking at occupations such as shopping and the tasks that are involved, occupational therapy practitioners typically perform an activity analysis. An activity analysis allows occupational therapists to look at the desired occupation, in this case shopping, and determine activity demands, identify challenges, barriers, supports, and strengths in order to enhance engagement in the desired occupation. Figure 8 below provides a visual overview of taking a trip to the store.

One of the first factors to think about when planning a trip to the grocery store is transportation. How will the individual get to the grocery store? Will this be by car, bus, bicycle, walking, or a different way? It is also important to think about if the individual will be able to independently get themselves to the grocery store or if they will need assistance from a support service or individual. Before leaving for the store it is important to think about what you need to bring. You may need to bring a list of items needed or if the individual has the ability to recall all items needed, bag to carry items in, a mobility device to move around, appropriate clothing, a form of payment, among other items. After the individual has gathered everything necessary to bring and determined the mode of transportation, next is arriving to the store. When arriving at the store and upon entrance, the individual will need to determine if they need a cart or if they will be able to carry all the items. Next the individual will need to locate all the items and have the ability to ask for help if they cannot locate an item or it is not accessible. Once all items are located, it is time to check out and pay for all the items. Lastly, the individual may need to bag items and then bring them to their mode of transportation and get them back to the appropriate location.

While this may appear fairly simple for able-bodied individuals and those without disabilities who are able to regularly shop with ease, but there are many other demands related to the occupation of shopping some may not realize. Other important factors to consider include bodily and muscular functions used throughout shopping. Typically, when shopping it requires the use of a lot of muscle function when walking in the store, bending or reaching to gather items, moving around the store, among others. This may differ greatly based on the individual and their abilities. In addition, another important factor to consider is the demands of mental functions throughout shopping.

When shopping, higher-level cognitive functions such as judgement executive function are needed; attention in order to stay on task; working memory or short term memory when locating items and recalling what items are needed; perception such as discrimination of sensations like auditory, tactile, visual, olfactory, gustatory, vestibular, and proprioceptive; control of thought, awareness of reality, logical thought; sequencing movements such as regulating speed when moving throughout the store, time of motor production of movements; emotional regulation, appropriateness of emotions; experience of self and time; awareness and alertness; orientation to self, time, place, and others; and personality as well as temperament (American Occupational Therapy Association, 2020). All of these are demands that go into shopping and are important to think about for all individuals and when looking at the store itself.

Modifications to Enhance Usability of Store

While stores are required by law to be accessible to all individuals, usability is not. There are many potential options stores can adopt to increase usability for individuals when shopping. These options will increase the capacity to which individuals will be able to use the store and acquire all items needed. Table 6 includes a breakdown of each type of disability with a

description, low-cost, and higher-cost options to enhance usability of your store for these individuals. Further, there are other strategies that can help enhance usability of your store for all individuals. One major strategy could be to provide a printed map of your store for individuals to see where all items are located. Products are frequently moved around, and this can be frustrating or confusing to individuals, especially if the individual has a limited time frame to shop, gets fatigued easily, or has a disability. Providing a map with location of items would be beneficial and make the store more usable for individuals. If a store has a phone application available, providing a map on the app as well as the location of each item when typed in the app would not be much of an additional cost and would be beneficial for all customers.

Case Examples

This section includes two case examples, one from the shopper's perspective and one from the store's perspective. It may be difficult to picture how all the information in this manual would come together and impact your store, and below are two scenarios that would illustrate what this may look like.

Case One – Shopper's Perspective

Kallie is a 32-year-old female with who suffered a T6-7 spinal cord injury in a skiing accident when she was a child. Kallie is now using a wheelchair for mobility but has great social supports from her family and friends as well as modifications in her home and car. Kallie is able to transfer herself using equipment she owns that supports her participation in the community. With Kallie's level of spinal cord injury, she still has typical use of her arms and hands. Today Kallie needs to go to her local grocery store and buy weekly groceries for herself and her husband tonight. Kallie prefers to bring her own reusable bag as well as a reacher from home so she can still gather items that are out of reach. Kallie is able to transfer modified independent in and out of her car using a slide board.

Because the store parking lot and entrance are accessible and usable, Kallie can enter the store without difficulty. Kallie enters the grocery store and places a small hand-held shopping basket in her lap along with her reacher as she begins to navigate each aisle looking for the needed items. As Kallie has gathered her items, the small hand-held cart becomes too full and Kallie has to checkout, bring the items to her car, and come back in the store for the remaining items she needs. Doing this is quite fatiguing for Kallie's arms, and a larger cart that could attach to the legs of her wheelchair instead of sitting in her lap would greatly enhance usability for Kallie and other wheelchair bound individuals. Kallie is gathering the remaining items on her shopping list such as pasta noodles and a few bags of chips. Both of these items are on higher shelves, but because Kallie is able to use her personal reacher, she is able to safely gather these items herself. After Kallie is finished gathering all of her items, she is able to checkout with little difficulty as the checkout aisles and bagging areas are all accessible and usable for those with disabilities.

In this case scenario, we observed Kallie who has a spinal cord injury and is a wheelchair user. Because the store she shops at was accessible, she was able to partake in the occupation of shopping with little to no barriers. One factor that was evident was that while the store was accessible, which is required by law, the store could make enhancements to its usability. The store owner could use the *Enhancing Accessibility and Usability in Rural America: Minnesota Store Owner's Manual* to further assess accessibility and usability of the store as well as look at recommendations to enhance usability. In addition, the manual also provides information on potential funding opportunities to cover the cost of enhancements should the store owner choose to do so.

Case Two – Store Complaint

A local supermarket located in rural Minnesota has just received a store complaint stating that their bathrooms are not accessible. The complaint further states that the doors are heavy and not automatic, thus creating a barrier for individuals with disabilities such as wheelchair-bound individuals, those with low range of motion or strength, or other disabilities. In addition, the stalls are not wide enough for individuals with mobility devices to use. As a result of this, the store owner is required by law to make the necessary accessibility changes. Using the *Enhancing Accessibility and Usability in Rural America: Minnesota Store Owner's Manual*, the store owner can assess accessibility and usability using the tools provided within the manual as well as understand the unique perspective of individuals with disabilities and how their shopping experience can be improved with the accessibility changes. The store owner can cover the cost of these changes by using the funding section of the tool and examining funding opportunities. In doing so, the store owner would avoid further fines or potential lawsuits. The information in Table 6 is not an exhaustive list, but provides areas of disability, descriptions of each disability, as well as options of varying cost that can be used as strategies to enhance usability.

Table 6
Task Modifications and Strategies to Adopt

Type of Disability	Usability Strategies of Varying Cost
<p>Cognitive Ability, Memory & Decision- Making</p>	<p>Individuals experiencing memory impairment may have difficulty with shopping as memory impairments can cause difficulty with concentration and decision-making along with memory.</p> <ul style="list-style-type: none"> ◇ Provide a printed map of the store and where items are located to reduce confusion and frustration. This could also be offered through a phone application (app) if the store has one, and the shopper can type in an item and the app will tell the shopper where the item is located and the cost. ◇ On printed map, note what employee uniforms look like so they can ask for assistance as well as note the phone number to customer service so they can call for assistance if an employee is not nearby. ◇ Offer an additional sheet or space on map where shoppers can write down the cost of each item for when they calculate the cost of their total items. ◇ Provide a calculator to add up cost of all items ◇ Ensure aisles and items are clearly marked ◇ Post on store website or social media platforms stating when store is less busy to reduce background noise which may be confusing and distracting to the shopper when trying to locate items and make decisions. ◇ Offer self-checkout with employee assistance available if needed ◇ Offer online ordering, curbside pickup, and/or delivery as this may greatly reduce the risk of getting lost in the store or forgetting items as they would be able to purchase them from the comfort of their own home and have them delivered or go pick them up when they are ready.
<p>Physical Balance Coordination Energy Conservation</p>	<p>There are several types of physical disability, but some may include amputations or injury to body parts, those with limited range of motion, difficulty with balance, coordination, and energy conservation.</p> <ul style="list-style-type: none"> ◇ Provide motorized carts for ease of store use as well as reducing the risk of falls, loss of energy, coordination, and balance when shopping. ◇ Offer reachers for shoppers to use throughout the store. Further, placing items that are lighter such as a bag of chips on the higher shelves and heavier items on lower shelves would increase usability as well. Shoppers would be able to use the reacher to gather items out of their reach. Reachers are inexpensive and stores could put their logo on it as well as a phone number shoppers could call if they are unable to reach an item, which not only increases usability, but safety as well.

	<ul style="list-style-type: none"> ◇ Offer handicapped accessible carts that attach to the legs of wheelchairs. Having one or two of these available in your store will greatly benefit those who use wheelchairs as this would reduce the number of trips they have to take in the store to gather items. ◇ Offer smaller shopping carts for those with balance and energy conservation difficulties. ◇ Provide a map of store with departments labeled and where items can be found. Products are often moved around in stores and it can be extremely fatiguing for those with disabilities to have to go around the store multiple times and search for items, and offering a map of the store would greatly improve usability. In addition, if the store has an app, adding the option of typing in an item and stating where the item is as well as price would decrease required walking. ◇ Offering store pickup and delivery, or carryout if shoppers choose shop in store ◇ Ensure employees are available to provide assistance ◇ Ensure cart carousels are closest to the handicapped spots. Many individuals may use carts as supports for balancing and helping with fatigue and if the cart carousel is far away, carts may get left in the middle of the parking lot or increase risk of falls for shoppers.
<p style="text-align: center;">Visual</p>	<p>There are many types of visual impairments, and a few of these may include blindness or limited vision. The bulleted list below provides usability strategies store owners can adopt.</p> <ul style="list-style-type: none"> ◇ Easy to read signs, or map of the store with large print ◇ Recommended font for pricing – Make print large and easy to read ◇ Aisles and items are clearly marked ◇ Adequate lighting for those with limited vision as with low lighting it can be difficult to see store aisles and item labels ◇ Provide Braille options for store maps and on the end of store aisles ◇ Offer magnifying glasses for those with limited vision ◇ Partner with apps such as Aira as they offer a service for individuals who are visually impaired. Apps like Aira offer a “second set of eyes” as the shopper is able to provide access to the camera and guide them to each item through the store (Nittle, 2018). This would be more of a costly option as monthly memberships range from \$89-\$330 per month but would be of great benefit to shoppers. ◇ Allow shoppers to call in to the store, order and pay for their items, and have them delivered or picked up through curbside pickup.

Sensory/Behavioral

Individuals with sensory/behavioral disabilities may also experience difficulties with their environment such as sensitivity to noises, lighting, taste, temperature, among others and may benefit from the usability strategies listed below.

- ◇ Allow shoppers to **call in to the store**, order and pay for their items, and have them **delivered** or picked up through **curbside pickup**.
- ◇ Offer **noise cancelling headphones** for shoppers who need to cancel out extra noise that occurs in stores.
- ◇ **Evaluate the cost of adjusting cash register** volume when scanning items. This sound may seem faint for those who do not experience sensory/behavioral difficulties, but to those who do, this may be alarming to them.
- ◇ Offer **specific store hours where sensory-friendly shopping could occur**. This could include dimming the lights, reducing the noise level, etc.
- ◇ Provide a **visual map and outline of the store**. Some individuals with sensory/behavioral disabilities do best with routine and knowing what comes next and providing a map or an outline of the store would enhance usability for these individuals.
- ◇ **Provide times the store is least busy** on social media platforms so these shoppers can come at a time that works best for them and their needs. The noises in stores can be overwhelming and possible scary to individuals with sensory/behavioral disabilities and providing times when the store is the least busy would greatly benefit these shoppers.
- ◇ **Provide a space in the store that is quiet** where individuals can go to calm down.
- ◇ Offer **sensory bins**. Sensory bins are bins filled with various textures appealing to the senses and can be regulating to those with sensory/behavioral disabilities and will enhance their shopping experience.
- ◇ Offer **carryout** and/or **delivery** as options so these individuals can



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Final Case Example

This final case example will illustrate what using the manual and application of the Template for Self-Evaluation & Action Plan may look like.

Application of the Manual and Template for Self-Evaluation & Action Plan

Jason has owned a retail store in rural Minnesota for the past 5 years and wants to assess his store for its level of accessibility and usability. He wants to make enhancements in these areas and has chosen to use the manual, *Enhancing Accessibility and Usability in Rural America: A manual for Minnesota Store Owners*, as his guide. The first step of using the manual is to read the introduction on page 4. The introduction provides an overview of the manual and what it includes. After reading the introduction, it works best for Jason to print out the Template for Self-Evaluation & Action Plan, which are on pages 5-9 as it pairs with the manual and will be helpful to have them side by side. Once Jason has printed the Template for Self-Evaluation & Action Plan, he starts by reading the person section followed by number 1 of the Template for Self-Evaluation on page 5. Number 1 is, “Ask questions and complete the store profile” which is on page 11 of the manual. The store profile assists Jason in reflecting upon the layout of his store, the factors that go into the layout and setup of the store, and how his store is setup for shoppers experiencing disabilities.

After completing the store profile, Jason feels his store could do more to assist those with disabilities, as he had not necessarily thought about this in the past. Next, Jason refers to number 2 on the Template for Self-Evaluation which states, “Review knowledge of disability and common terms used” and turns to page 12-15 to review. While reviewing this section, Jason

learns about disability, the types of disability, how experiencing a disability might impact the shopping experience, and common terms used such as accessibility, usability, universal design, and the build environment. Jason refers back to number 2 to answer the reflection question, “What is something new you learned?” Jason reflects and writes down that something new he learned were the types of disability and how that may impact the shopping experience.

Next Jason moves onto the environment section which is numbers 3-5 of the Template for Self-Evaluation. Starting with number 3, “Review laws and their application to your store,” Jason turns to page 16 and reviews the information. Jason refers back to page 6 of the template and completes the listed reflection questions. Jason feels that his store is in compliance with all the laws but could make improvements with Title III of the ADA in regard to ensuring all public spaces are inclusive as he believes the displays on the endcaps and in the middle of the aisles may not be as accessible or usable for shoppers with disabilities.

Jason continues to number 4 on page 6 of the template, “Examine tools related to accessibility and usability” and turns to page 26 of the manual to review the content. Jason reviews all the tools related to accessibility and usability and begins to answer the reflection questions under number 4. He feels that the aisles and restrooms are areas of growth and could use further assessment. Areas of strength of his store include offering carryout of items, delivery, and curbside pickup, motorized scooters with carts, as well as employee assistance. Jason selects the “U.S Department of Justice – Checklist for Maintaining Accessible Features” as it provides a brief overview, but also selects the “Building Access Survey” listed under Minnesota Council on Disability as it will provide greater detail for areas of improvement. Jason completes both of these assessments and determines the store aisles and restrooms could be improved to enhance accessibility and usability.

Next Jason moves on to number 5 of the template, “Review potential funding options” on pages 31-34 of the manual. He reads the brief descriptions and clicks on the hyperlinked icons to learn more information on potential funding sources. After reviewing each, he decides that he could apply for funding through the Otto Bremer Trust Private Foundation Grant and possible the League of Minnesota Cities Private Funding Sources. The costs of enhancing the aisles and restrooms may be covered as a business tax incentive and Jason lists that as a potential funding option as well.

Jason moves onto the second to last step before creating his action plan, which is number 6, “Review the occupation section and task modifications.” Jason reviews this section on pages 35-45 of the manual. As Jason is reviewing the task modifications and case examples, he feels his store would greatly benefit from buying reachers as well as offering specific hours for those with sensory/behavioral needs who may need additional accommodations. Now that Jason has completed the Template for Self-Evaluation, it is time to complete the Action Plan, on page 9 of the Template. Jason completes the template and lists his plans or ideas of applying for funding to cover the costs of enhancing the accessibility and usability of the store aisles and purchasing reachers for individuals with limited range of motion or other disabilities. After Jason has completed reviewing the manual and action plan, he is ready to further enhance the accessibility and usability of his rural store.

Template for Self-Evaluation & Action Plan

This template will serve as a supplemental tool to the manual and guide you, the store owner through each step and assist you in enhancing accessibility and usability of your store. Please follow each step below.

Person

Numbers 1 and 2 pair with the person section. This section will have a person icon above it as shown below. The person section is identified as the store/store owner and will cover the store profile, knowledge of disability, and common terms. You will have finished the person section once you see the environment section with the store icon on the top of page 16 of the manual.



Microsoft Icon

1. **Ask questions and complete the store profile.** The first step is to answer questions and complete a short profile of the store. Completing the store profile will assist you in reflecting upon the why and how your store is set up the way it is as well as start thinking about individuals experiencing disabilities and their shopping experience in your store. Please turn to the person section on **page 11** with the matching purple color heading and complete the store profile.

Store Profile

The store profile is intended for store owners written reflection on the questions listed. Please reflect on and answer each of the questions below. This section pairs with number 1 on the Template for Self-Evaluation & Action Plan starting on page 5.

1. When you consider the layout of the store, what factors do you consider as your top priorities?

Accessibility to all levels of the store.

2. What are methods and/or reasons for the layout of your store?

“Eye catching” products in beginning of the store.

3. How does product placement impact the layout of your store?

More eye-catching products in the entry of the store.

4. When setting up your store, are individuals with disabilities also taken into consideration? Please explain.

Yes, have an elevator and a level entrance to the store. Also have hand railings by stairs as well as employee assistance to carry out or help customers find items.

5. In what ways do you feel your store is accessible and usable for individuals with disabilities?

Have an elevator, level entrance to the store. Bathroom on the main floor with adequate space for mobility devices. Employees are available to help shoppers find items as well as carry them out to their cars.

6. What do you feel you could do to enhance accessibility and usability of your store?

Working elevator to help individuals with disabilities or elderly individuals reach all levels of the store.

2. **Review knowledge of disability and common terms used.** Please turn to **pages 12-15** with the matching blue color in the person section in the manual and review these topics. This will further your understanding of disability, how individuals with disabilities shopping experiences may differ, and understand common terms used regarding accessibility and usability. Please use the space below for reflection.

- a. **What is something new you learned?**

All the types of disabilities and how they might impact an individual's shopping experience.

Environment

Numbers 3-5 pair with the environment section. This section will have a store icon above it as shown below. The environment section is identified as the physical, social, virtual, and institutional environment, etc. and will cover the laws and application to the store, tools to assess accessibility and usability, as well as potential funding options. You will have finished the environment section once you see the occupation section with the shopping cart icon on page 35 of the manual.



Microsoft Icon

3. **Review laws and their application to your store.** Please turn to **pages 16-25** to review the federal and state laws. Table 1 includes the federal grants and table 2 has the state grants. Each law has a description of the law and the impact it has on your store. Starting on page 12 is a deeper explanation of the Americans with Disabilities Act (ADA) laws with Figures 5-10 including a breakdown of each. Reviewing these laws will provide you with a deeper understanding of what they mean and what you can do to ensure you are in accordance with them. Please use the space below for reflection and note any thoughts you may have.

- a. **Which laws apply to your store?**

All the laws apply to the store.

- b. **Which laws are you most confident with?**

Feel confident with all laws with the exception of the ADA relating to accessibility of site.

- c. **Which laws that apply, might be of concern?**

ADA, Title II Public Accommodations – accessibility can be increased with fixing the elevator to allow access to all floors with individuals who may be wheelchair users or have other disabilities and have difficulty with stairs.

4. **Examine tools related to accessibility and usability.** Please turn to **pages 26-30** and review tools to assess for accessibility and usability of your store. Tables 4-6 review tools available to assess accessibility and usability of the physical and virtual environment. Each table includes a description of each tool, a link to the tool, and pros and cons of each tool.

a. **Are there areas of your store you feel need further assessment?**

Yes. The biggest area of concern that needs further assessment is the elevator as it is not currently working.

b. **Which tool(s) might you select to further assess these areas of your store?**

US DOJ Checklist, ADA Standards for accessible design, and Minnesota Council on Disability's Checklist for Buildings.

c. **What are areas of strength in your store? (What are you already doing well that demonstrates accessibility and usability)**

Main areas are accessible with the exception of elevator transportation to each level. Bathroom is accessible, accessible entrance.

d. **What are potential areas of growth in your store?**

Fixing the elevator to assist shoppers with disabilities or who are elderly and have difficulty with stairs.

5. **Review potential funding options.** Please turn to **pages 31-34** and review potential funding options. Each icon is hyperlinked with a description of each funding source.

a. **What are potential funding options for your store?**

Community Innovation State Grant and Tax Incentives.

Occupation

Number 6 pairs with the occupation section. This section will have a shopping basket icon above it as shown below. The occupation section is identified as shopping and will cover the narrative of “Taking a Trip to the Store,” task modifications and usability strategies, and case examples to illustrate what this might look like. You will have finished the occupation section once you see the final case example section with the bag of groceries icon on page 46 in the manual.



Microsoft Icon

6. **Review the occupation section and task modifications.** Please turn to **pages 35-45**. First, a visual of taking a trip to the store is illustrated in Figure 6, please examine this first. Next, read the narrative of taking a trip to the store to understand what a shopping trip may look like for someone with a disability. After you have read and reflected upon those, next read the “Modifications to Enhance Store Usability” to examine potential options for enhancing usability of your store.

- a. **What task modifications and usability strategies might you adopt in your store?**

Purchasing reachers, large printout of store map

7. **Review notes and create your action plan on the next page!**

Action Plan

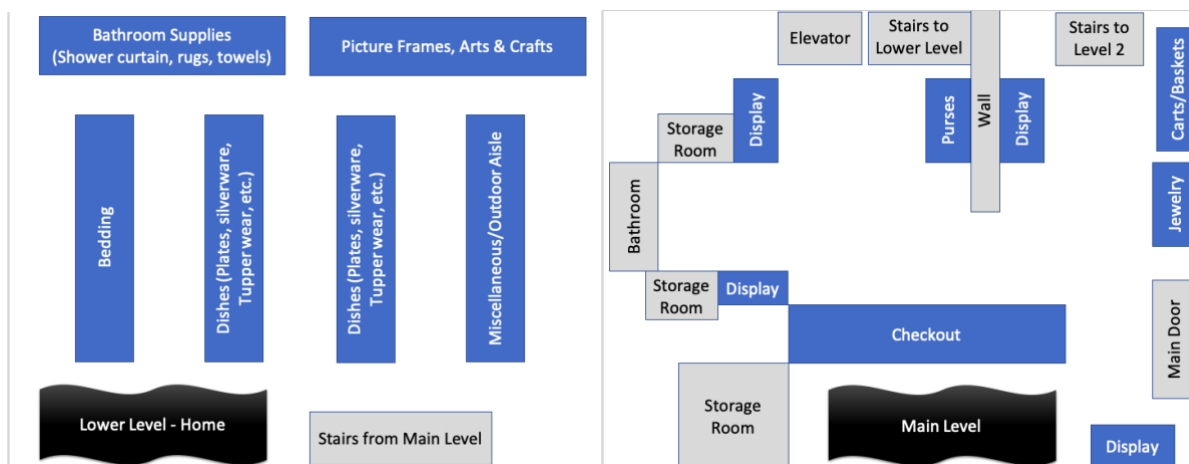
Now that you have completed steps 1-6, the next step is to complete an action plan. For your action plan, create 2-3 objectives, plans, or ideas you now have to increase the accessibility and usability of your store. These plans might be to include a printed-out map with large print for those with visual difficulty or to apply for funding and make changes to the necessary areas of the store.

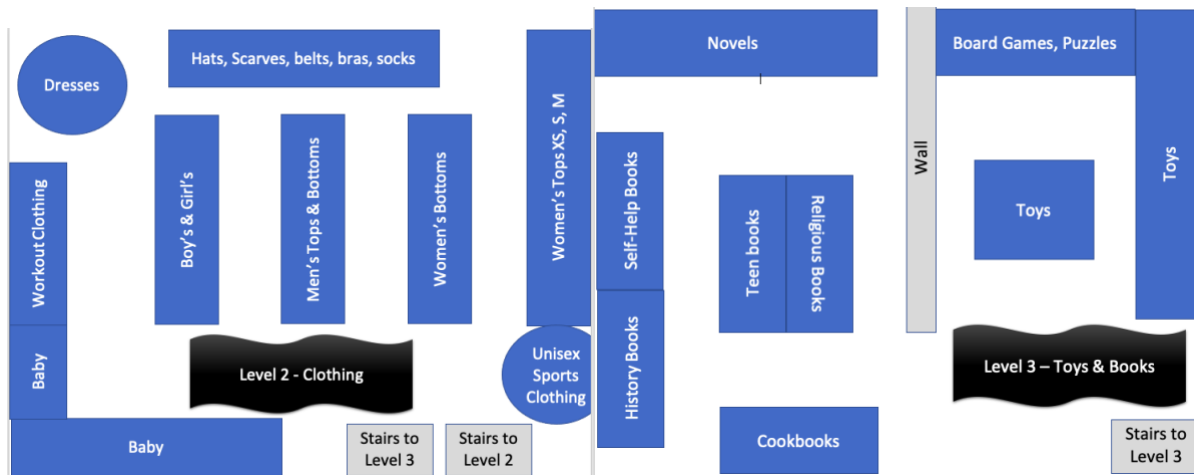
1. Purchase reachers

- a. Having adaptive equipment available such as reachers will assist shoppers with limited range of motion or other disabilities to obtain items that may be out of reach. A limitation of the reacher is that it is not advised to use the reacher to grab large heavier items as this may be unsafe for the shopper and employee assistance would be needed. Something further that could be applied to the store could be to print out a store label with the customer service phone number on it so if a shopper does experience any difficulty, they can call an employee at customer service to help.
- b. \$9.99 for reacher with a wider grip. Click [here](#) to purchase.
 - i. Holds up to 1-2 pounds
- c. \$20.67 for reacher that holds up to 5 pounds. Click [here](#) to purchase.
- d. *Disclaimers: Shoppers must follow the weight limit when using the reacher to gather items as there may be potential injury if they drop a heavier item on themselves.

2. Create a map of store

- a. Example:





3. Pursue funding options for enhancing accessibility and usability of store.
 - a. Community Innovation State Grant
 - i. No deadline, no amount limit when applying
 - b. Business Tax incentives
 - i. Tax incentives are ways for businesses to save money allowed by the government. There are a few tax incentives including the Disabled Access Credit and tax deductions, both of which can be used together if the business applying qualifies (ADA National Network, 2022b). The Disabled Tax Credit is for small businesses. Tax deductions are for businesses of any size and deductions of up to \$15,000 for removal of barriers can be made.



Microsoft Icon

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