

**Assessing Texas State Agency Web Sites for Minimal
Web Site Accessibility Standards**

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Table of Contents

| | |
|---|----|
| ABSTRACT | |
| CHAPTER 1: Introduction | 1 |
| CHAPTER 2: Background on the Role of Computers | 4 |
| <i>Histoly of Computers</i> | 5 |
| <i>Histoly of the Internet</i> | 6 |
| <i>Access to Government</i> | 9 |
| Accessibility to Technology | 11 |
| <i>Barriers to Accessibility</i> | 11 |
| <i>Income</i> | 12 |
| <i>Rural vs. Urban Dwellers</i> | 13 |
| <i>Age</i> | 14 |
| <i>Gender</i> | 15 |
| <i>Access for the Disabled</i> | 16 |
| <i>Privacy</i> | 17 |
| <i>Security</i> | 18 |
| The Digital Divide | 20 |
| Legislative Setting | 21 |
| Coding Scheme | 22 |
| <i>Operationalization of the Conceptual Framework Table</i> | 24 |
| Conceptual Framework | 25 |
| <i>Standard 1</i> | 25 |
| <i>Standard 2</i> | 26 |
| <i>Standard 3</i> | 27 |
| <i>Standard 4</i> | 28 |
| <i>Standard 5</i> | 28 |
| <i>Framework to Literature Table</i> | 31 |
| CHAPTER 3: Methodology | 33 |
| Introduction | 33 |
| <i>Weakness of Method</i> | 33 |
| <i>Coding Sheet Elements</i> | 33 |
| <i>Statistical Method Used</i> | 34 |
| <i>Sample</i> | 35 |
| Conceptual Categories: | |
| <i>Elements for Persons with Disabilities</i> | 35 |
| <i>Information Accessibility</i> | 36 |
| <i>Privacy</i> | 36 |
| <i>HTML Meta-data</i> | 37 |
| <i>Advanced Accessibility Elements</i> | 37 |
| Description of Sample Agencies | 38 |

| | |
|---|----|
| CHAPTER 4: SUMMARY OF RESULTS | 40 |
| Elements for Accessibility for Individuals with Visual Impairments | 40 |
| Table 4.1 Visual Impairment Category | 41 |
| Elements for Web Site Information Accessibility | 40 |
| Table 4.2 Information Accessibility | 42 |
| Elements for Web Site Privacy | 42 |
| Table 4.3 Privacy Category | 42 |
| Elements for HTML Meta-data | 43 |
| Table 4.4 HTML Meta-data Category | 43 |
| Elements for Advanced Accessibility | 44 |
| Table 4.5 Advanced Accessibility Category | 44 |
| | |
| CHAPTER 5: CONCLUSION | 45 |
| Discussion of Findings | 45 |
| Table 5.1 Agency Scores | 45 |
| Level of Compliance for Each Element | 46 |
| Table 5.2 Agency Compliance Level | 46 |
| Agency Strengths and Weaknesses | 47 |
| Weaknesses of the Research | 48 |
| Possible Follow-Up Study | 48 |
| Recommendation and Conclusion | 49 |
| | |
| APPENDIX 1: Administrative Code 1TAC201.12 | |
| | |
| APPENDIX 2: Best Practices Samples | |
| Privacy Policy | |
| Coding Source Page | |
| Provided Associate Reader and Instructions | |
| FAQ Page | |
| Text-Only Capability | |
| Spanish Translation Capability | |
| Toll Free Phone Number | |
| | |
| APPENDIX 3: Texas Records and Information Locator (TRAIL) Home Page | |
| | |
| APPENDIX 4: Bobby Site Home Page | |
| | |
| APPENDIX 5: Overall Sample Scores | |
| | |
| Glossary | |
| | |
| Bibliography | |

Abstract

This applied research project serves as an evaluation of the status of the level of compliance with established Web site guidelines by selected state agencies. The project includes a survey of the literature relevant to Web site accessibility. The literature includes criteria that are organized into five categories for accessibility: elements for the disabled document accessibility, privacy, HTML documents, and increased accessibility elements. The project organizes and summarizes the data collected **from** content analysis of 25 Texas State agency Web sites. All agencies selected vary in function.

The focus of this applied research project is on the accessibility guidelines established by the Texas Department of Information Resources (DIR) and a study by Brown University entitled, "Assessing E-Government: The Internet, Democracy, and Service Delivery by State and Federal Governments." The DIR criteria are established pursuant to Senate Bill 801, passed in the 1999 Texas Legislative Session. The guidelines are established to assist agencies increase the accessibility of their Web sites and the **information** contained on those sites.

The purpose of this research is to assess the level of compliance of Texas State agencies with the accessibility guidelines. A content analysis was chosen as the tool for assessing the selected state agencies. A practical ideal type was established **from** the DIR and Brown University data. The Web sites were reviewed individually for the content of the elements in each of the categories.

Almost every state agency in Texas hosts a Web site. Each individual agency has the discretion to use any type of design desired to create a Web presence. Before the DIR effort, state agencies had no real direction to consider a general format for agency Web

sites. The guidelines established by DIR attempt to bring general uniformity to the structure of state agency Web sites. The reality, however, is that the guidelines are non-binding: *i.e.*, an agency is not required to follow these guidelines.

This study takes a look at how well the selected state agencies are following the recommended guidelines established by DIR. The greater the compliance of an agency, the greater the level of accessibility to the agency's resources by the general public and the population with visual disabilities.

Although several agency Web sites were found to be generally accessible, many did not include a minimal level of elements for accessibility. Agencies should be held accountable to develop and maintain Web sites that are accessible to a wide population. This will increase uniformity among agency sites and help individuals using these sites access information and resources more easily.

"The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect."
-- *Tim Berners-Lee, W3C Director and inventor of the World Wide Web*

Chapter 1: Introduction

The Internet is a collection of networks of computers that span the entire globe. Over the past several years, this tool of communication has increased in its availability, economic feasibility, and has grown in the number of uses. The **Internet** has also emerged from its use as a tool for the academic elite to its use by the general public.

Government is in no way exempt from experiencing the transition of the Internet **as** a widespread tool for communication. Web site developers find themselves in a position to create a unique and friendly site that is usable by the general public. In many cases, however, there are not set standards that could bring some uniformity to the arena of Web site. Governmental Web sites can range in their design. For this reason, Web site viewers are unsure of what to expect when visiting a governmental Web site.

Efforts to **bring** a minimal level set of standards to Web sites are important. This can be helpful to make sure that an established level of accessibility is possible on a given Web sites. For example, it would be useful if a viewer knew what to expect from one Web site to another with regards to privacy.

With the advancement of technology and the widespread availability of information on the World Wide Web, access to government information has become easier. There is a plethora of information and resources on Web sites that governmental agencies are putting forth for public use. To establish standards that would make accessing information **as** universal as possible is beneficial to the viewer. This information, after all, is public **information** and should be regarded as a resource of and

for the general public. Never before has so much information been at the hands of individuals who can now follow the political and civic process.

In some cases, however, this information is not accessible. For example, the material that is posted on a governmental Web site may not be accessible by generally available Internet browsers. In some instances, individuals with disabilities have not been taken in to account when a particular Web site was being developed. The inability for this sector of the population to access this information is detrimental to those with special needs. Government Web sites not accessible to individuals with disabilities reduces their ability to take part in civic activities that should be **afforded** to all individuals. Any hindrance to information on a Web site due to the design of that Web site for individuals with disabilities is inappropriate and in some cases illegal.

Viewers of Web sites **also** need to be protected. How Web sites use and store information is of great debate in today's fast moving technological environment. As individuals continue to handle tasks on the Internet, the need for personal information also increases. The need to disclose to the Web site viewer how the information will be used is important and must be clear to the user in order to attain a certain comfortable level. The information regarding the use policies of Web sites is not always shared with individuals that visit Web sites.

It is important to research Web sites agencies use to allow the public to execute **online** transactions. The same agency's Web sites are also a place where many individuals can become better informed and educated on governmental affairs.

The focus of this project is to determine the level of compliance by Texas State agencies with an established set of Web site standards.

Organization of Research

Chapter Two contains a literature review that discusses the history of computers and the Internet. The chapter also discusses access barriers to technology and demographics of the barriers. In addition the sectors of society that are more likely to face these barriers are examined. The chapter offers a brief legislative history describing the genesis of the material used for the content categories. The chapter also discusses the conceptual framework for the design of this research.

Chapter Three explains the research methodology and how state agencies in Texas are implementing the guidelines established by the Department of Information Resources. The tools used in this research are discussed and a discussion of the sample is presented. Groups of elements **from** each conceptual category are offered.

The results of the content analysis are presented in Chapter Four. The results of each conceptual category are discussed. The final chapter summarizes the results and the conclusion of the research.

Chapter 2: Background on the role of Computers

The decade of the 90's saw a technological revolution that is often compared to previous economic revolutions that transformed not only the workplace, but also the way people live. The industrial revolution was largely about better ways to manufacture material objectives previously made by craftsman (Harris, 1999, p. 7). The technology revolution is based on knowledge. Technology has advanced at such a break neck speed that the affect of this rapid transition is felt in all sections of business and personal life.

Computers are a ubiquitous tool for managing information, a tool that is technologically sophisticated and one that continues to experience rapid technological change (Bretschneider, 1990, p. 536). Personal computers have placed a plethora of information at the fingertips of individuals. This amazing new technology **efficiently** improves all aspects of an individual's life at home and work. In addition, improvements have been accompanied by dropping prices enabling widespread access. Since computers have become more attainable the number of individuals who access the World Wide Web (WWW) has increased. Between December 1998 and August 2000, U.S. households' access to computers and the Internet grew dramatically. According to the latest survey, 43.6 million households (or 41.5% of all households) had Internet access.'

The WWW, currently the most popular Internet tool, is a relatively new mode of publishing that can utilize text, graphics, video, and sound to present documents in visually interesting ways (Stowers, 1996). Next, the history of computers and the Internet is discussed in order to provide a comprehensive picture of technology and its role in our daily lives.

¹ See NTLA, "Falling Through the Net II and III" for insight on the number of households that have access to computers **and** the **Internet**.

A Brief History of Computers

There have been four major generations of computers. The **first** commercial computer was the Univac, which was used **from** 1951 to 1958. This first generation computer ran solely on vacuum tubes. The second generation, 1959 to 1964, included hardware advances in the areas of transistors, magnetic core memory, magnetic tapes and magnetic disks. Third generation computers (1965 to 1970) used integrated circuits. Finally, fourth generation computers (1971 to the present) have used microprocessors or computers on a chip. (Lacle, 1996, 10). The microchip enabled computer power previously housed in large expensive, temperamental mainframes to become more accessible to the mainstream.

Although the development of this technology did not occur overnight, the proliferation of personal computer technology has occurred rapidly. The rate at which computers have become important to our lives is **remarkable**. The number of households that have a computer is still growing. In 1999, 101 million people traveled the Internet (Thompson, 1999). By August 2000, 53.7 million households had computers (NTIA, 2000, p. 2).

Now more than ever the use of computers for government tasks and for the business sector has changed the entire dynamic of the relationship between government and citizen. The management of information has created a critical need for up to date, sophisticated processes and hardware that governmental agencies can use to meet the needs of its constituency.

The use of computers changed from big calculators to a tool for communicating. The Internet and the WWW are tools that facilitate new ways to communicate. The new and potential (yet to be discovered) uses of the Internet and WWW is a reason for the

growth. The following section offers a broad overview of the history of the Internet and related technology.

The History of the Internet

The roots of the Internet start in the 1960s when the Department of Defense created a non-centralized network designed to survive partial outages such as nuclear war and still **function** when parts of the network were down or destroyed. This project was called ARPANET (Advanced Research Projects Agency Network), created by the Pentagon's Advanced Research Projects Agency. The agency was established in 1969 to provide a secure and survivable communications network for organizations engaged in defense-related research. (**internet.com**).

The Internet, a network of networks, has gone through many phases since its inception. Kichhoff (1997, p.6) compiles a general history as illustrated by **McGarty** and **Haywood** (1995) that describes briefly the phases that illustrate the history of this phenomenal revolution:

The Simple Internet (1968-1974): Beginning as an experiment in networking, in this period the Internet's predecessor, the ARPANET, was a simple network **consisting** of **56kbs** (kilobytes per second) circuits **interconnected** by Interface Message Processors, or **IMPs**.

The Internet Goes Global (1973-1981): **In** this period the TCP/IP (transmission control **protocol/internet** protocol) protocol was developed and layered on top of existing datagram networks. Although originally aimed at remote log and file transfer protocol (FTP), the afterthought, **email**, became 95% or more of the total network traffic. This allowed the Internet to become a distributed conversational medium, not just a remote, processing vehicle.

Military and Nonmilitary Split (1982-1986): During this phase the nonmilitary Internet evolved. The Department of Defense separated its network and the residual was spun off into a larger user community. The nonmilitary user community expanded, allowing access to new user communities. The backbone also grew to T1 rate (1.544 Mbps) (megabits per second) increasing the speed of communicating.

The Mitotic Period (1986-1992): "Cell division" of the network occurred. DS3 (45Mbps) circuits were added, and local and regional networks were adopted. Access closer to the end-user spread, personal computers proliferated, and the number of hosts grew explosively. The number of networks grew from about 100 in 1988 to over 5,000 in 1992.

"New User" Access Era (1993-): This era is the era of New User access and the proliferation of commercial users and hosts and networks. The user community is expanding from the computer literate and comfortable, to the infrequent user community whose expertise **frequently** exceeds their enthusiasm and expectations.

The Distributed Open Network (1996-): The network moves into a gigabit-per-second backbone, allowing for the first time real-time access to such applications as multimedia processing, video, and supercomputer networking.

The Internet is best defined by a **commonly** supported set of networks.

Historically, it has been defined as the set of voluntarily interconnected and inter-operating networks that jointly support electronic mail, remote log-in and file transfer capabilities (Keller, 1995, p. 35).

The technological revolution has enhanced prosperity in much the same way as the industrial revolution. Unlike the big machines of the industrial revolution, the tools

of this revolution, personal computers, printers, and the Internet are cheaper and more accessible to the mainstream. **As** computers and software developed, it became less and less expensive for individuals to buy a personal computer. Today, personal computer and Internet software and connectivity are accessible to most of the middle class.

Unfortunately, many segments of society such as the poor, the elderly, and in some cases, individuals living in certain regions have been left behind. As a result, social critics have identified a digital divide.

As is discussed later in the paper, the digital divide is an unfortunate example of how the pace of technological advancements and cost are prohibitive to certain socioeconomic groups of society. Contributing factors to this phenomenon are geography and income. Rural areas in America are less likely to have access to the Internet, and even less to a broad band provider that can help individuals join the cyber society of their urban counterparts.

Several factors have contributed to the rapid growth of the Internet over the past decade. First, the availability of faster, cheaper, and more **powerful** personal computers has ensured that computers are more available to a wide population. Second, the adoption of the Internet Protocol enabled all computers to have a standard way to communicate with each other. Third, the expansion of the telecommunications **infrastructure** fiber-optic cables increased digital communications over greater distances. This allowed organizations and businesses greater connectivity and interaction. Finally, as computers have become easier to use and the general public has become more computer literate, the use of computers has found a way into every part of our daily lives (Kirchhoff, 1997, p.7).

The Internet has found its way into many other aspects of day to day life. In **1998**, the number of weekly Internet users was approximated at over 75 million in the

US². There were roughly between 88 and 92 million Internet users in the U.S. Although the growth in the number of users has tapered off as discussed in the literature, the frequency of the number of people accessing the Internet continues to increase (Thompson, 1999). This would indicate that the number of users may not be increasing in as feverish a pitch as before, but the **frequency** of access to the Internet is increasing. This seems to point to indicate that people are finding more and more reasons to access the Internet.

As individuals make conducting routine chores via the Internet a part of everyday life, a need or desire to execute tasks with governmental entities also increases. The responsibility of government should be to provide mandated services in an efficient and responsive manner. To do this, government must incorporate technology and communication advances of the information age into policies and day-to-day aspects of its program implementation. Pandey (1997, 119) points out that reliance on new information technologies to do certain key tasks grows out of the perceived and real **usefulness** of those technologies in the performance of those particular tasks. Increasingly, government is providing an increased number of services online. An increase in accessibility to governmental services and information provided on the Internet **is** critical if government is to continue to play a positive role in individual's lives.

Access to Government

Accessibility to government plays an incredibly important role in the technological transformation that government and the public is experiencing. As an increasing amount of information becomes available online, expectations for that information are likely to increase. At the very least, digital networks change the

² Read data from the Computer Industry Almanac for **metrics** regarding computer usage.

expectations of citizens, what information citizens can access, how citizens can access it and the speed with which organizations of all descriptions respond (Harris, 1999, p. 45).

Since, communication between citizen and government also involves documents and archived information, public web sites have enabled the general public to have an increased level of access to an increasing amount of information. Technology, in the way of web sites and the Internet, has made the management of this type of communication a less cumbersome task for **government**. At the same time, however, the task of archiving information **has** been made easier and the demand for access to that information has swelled. Unfortunately, demand for archived **information** has outstripped the growth in supply of this information.

Agency Web sites help alleviate some of this burden by streamlining the exchange of communication. Information and services that at one time had to be handled in person have now gone online helping agencies with long lines. However, this has turned the focus on the resources the agency has to offer such services and information via the Internet. Another example is open records requests. Previously, much information had to be accessed in person. Some of the information now is online and allows individuals to view the status of family physicians or the standing **of their** realtor's license. As citizens who choose to take a more active role in the democratic process do so, technology has become the vehicle for this effort. Policy makers often decide what information will be accessible by and to the public.

In many instances, governmental entities are mandated, by legislative act, agency rule or court judicial decision, what information they must make accessible to the public **as well as** what information is off limits. In addition, state, local and federal governments have made a great effort to voluntarily make accessible information the public **finds useful**. Information governmental entities voluntarily offer on web sites varies. Public

sector Web sites include information such as public school district ratings, government reports, legislative information and even live access to the legislative process. The availability of public information is the cornerstone for an increase in democratic involvement. Providing information, however, does not ensure the public will access the information in order to become better informed or better educated on issues and the operations of government.

The topic of open government is not new. Nevertheless, the processes citizens use to obtain information has never been as simple. Government strives to make sure that access to information it produces and possesses is not limited to the select segments of the population.

Efforts to increase the openness of government such as "sunshine laws" are directed at making government not only accessible, but also accountable. Legislative efforts such as the Freedom of Information Act intend to help the public access information previously not accessible. This federal act provides that any person has a right to request access to federal agency records with a few exceptions. Individuals face several obstacles in accessing available public information. Agencies must take this into account when designing the vehicles in which to deliver services and information. The factors and barriers affecting access to technology and the Internet are often at the personal level.

Accessibility

Web site accessibility has many definitions. One pertains to Web site accessible to persons with disabilities as defined in the Americans with Disabilities Act (ADA) of 1990. The ADA ensures civil rights protections to individuals with disabilities

similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion (ADA, 1990). The World Wide Web Consortium (W3C) Accessibility Guidelines describes a web site's content as "accessible" if it can be used by someone with a disability. The W3C guidelines address two general themes: 1) ensuring graceful transformation; and 2) making sure the content is understandable and navigable³. Navigability is a sign of a quality Web site (Dykehouse, 1997, p. 34) In this section, key barriers to Internet accessibility are examined with respect to the issues of income, location, age, gender, and individuals with disabilities. The role these issues play in the current expansion of technology is discussed.

Income

Income is a key issue to so many issues regarding the progress of individuals in various areas of society. From education to technology, the poor continue to be the have-nots even though the U.S. is experiencing the most prosperous economy in years. In a presentation to the Texas House of Representatives Committee on Rural Affairs, Texas Public Utility Commission (PUC) commissioner, Brett Perlman, stated that a family's income impacts whether or not a family owns a computer and, therefore, effects their ability to access the Internet. On the other hand, families below the \$75,000 are significantly less likely to own computer technology and have personal Internet access. (Perlman. 2000).

The information is troubling when taken into U.S. Census data that identifies the mean family income in Texas in 1998 was **approximately** \$35,700 and the mean average income for the U.S. was \$38,885. If Perlman is correct, these figures indicate a disparity between income and accessibility to technology. The correlation between the average

³ See W3C Web site for guidelines regarding the accessibility of Web sites.

family income and the level of income where a family is more likely to have access to technology, and therefore the Internet, is great. This issue must be addressed if public policy makers desire to increase the number of individuals and families that have access to technology.

Rural vs. Urban Dwellers

Geographic location is another area critical to understanding public accessibility to advanced telecommunications. The National Telecommunications and Information Agency (NTIA) and Rural Utility Service (RUS) have adopted the Census Bureau's definition of rural which refers to towns of fewer than 2,500 inhabitants as well as areas outside of towns, including farmland, ranchland, and wilderness. Under this **definition**, there were approximately 22.3 million households living in rural areas (approximately 25% of the total United States population), according to the 1990 Census. The location of individuals is definitely a factor influencing the ability of individuals to access the Internet. Where an individual lives, as opposed to income level, is more of a determinant for accessibility. Income, however, is usually interrelated into most barriers of accessibility.

According to the National Telecommunications and **Infrastructure** Administration's report "Falling Through the Net II" (NTIA, 1998), rural citizens are far less likely to use computers and digital networks, including the Internet, than average Americans. Rural areas have long since been neglected by telecommunications providers for business based reasons. The appropriate **infrastructure** is not readily available and is expensive to construct. This poses a great expense for private companies seeking to maximize their investment in the Internet. In simple **terms**, supplying hard to reach, sparsely populated areas is not cost effective.

Telecommunications companies have not found it worth the return on investment to deploy telecommunications **infrastructure** in certain areas, mainly rural and high cost areas in urban communities. Although debate exists as to whether this is accurate, the fact that telecommunications companies are predominantly in urban not rural areas is an indication of the lack of business focus companies have on low rate of return areas.

Perlman (2000) maintains that the cost of advanced telecommunications is driven by distance and population density making certain types of communication systems in rural areas not cost effective. It is costlier to get telecommunications infrastructure into rural areas than into most urban areas. The transition to fiber optics and cable Internet infrastructure, that provide high speed Internet service, does not seem to be making its way into the rural areas (Perlman, 2000).

Without the availability of high-speed transmission lines, individuals in rural areas do not have the opportunity to communicate as most of the urban population. Businesses, schools, hospitals, physicians and the general public in rural areas do not reap the benefits **from** the information superhighway. In this instance, the barrier to accessibility is not due to income, but due to a lack of **infrastructure**.

Rural areas are not the only location too costly to serve. Some urban areas are also situated where a poor **return, if any**, keeps telecommunications infrastructure from being deployed. The impact is detrimental to low income families located in areas that are too costly to serve. The gap between the "haves" and "have nots" becomes wider making technology harder to get for these individuals.

Age

Older Americans are among the strongest Internet holdouts. This group is older and more **fretful** about the online world disbelieving that it can bring them any benefits

(Lenhart, 2000 p. 2). The fact that older individuals are less likely to use the Internet is a factor that needs to be taken into account when contemplating who has access to technology and who does not. The younger generations have had information technology as part of some, if not all of their lives. Older individuals are likely to be more cautious, less ready to transition into the electronic environment. Individuals who are over 50 years old are among the least likely to use the Internet—the Internet use rate in this group was only 29.6% in 2000.

The reluctance of older Americans to use the Internet is a concern towards the lack of accessibility when taking into account the population and the special needs of older individuals. The number of older Americans is increasing and although they may be slightly slower to adapt to the digital revolution, this population is also likely to be active and demographically diverse as younger generations. The make up of this group makes individuals facing the same economic gap adding the transitional obstacles to acclimating to an electronic environment. The following section discusses gender as a barrier to accessing technology.

Gender

A Pew Internet Life study showed that women lag behind men in online participation. Although the same study showed that women are the fastest growing segment of Internet users, it concluded that 54 percent of women in the U.S. do not have Internet access (Lenhart, 2000, p.3). The literature also indicates that more than 9 million women have gone online in the last six months from March of 2000. Women report that they have used the Internet to strengthen relationships and networks. The Pew report "Who's Not Online" (Lenhart, 2000) shows that one third of the entire non-computer

population is women over **50** (p.11). Although gender is not a true barrier to access, data shows that women are slower to buy into the digital revolution than men.

Access for Disabled Individuals

Accessibility for individuals with disabilities is addressed in federal law. The Americans with Disabilities Act and the 1996 Telecommunications Act address accessibility to telecommunications by individuals with disabilities. Because disabled populations are limited to various areas of our society, the Internet offers a new extension for interacting with their community. Although accessibility is important for everyone in our society, it is especially important to individuals with disabilities.

Under section **508** of the Rehabilitation Act Amendments of **1998**, the Federal government's electronic and information technology must cater to the needs of the disabled. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Federal agencies must ensure that this technology is accessible to employees and members of the public with disabilities to the extent it does not pose an "undue burden" to the agency.

Accessibility to technology for disabled populations is important. Chairman William E. **Kennard**, Federal Communications Commission (FCC), points out on the agency's Disability Rights **Office** (DRO) homepage: "[we] should all have a sense of urgency, **first**, because as this economy goes digital, this economy is investing billions of dollars in rebuilding the network and the devices that use the network. Now is the time to make those networks accessible."

The Alliance for Technology Access (ATA), a non-profit advocate group for persons with disabilities, examines special needs required by certain segments of the population and is trying to address accessibility barriers that include problems posed by

slower or older computers, modems, clock speed, or graphics capacity. In trying to make web-sites more accessible, ATA considers the potential of using test-only, and tags that describe an image in words, as well **as** presenting the visual image itself, as techniques for improving accessibility⁴. While searching for ways to incorporate various segments of the population, organizations developing Internet services must also pay close attention to the issue of privacy affecting Internet transactions. The following section reviews privacy as a barrier for individuals who do not or are apprehensive about accessing the Internet.

Privacy

Privacy is an issue that comes to mind whenever considering going online. It can be a key barrier that keeps individuals **from** conducting online transactions. A National Public Radio and Kaiser Foundation study showed that more than 50 percent of Americans **worry** that an unauthorized person might gain access to their financial records or personal information on the Internet. An individual's apprehension to online travel also relates to how an organization's Web site will handle **personal** information.

Tracking online activity can also be seen as **an** invasion of privacy. A majority of Internet users are certain that online **tracking** is harmful because it invades their privacy (Fox, August 2000, p.9). Lack of a privacy policy or **an** organization's lack of clarity in a policy pertaining to privacy, promotes a lack of confidence by the public towards the organization and its Web site.

Since personal information is normally required for online transactions, a user increases the potential for falling victim to identity **theft**. Personal information in the wrong hands can have a **devastating** impact if used in a **fraudulent** manner. By traveling

⁴ See the Electronic Privacy Center for material regarding online privacy resources.

the Internet, users are exposing themselves to the entire population of a very large network. Many individuals, however, continue to conduct tasks online that require extremely personal and private information.

Internet users continue to conduct transaction online requiring credit card numbers, addresses, social security numbers, and drivers license numbers. While Americans that go online continue to say they are concerned about breaches of privacy and that control is important to them, about half of all Internet users are trusting valuable personal information to web companies that require it. Fifty-four percent of Internet users have provided their real email address, real name, or other personal information in order to use a web-site (Fox, 2000, p.9).

The following section discusses briefly the issue of security as it pertain to Web site and online travel.

Electronic Privacy and Security

Privacy and security are joined in this section because they have an underlying mutual theme: the vulnerability of the information that is going back and forth over the Internet. Government agencies, tax departments in particular, must be sensitive to the concerns of citizens about access to confidential information (Newcombe, 1998, p. 53). The need to protect sensitive and critical data has been recognized for years in various laws, including the Privacy Act of 1974; the Paperwork Reduction Act of 1980, as amended; and the Computer Security Act of 1987. Furthermore, information security has taken on new significance as both reliance on computers and vulnerabilities associated with networked systems have increased (OMB, 1996, p.1).

As previously discussed, the services governmental entities are providing via Web sites are becoming abundant. In many instances, however, information that is required

for online transactions also requires personal information. This leaves the online user vulnerable to identity theft-the criminal misappropriation of another person's identity. Social Security numbers, financial information, birth dates and other unique information that is used to **identify** those using online services needs to be kept secure.

In an effort to address the issue of identity theft, the U.S. Congress passed the Identity Theft and Assumption Act in 1998. The Act establishes that the person whose identity was stolen is a true victim. Previously, only the credit grantors who suffered monetary losses were considered victims. This legislation enables the Secret Service, the Federal Bureau of Investigation, and other law enforcement agencies to combat this crime.

It would be a **futile** effort on the part of **government** to provide online services without security. If personal information is not protected, the services requiring such information will not be utilized. The damage identity theft causes is great to the individual or business that are perpetrated. The crime also undermines the public confidence towards conducting transactions online.

Information that is protected needs to remain private. In certain instances state agencies have sold personal information for profit. Although revenue **from** the sale of such information has proven beneficial to the agency selling the information, the individuals whose information is sold poses ethical and public safety concerns. In light of such circumstances, states have made permitting the release or selling of personal information optional. In some cases, the information is obtained at the time of acquiring a driver's license. The risk of information getting into the wrong hands is a key policy issue. Now, other pieces of information that could be considered public and had been made accessible is being scrutinized due to the immediate nature of disseminating this data using modem technology (**Newcombe, 1998, p.52**).

The Digital Divide

This policy issue revolves around technology and the distance between those who are able to take advantage of a digital world and those who cannot. The digital divide is at the forefront of the agendas of policy makers throughout the country. This national issue is becoming more and more visible due to the gap that has been created among socioeconomic groups. The Department of Commerce study "Falling Through the Net" (U.S. DOC, 1998) finds that now more Americans than ever have access to telephones, computers, and the Internet. At the same time, however, the National Telecommunications and Information Administration has found that there is still a significant "digital divide" separating American information "haves" and "have nots." The report shows that the digital divide is widening and continues to widen (NTIA, 1999)

The common saying that "a rising tide raises all boats" could not have taken into account how fast the tide of technological advancement occurred. The divide is a problem if government uses technology to communicate with citizens – exclusively or predominantly. As many prosper **from** the new digital economy, policy makers are **left** to deal with the need to make sure that as many Americans as possible have the opportunity to benefit from these advancements. The impact this can have on government is creating a two-tier system that is draped with duplication and bureaucracy. Individuals designing governmental Web sites must take this factor into account when planning online services and possibly abandoning the more antiquated paper method of conducting business.

Texas policymakers have identified the need for standards regarding web-site accessibility for state agencies and universities. The following section discusses the

guidelines that have been developed to ensure broader accessibility to **web-sites** on the information contained on those web-sites.

Legislative Setting

Legislation Affecting Standards for State Internet Activity

During the 1999 Texas State Legislative Session, the legislature charged the state's technology agency, the Department of Information Resources (DIR), to develop a set of standards for **web-site** accessibility. The standards were developed for state agencies and universities in Texas to ensure greater accessibility to government resources. The standards focused particularly on individuals who are visually impaired. During the 76th legislative session, the legislature passed Senate Bill 801 that laid groundwork for DIR to establish Web site accessibility standards. Pursuant to wdes contained in the Texas Government Code, DIR developed the standards for accessibility and adopted them as an administrative **rule** into the Texas Administrative Code (1TAC201.12)⁵.

This study uses a practical ideal type framework to assess agency Web site access. The framework draws from the literature and incorporates the standards for accessibility outlined by DIR and Brown University, four categories established as a practical ideal type for assessing Web. The standards are identified to categorize the minimal guidelines for web-site accessibility. The four categories that make up the assessment framework are 1) individuals with disabilities 2) information accessibility 3) privacy and 4) hypertext markup language documents.

In September of 2000, a study at Brown University was conducted that rated

⁵ See Texas Administrative Code Rule 1TAC201.12 for language prescribing accessibility guidelines.

Texas first in accessibility. The Brown study concluded that every Web site in that state had at least half the features considered important for quality citizen access (West, 2000, p.10). From this study, a fifth category was established. The category is intended to create a higher level of accessibility for viewers. From this category, an optimal level of accessibility compliance is developed.

Several features the survey looked for in the Brown study were redundant to what this research looked for, but several elements were not. This section will be an addition to the minimal standards established by DIR and will be used to create the optimal set of accessibility guidelines for state agency web-sites. It should be noted that although the DIR guidelines apply to universities as well as state agencies, neither this research nor the Brown University research reviewed academic sites.

Coding Scheme

The content analysis coding scheme is illustrated on Table 2.2. The coding scheme is designed to result in a final total score for each of the 25 agencies reviewed: the higher the score, the greater the compliance with the accessibility guidelines. A mean, median and mode of the total scores for each of the agencies is calculated. Each element that is included on the Web site or page reviewed will score a 2, or yes, for containing the element. **If the** Web site or page does not contain the element, a 1, or no, will be scored. For a Web site or page in which the element does not apply, although rare, will score a non-applicable, or 0, will be scored.

The last category containing additional elements for accessibility is intended to create the optimum level of accessibility by an agency's Web site beyond the **first** four categories that create the minimal level of compliance.

Babbie (1992, 319) points out that "No coding scheme should be used in content analysis until it has been **carefully** pre-tested." For this reason, a pre-test of the coding scheme was conducted. A random sample of three Web sites out of the sample of 25 was selected.

Table 2.1 illustrates the operationalization of the conceptual framework.

| Table 21 | | | | |
|--|--|----|-----|--|
| Operationalizing the Conceptual Framework | | | | |
| Ideal Categories | | | | |
| | Yes | No | N/A | |
| Elements for persons with visual disabilities: | | | | |
| 1 | Do Alt tags use sufficient information describe an image? | | | |
| 2 | Are alt tags null for simple images? | | | |
| 3 | Does the Web page avoid using frames? | | | |
| 4 | Does Web page avoid having Priority 1 errors? | | | |
| 5 | Meet the definition of a generally accessible Internet site? | | | |
| Information Accessibility: | | | | |
| 6 | Does a site drop frames when pointing to another non-agency site? | | | |
| 7 | If the associated reader does not have full access to posted document files on a state Web site is an accessible version made available? | | | |
| 8 | Is a link for a free associated reader and instructions provided? | | | |
| 9 | Is the Web page accessible using generally available browser software? | | | |
| Privacy: | | | | |
| 10 | Is a privacy policy published by the state agency? | | | |
| 11 | Does the address the use of server logs or cookies? | | | |
| 12 | Does the policy address information collected by other technologies or processes? | | | |
| 13 | Does the policy address information collected via email and Web based forms? | | | |
| 14 | Does a Web based form post a link to the privacy policy? | | | |
| HTML documents on a state Web site: | | | | |
| 15 | Does the document have a title? | | | |
| 16 | Does the document have a description? | | | |
| 17 | Does the document use keywords? | | | |
| 18 | Does the document name the author (i.e., state agency) | | | |
| Advanced Elements for Accessibility | | | | |
| 19 | Does the home page include a foreign language translation capability? | | | |
| 20 | Does the home page provide a toll-free number for the agency? | | | |
| 21 | Does the home page provide a link for technical assistance? | | | |
| 22 | Does the home page provide a link for frequently asked questions (FAQs)? | | | |
| 23 | Does the home page provide a Text only feature? | | | |

Conceptual Framework

Based on the literature provided by DIR and the Brown University study, this research extrapolates 5 key standards for assessing Web sites. Although this research focuses on public Web sites in Texas, the standards and elements are applicable to any Web site on the Internet. The elements and practical ideal established have broad application and are not solely designed to assess public Web sites. The purpose of this research is to examine the level of compliance with Web site accessibility guidelines by the selected agencies with respect to standards outlined for disabled populations, document accessibility, privacy, and **html** documents.

The Web sites selected will be reviewed for the elements in the five categories. Four of the categories establish a minimal level of guidelines for accessibility. A **fifth** category is developed to create the maximum level of guidelines for Web site accessibility. The elements in this category are derived **from** a web-site research conducted by Brown University in Providence **Rhode** Island in October of 2000.

Standard 1

Access for individuals with disabilities

This standard consists of elements that make a web-site more accessible for individuals with disabilities. Many Web page users may be unable to see or hear. Web site content developers must consider these different situations during **Web⁶** page design. Whether or not a Web site is accessible to individuals with disabilities will be reviewed.

Image tags are used in order to provide a description of an image. A phrase will appear or be sounded by an audible reader to describe images a person without visual disabilities would immediately identify. When a Web page uses images, the utilization

of an **ALT** (Glossary) tag for images allows an audio reader an individual with visual impairments might use to read the description of the image a scrolling process comes across. The use of a "null" for simple images allows a reader to avoid bypass coding language used to describe an image that is used in a decorative, non-substantive manner. When a **full** description of a Web page is provided, it helps locate that page using search engines.

Frames used on the Web site and the presence of priority 1 errors make the Web site more difficult for individuals with visual disabilities to navigate. Frames are a coding technique used to present information on a Web page. The technique establishes two screens, essentially, and creates a potentially **confusing** atmosphere for a viewer with visual disabilities.

Standard 2

Document Accessibility

This category includes elements that indicate the presence of tools that make documents general accessible. The use and or availability of an associated reader, such as Acrobat Reader, ensure the transferability documents to a readable version. This availability is necessary to ensure the ability to access information and documents that are provided by the agency. Instructions for the use of a reader are also important for the **efficient** use of the reader by a web-site visitor.

The accessibility of a Web site by a generally used browser allows the site to be viewed by a user without the need for a specific tool such as Internet Explorer or Netscape. The ability to view a site without the strict need for a specific tool makes it

⁶ Information derived **from** the **W3C** Web Accessibility Guidelines 1.0 and the ATA regarding discussing on the needs of individuals with disabilities.

more Likely to be accessible. This helps makes it more likely that a broader viewing audience can access the site and the information on the site.

Standard 3

Privacy

This category consists of elements that deal with privacy. The posting of a privacy policy on a Web site is key to ensure the visitor understands how information attained on the site will or will not be used. The use of cookies or server logs indicates a user's viewing habits with information that is obtained **after** each visit. Cookies are embedded files that allow programs to execute or allow programs to **identify** their own data files. Logs track different information **from** the viewer (Stout, 1997, p.80, p.7). The feature tracks the travel of a particular individual on a Web site. Information contained on a privacy policy is useful to fully inform the viewer of the disclosure and use procedures that can be expected **from** an agency. Stout (1997, p.85) also points out that Web users can have a paranoia about giving away information about themselves. Clarity with regards to what happens to information obtained through online forms and transactions on a Web site is critical for establishing a comfort level with the Web site viewer. Forms add the dimension of interactivity to a Web (Web Developer). Gundavaran (1996, p. 51) points out that forms are generally used for two purposes: data collection and interactive communication. Since the use of forms play an integral part of an agency's effort to handle tasks online the protection of information that is required from those using the forms becomes increasingly important.

Standard 4

HTML documents

Hyper-text Markup Language (HTML) meta-data coding is used to aid in making an HTML document easier to locate on the Web. The use of meta-data coding is important for the identification of document content by search engines that surf the WWW **looking** for particular information. Documents on the WWW use this HTML coding language to create, format, and identify certain information and certain locations on the Internet (Eager, 1994, p. 113).

Elements documents are **recommended** to contain such as an author, subject, title, and the use of descriptive keywords are identified. The information a document contains makes an agency's documents and information easier to locate by search engines. The coding language is what search engines use to locate this information on the WWW.

Standard 5

Advanced elements for accessibility

The fifth and final category established in this conceptual **framework** and for this research is based on an assessment of state, federal and judicial web-sites conducted by Brown University in Providence **Rhode** Island in October of 2000. The report published identified Texas as rating number one in accessibility.

The following elements, foreign language translation, toll free number, technical assistance, frequently asked questions link, and a text-only capability are elements that have been added to the minimal standards. The 25 state agencies that will be assessed for compliance will also be assessed for the presence of the following features that are derived from the Brown University research.

The availability of foreign language translation is important because many individuals in Texas do not speak English. Many business sites have foreign language features on their web-sites that allow access to non-English speaking individuals. Unfortunately, government sites have made little progress on this front (West, p. 7). The Texas State Data Center estimates that the Hispanic population will grow **256** percent by **2030**⁷. The business environment between the U.S. and Mexico has also seen dramatic increases. The North American Free Trade Agreement has broken trade barriers and has enabled both countries to foster better commercial relations.

The publication and availability of a toll **free** number for the agency is an assessment criterion. A toll free telephone number could allow those needing to contact the governmental agencies to place phone calls at the agency's expense. Most agencies already provide such a number. Assessing for this element identifies whether the number is available and if so if it is posted on the web-site for public use.

The availability of technical assistance for the Web site visitor is an assessment criterion. The need for technical assistance is critical for those who are not technically sophisticated. A help desk or an equivalent that individuals can talk to when experiencing problems should facilitate good customer service and create a better customer experience.

If a "frequently asked questions" (FAQ) page is provided will be determined. Agencies can include a FAQ page on a Web site in order to help better associate different aspects of the **functions** and responsibilities of the agency. A set of questions can be compiled **from** previous inquiries the agency has been asked. This is helpful to present the viewer with information that has been concluded to be helpful. This is useful

⁷ See Texas Data Center at Texas A&M University for population forecasts.

information that can be posted for individuals seeking basic or common information **from** the web-site.

If a text-only capability is provided will also be determined. Such a link **from** the home page can allow an individual to view that page in text form without the images. This is helpful for anyone who needs to avoid that type of clutter on a Web page.

The above categories are established to gauge the level of compliance with accessibility guidelines. The guidelines, established by DIR and **from** the Brown University study, are key components used in this study.

Table 2.1 Links the Literature to the Framework

| Categories | Literature |
|--|--|
| Elements for persons with disabilities | 1TAC201.12, World Wide Web Consortium (W3C), Alliance for Technology Access |
| Do alt tags use sufficient information to describe the image? | |
| Are alt tags for simple images 'hull'? | |
| Does the Web page avoid using frames? | |
| Does the Web page avoid having priority 1 errors? | |
| Does the Web site meet the definition of generally acceptable Internet site? | |
| Information Accessibility | 1TAC201.12, W3C |
| Does a site drop frames when pointing to another non-agency Web site? | |
| If the associated reader does not have full access to posted document files on a state Web, is an accessible version made available? | |
| Is a link for a free associated reader and instructions made available? | |
| Is the Web page accessible using generally available browser software? | 1TAC201.12, W3C, Stout, '97 Gundavarian, |
| Privacy | |
| Is a privacy policy published by the state agency? | |
| Does the policy address the use of server logs or cookies? | 1006 |

| | |
|---|--|
| Does the policy address information collected by other technologies or processes? | |
| Does the policy address information collected via email and Web based forms? | |
| Does a Web based form post a link to the privacy policy? | |
| HTML meta-data information | |
| Does the document have a title? | ITAC201.12, W3C, Eaga |
| Does the document have a description? | |
| Does the document use keywords? | |
| Does the document name the author (i.e. , the state agency)? | |
| Advanced Accessibility Elements | |
| Does the home page provide a foreign language translation feature? | ITAC201.12, W3C, West, 2000, Sander, 1999 |
| Does the home page provide a toll-free number? | |
| Does the home page provide a technical assistance link? | |
| Does the home page contain a frequently asked questions " FAQs " link? | |
| Does the home page provide a text-only link on the home page? | |
| | |

Conclusion

This chapter has examined many issues associated with the Internet and its influence on government and society in general. The rapid growth of the Internet has brought dramatic changes in the way we interact with government. The growth of technology, however, is so fast that policy makers can not easily keep up with the changes. Although many of these issues are currently under review, the extent or depth of review must be given serious consideration. This chapter discussed how technology is affecting the role of the citizen's connection to government. In the next chapter, the methodology used for this study is discussed.

Chapter 3: Methodology

Introduction

The purpose of this chapter is to discuss the research methodology in the study. Methods of data collection, measurement and **operationalization** of the data are discussed. The strengths and weaknesses of content analysis are also reviewed.

For this project, the mode of observation is a content analysis of archival records. The archival records are the 25 state agency web sites that have been selected as the sample. The web page itself is the artifact reviewed. This method is the most appropriate for the observation and organization of the results since content analysis is a good way to analyze different types of communication. The technique was also chosen for this project for the benefits it brings to the exercise of observation. Content analysis is economical in time and money and is unobtrusive (Babbie, 1995, p. 320).

Weaknesses of method

Some weaknesses, however, do exist with this technique in that it is limited in its use to written communication and has a potential problem with validity. Suffice is to say that content analysis is high in reliability but low in validity of the results that it presents (Babbi, 1995, p.320-321). Another weakness to the review, however, is the **lack** of literature regarding Web site content.

In order to get a broad sense of state agency web sites, 25 of the largest Texas State agencies, based on the level of state legislative appropriations, have been selected for assessment of compliance with the established DIR web site criteria. The selection of larger agencies helps ensure the agency is likely to have the resources necessary to handle a majority, if not all, of their technology needs. Using this process should also help

ensure that a large agency would have a large client base or mandated role in state government.

Coding sheet elements

All the elements of the coding sheet are derived **from** two sources. The first four categories consist of elements extracted from **of rules** passed by DIR establishing a minimum level of criteria for each agency to provide on their web site to increase accessibility to an agency Web site. The last category was developed directly from the Brown University study that searched federal, state, and judicial Web sites. Although the DIR guidelines established apply to universities and judicial sites, only the 25 state agencies were selected for this research. The coding sheet will contain the elements selected from the two sources and will indicate by showing a yes or no with regards to each individual criterion.

Statistical Methods Used

Simple statistics are used to interpret the level of compliance of each of the agencies in the sample. Percentages will be used when discussing the results from each category due to the small sample size. The mean, median, and mode are calculated to assist ~~this~~ process of analyzing the overall scores of the agencies assessed. It is anticipated that the results from the review of each of the 25 web pages indicates the extent state agencies are complying with the DIR rules. The higher the level of compliance, the higher the probability an agency Web site, and the information on that site, is accessible and user friendly.

The average score was 33.8 with a score of 40 as the highest score for an agency. The mode for the sample was 35 with the median the same. The number of instances in

which an agency was assessed as positively containing an element or following the recommendation is awarded a "yes" for the particular element. A perfect score is a (42) involves the presence of 21 elements. The closest score was a (40) with the lowest score a (25).

Sample Used in Study

The unit of analysis is a Web page posted on the Texas Rewards and Information Records Locator (TRAIL). The TRAIL system is a Web based directory containing links to state agencies and universities. The sample of 25 was selected by level of state funding from the 76th legislative budget. Appendix 3 shows the TRAIL site where the agency Web sites can be located. The agencies selected are 25 of the highest funded agencies as based on the General Appropriations Act of 1999. The level of funding is important for this research. By selecting an agency that is well funded, a lack of resources should be excluded as an excuse for a low level of compliance to the ideal type. The next 5 sections of this chapter discuss the elements in each conceptual category.

Conceptual Categories

Elements for persons with visual disabilities

The questions posed in this category are directed at Web site elements that make access easier, in many cases possible, for individuals with visual disabilities. For this category, the help of Bobby will be enlisted. The Bobby site is fast becoming a generally acceptable standard for rating the accessibility a Web page⁸.

Questions 1-6 of the coding sheet assess for various elements such as ALT (Glossary) tags that allow a person with visual impairments to hear a description of an

⁸ Bobby is a Web site developed by the Center for Applied Special Technology (CAST)

image on the site when using a voice reader or can read the text when using a text or Braille reader. Whether a Web site is coded to use a "null" for simple images is also reviewed. The assessment of the elements in this category includes the review of the Web sites for the use of **frames**. Frames bring a level of complexity to a Web site.

Although **Kirchhoff** (1997, p. 25) mentions frames as illustrating a higher level of commitment to the design of a Web site, this feature brings an entire range of potential complexities for individuals with visual disabilities. This type of design is regarded as difficult and levels of error are rated in priority to assess any faults on the page that could make viewing the page cumbersome for an individual with special needs. **For this** question, each of the agency's home page is submitted to Bobby, an Internet site that analyzes a Web page for errors.

Information accessibility

This category assesses the availability of readers, such as Acrobat, that help ensure that a viewer has options when attempting to download or view any type of information on a Web site. Whether or not a document can be accessed by a viewer and the options that viewer may have to access the information are assessed in questions 7 through 10. The availability of a free associated reader and the ability to navigate a Web site without the need for a specific browser, are assessed in this category as well.

Privacy

This category assesses for the posting of a privacy policy. Questions 12 through 14 identify certain items contained in a posted privacy policy. The focus is on the collection of data submitted on a Web site when filling out a Web based form or when an individual submits an **email**. The use of **cookies** that track users visiting a site, other

technologies or processes assesses for the discussion in the policy that describes ways in which information is handled that may be in a variety of ways and for a variety of reasons such as statistical data. The **final** element in this category assesses the presence of a link to the agency privacy policy on a Web based form.

HTML Meta-data

As discussed earlier in the paper, meta data is language used in HTML coding that allows for search engines to locate a particular Web page or document using those particular words. In this category, five elements are selected and searched for on the agency home page source code: a title, description of page, keywords, author. The presence of a title allows a search process to locate the page pertaining to the title. The presence of a description allows the search process to locate a page using more general words that describe the page. The presence of keywords allows a search process to locate a page using general terms that describe the page. Finally, for this category, the assessment of the presence of the author, in this case the name of the agency was reviewed for. An author helps direct a search engine to a page when searching for **items** from a particular agency.

Advanced elements for accessibility

The final category consists of elements based on the Brown University study (West, 2000). The Web sites are assessed for the presence of five features derived **from** the study: language translation capability, a toll free phone number, technical assistance, a **frequently** asked questions (FAQ) page, and a text conversion of home page contents. These features were reviewed for directly **from** the home page. In one instance?

searching for the presence of an FAQ page, was scored as present if a search effort could locate the page.

The first element assessed is for the presence of a language translation **capability**. The second element reviewed for is the availability of a toll-free number. The third feature the Web site is reviewed for is the availability for technical assistance for viewer. The fourth element assessed for is the presence of a link to a section of **frequently** asked questions. The final element assessed for is the availability for a text only capability on the home page.

Description of the Sample Agencies

The following is the list of agencies and a brief description of responsibilities in Texas State government. The agencies are diverse in function but are similar in that they are twenty-five agencies with the highest level of state **funding**.

Comptroller of Public Accounts - <http://www.window.state.tx.us/>

The agency is the state's tax collecting entity.

Department of Public Safety - <http://www.dps.state.tx.us/>

The agency is the law enforcement agency for the State.

Texas Commission for Alcohol and Drug Abuse - <http://www.tcada.state.tx.us/>

Administers programs for drug and alcohol rehabilitation programs in Texas.

Texas Department of Housing and Community Affairs - <http://www.tdhca.state.tx.us/>

The Department's services address a broad spectrum of housing and community **development** issues

Texas Department of Transportation - <http://www.txdot.state.tx.us/>

The Texas Department of Transportation (TxDOT) provides transportation systems throughout the state of Texas.

Texas Department on Aging - <http://www.tdoa.state.tx.us/>

Provides comprehensive and coordinated continuum of services and opportunities for older individuals.

Texas Attorney General - <http://www.oag.state.tx.us/>

The State's chief legal counsel.

Texas Department of Agriculture - <http://www.agr.state.tx.us/>

TDA has marketing and **laws** and **more** 50 **p**

Texas Alcoholic Beverage Commission - <http://www.tabc.state.tx.us/>

The duties of the Commission include regulating sales, taxation, importation, manufacturing, transporting, and advertising of alcoholic beverages.

Texas Worker's Compensation Commission - <http://www.twcc.state.tx.us/>

The Commission is a state agency that monitors the delivery of benefits to injured workers and eligible family members of workers killed on the job.

Texas Workforce Commission - <http://www.twc.state.tx.us/>

The (TWC) is the state government agency charged with overseeing and providing workforce development services to employers and job seekers of Texas.

Texas Protective and Regulatory Services - <http://www.tdprs.state.tx.us/>

PRS was charged with protecting children, adults who are elderly or have disabilities living at home or in state facilities, and licensing group day-care homes, day-care centers, and registered family homes.

Texas Department of Criminal Justice - <http://www.tdcj.state.tx.us/>

The Department operates state prisons, state jails, parole, and provides **funding** and certain oversight of community supervision

Texas Education Agency - <http://www.tea.state.tx.us/>

Administers educational laws and policies for the State.

Texas Employees Retirement System - <http://www.ers.state.tx.us/>

Administers retirement plans and various programs for state employees both active and retired.

Texas Department of Health - <http://www.tdh.state.tx.us/>

The Texas Department of Health (TDH), a large and diverse agency focused on improving public health outcomes.

Texas Department of Human Services - <http://www.dhs.state.tx.us/>

The mission of the Department is to provide financial, health, and human services that promote the greatest possible independence and personal responsibility for all clients.

Mental Health and Mental Retardation - <http://www.mhmr.state.tx.us/>

The agency is mandated to serve those individuals with mental illness and mental retardation in greatest need of services.

Texas Parks and Wildlife Department - <http://www.tpwd.state.tx.us/>

To manage and conserve the natural and cultural resources of Texas for the use and enjoyment of present and future generations.

Texas Natural Resource Conservation Commission - <http://www.tnrcc.state.tx.us/>

Protecting the state's human and natural resources consistent with sustainable economic development. Our goal is clean air, clean water, and the safe management of waste.

Texas Department of Economic Development - <http://www.tded.state.tx.us/>

Market Texas and assist communities to maximize economic development opportunities in a global economy.

Texas Water Development Board - <http://www.twdb.state.tx.us/>

The TWDB is the state agency charged with statewide water planning and administration of low-cost financial programs for the planning, design and construction of water supply, wastewater treatment, flood control and agricultural water conservation projects.

Texas General Land Office - <http://www.alo.state.tx.us/>

The agency's core mission is still the management of state lands and mineral-right properties totaling 20.3 million acres.

Texas General Services Commission - <http://www.gsc.state.tx.us/>

The agency provides support services for state agencies such as vehicle fleet management, telecommunications services, procurement and contracting services, and building maintenance and upkeep services.

Texas Lottery Commission - <http://www.txlottery.org/>

The agency administers the lottery games in Texas.

Chapter 4: Summary of Results

The purpose of this chapter is to display and interpret the data compiled **from** the coding sheet utilizing descriptive categories developed **from** the conceptual framework. The organization of the chapter is linked to the conceptual framework. The coding sheet data will be presented in table form.

The results are collected for each category and presented in a table form along with a brief summary. Examples of best practices are provided in Appendix 2. These samples were selected based on the overall score the Web site received. The Web sites are reviewed for content as it relates to the DIR guidelines, the Brown University Study and the categories established by the conceptual framework. The agency's home page source code was assessed for compliance of the guidelines addressing the level of compliance for a Web page regarding the visual impairment elements. The remainder of the elements required a search on the agency Web site.

Visual Impairment Elements

The elements in the **first** category are elements that make a Web sites accessible to for an individual that is visually impaired. The majority of the agencies home page code used **sufficient** information to describe an image on a Web page when ALT tags were **used** for images. None of the agencies used **frames**. This would prove to be a positive aspect since frames have been recognized to be a potential problem for individuals with disabilities. **A** fair portion, sixty-four percent, of the Web sites contained priority 1 errors that, for the sake of this research, **renders** the Web page not "generally accessible" for individuals who are visually impaired. For that reason, the

following element received a similar score. Table 4.1 shows the results of each of the elements in this category.

Results for Visual Impairment Elements

Table 4.1

| S1 | Elements for Individuals with disabilities | Y | N | NA |
|-----------------------|--|------|----|-----|
| E1 | Do alt tags use sufficient information to describe the image? | 92 | 8 | 0 |
| E2 | Are alt tags for a simple image null? | 24 | 28 | 48 |
| E3 | Does the Web page avoid using frames? | 0 | 0 | 100 |
| E4 | Does the Web page avoid having Priority 1 errors? | 64 | 36 | 0 |
| E5 | Does the Web page meet the definition of generally accessible? | 64 | 36 | 0 |
| Totals in percentages | | N=25 | | |

Information Accessibility

The elements in this category deal with the availability of tools on a Web site that help **make** documented information more accessible. The entire sample (25) avoided the use of **frames**. As a result, the element searching for the dropping of **frames** when pointing to a non-agency site shows one hundred percent non-applicability. The entire sample provided a variety of versions for different documents posted in various areas of the agency Web site. A search of the Web sites usually located documents that were provided in an accessible version. One hundred percent of the sites were accessible using generally available browsers. In ninety-six percent of the samples, an associated reader was made available along with instructions. This category showed that information was generally accessible in the majority of the Web sites. Table 4.2 shows the results of the elements for this category.

Results for the Elements Addressing Information Accessibility

Table 4.2 Information Accessibility

| S2 | Information Accessibility | Y | N | NA |
|-----------------------|---|------|---|-----|
| E1 | Does the site drop frames when pointing to a non-agency site? | 0 | 0 | 100 |
| E2 | If the associated reader does not have full access to posted document files on a Web site, is an accessible version made available? | 100 | 0 | 0 |
| E3 | Is a link for an associated reader and instructions made available? | 96 | 4 | 0 |
| E4 | Is the Web page accessible using a generally available browser? | 100 | 0 | 0 |
| Totals in percentages | | N=25 | | |

Discussion on results for the Privacy Category

A privacy policy, and the content of the policy, is an integral aspect of a Web site. For this category, the publication of a privacy policy was affirmative in eighty percent of the agency Web sites. A majority of agencies, eighty-four percent, addressed the use of cookies and technology in the agency's privacy policy. Seventy-six percent of the policies reviewed addressed information collected on Web based forms. Very few agencies, 3, posted a privacy link from Web based forms. Table 4.3 shows the results for the elements in this category.

Table containing results of Privacy category

Table 4.3 Privacy

| S3 | Does the Web site contain the following privacy elements | Y | N | NA |
|-----------------------|---|------|----|----|
| E1 | Is a privacy policy published? | 80 | 20 | 0 |
| E2 | Does the policy address the use of server logs or cookies? | 84 | 16 | 0 |
| E3 | Does it address information collected by other technologies or processes? | 84 | 16 | 0 |
| E4 | Does it address information collected via mail and Web based forms? | 76 | 24 | 0 |
| E5 | Do Web based forms provide a link to an agency privacy policy? | 12 | 76 | 12 |
| Totals in percentages | | N=25 | | |

HTML meta-data elements

Meta-data is used to allow search engines to locate the documents on the Web site. The results show that the meta-data used in the home page source code is **sufficient** in the majority of the Web sites. A title was provided in one-hundred percent of the Web sites. Seventy-six percent of the agencies provided a description of the page. An even larger number of home pages, eighty-eight percent, used keywords for the page. Only seventy-two percent of the home pages provided the **name of the** author, or agency.

For this category, all agencies used the meta-data to provide a title for the Web page. In general, the category showed a high level of compliance for this category. Table 3.4 shows the results **from** the data **regarding** the assessment of the 25 Web sites for the elements **from** the HTML standard.

Table containing results of the HTML category

Table 4.4 HTML documents

| S4 | HTML meta-data information | Y | N | NA |
|-----------------------|---|------|----|----|
| E1 | Does the document have a title? | 100 | 0 | 0 |
| E2 | Does the document have a description? | 76 | 24 | 0 |
| E3 | Does the document use keywords? | 88 | 12 | 0 |
| E4 | Does the document name the author (i.e., state agency)? | 72 | 28 | 0 |
| Totals in percentages | | N=25 | | |

Advanced elements for accessibility

The **final** category presents features that create an increased rate of accessibility for an agency and its Web site. Although many agencies received high scores for the level of compliance **from** the minimal standards in categories 1 through 4, none received

a perfect score that would allow that Web site to use the elements in Table 4.5 to establish a maximum level standard for accessibility.

Only twenty-eight percent of the sample provided a language translation capability on the home page. A toll **free** phone number was provided on twenty-four percent of the sample Web sites. This included an **affirmative** score when a agency Web site posted a toll **free** number on a different link, such as a "contact" link, other than the home page. The only feature that was also present in a majority of the Web sites, **sixty-four** percent, was a frequently asked question link. The remainder of the elements in this category were overwhelmingly absent from the Web sites. Table 4.5 shows the results for the assessment of this category.

Table containing the results from the advanced elements category

Table 4.5 Advanced accessibility elements

| S5 | Advanced accessibility elements | Y | N | NA |
|----|--|----|----|----|
| E1 | Does the home page provide a foreign translation feature? | 28 | 72 | 0 |
| E2 | Does the home page provide a toll-free number for the agency? | 24 | 76 | 0 |
| E3 | Does the home page provide a technical assistance link? | 4 | 96 | 0 |
| E4 | Does the home page provide a frequently asked questions link? | 64 | 36 | 0 |
| E5 | Does the home page provide a text only capability of the content? | 4 | 96 | 0 |

Totals in percentages

N=25

The next chapter will be a conclusion to the research. In the next chapter, Table 5.2 offers a general description of each element and the level of compliance by each agency for each individual element. The findings, including a table that shows the overall scores of each agency, weaknesses of the research, possible follow-up studies, and recommendations are discussed.

Chapter 5: Conclusion

The purpose of this chapter is to summarize the finding of this research, discuss the weaknesses of the study, and discuss follow-up research. The level of compliance of state agencies in Texas to Web site accessibility standards established by DIR is illustrated in Table 5.1. A 44 presented a perfect score involving an affirmative to the presence of the 21 elements excluding the two elements relating to **frames**, which no agency Web site used. The closest to a perfect score was a 40 with the lowest score a 25.

Discussion of Findings

Table 5.1 summarizes the findings of the content of analysis:

| Agency | Score |
|---|--------------|
| Comptroller of Public Account | 40 |
| Texas Parks and Wildlife | 39 |
| Department of Health | 38 |
| Department of Insurance | 38 |
| Natural Resources and Conservation | 38 |
| Commission on Alcohol and Drug Abuse | 37 |
| Department of Human Services | 37 |
| Education Agency | 36 |
| Department of Criminal Justice | 35 |
| Department of Transportation | 35 |
| General Services Commission | 35 |
| Mental Health and Mental Retardation | 35 |
| Water Development Board | 35 |
| Workers Compensation Commission | 34 |
| Attorney General | 33 |
| Employees Retirement System | 33 |
| Workforce Development | 33 |
| Department of Economic Development | 31 |
| Department on Aging | 31 |
| Protective and Regulatory Services | 31 |
| Housing and Community Affairs | 30 |
| Lottery Commission | 30 |
| General Land Office | 29 |
| Department of Public Safety | 27 |
| Department of Agriculture | 25 |

Level of Compliance for each element

The level of compliance for each individual element is illustrated in Table 5.2. If an element was present a 2 was entered. If an element was not present, a 1 was scored on each element. Appendix 5 shows the total scores for each element. The overall level of compliance is regarded strong if a score for that element was **from** forty-three to fifty, a moderate for a score **from** thirty-four to forty-two, or weak for a score of twenty-five to thirty three. This applies to every element for the exception of the elements discussing the use of **frames** on a Web site. Not one agency Web site in the sample used **frames**.

Level of compliance for individual elements

Table 5.2 Level of Compliance

| Categories | Compliance |
|--|-------------------|
| Elements for persons with disabilities | |
| Do alt tags use sufficient information to describe the image? | Strong |
| Are alt tags "null" for simple images? | Weak |
| Does the Web page avoid using frames ? | N/A |
| Does any page with frames contain priority I errors? | Strong |
| Does the Web page meet the definition of generally accessible? | Strong |
| General Accessibility | |
| Does the site drop frames when pointing to a non-agency site? | N/A |
| If the associated reader does not have full access to posted document files on a state Web, is an accessible version made available? | Strong |
| Is a link for a free associated reader and instructions made available? | Moderate |
| Is the Web page accessible using generally available browser software? | Strong |
| Privacy | |
| Is a privacy policy published? | Moderate |

| | |
|---|----------|
| Does the policy address the use of server logs and/or cookies? | Moderate |
| Does the policy address information collected by other technologies or processes? | Moderate |
| Does the policy address information collected via email and Web based forms? | Moderate |
| Do Web based forms post a link to the privacy policy? | Weak |
| HTML meta-data information | |
| Does the document have a title? | Strong |
| Does the document have a description? | Moderate |
| Does the document use keywords? | Strong |
| Does the document name the author (i.e., the state agency)? | Moderate |
| Advanced Elements for Accessibility | |
| Does the Web site home page provide a foreign language translation feature? | Weak |
| Does the Web site provide a toll-free number for the agency? | Weak |
| Does the home page provide technical assistance information? | Weak |
| Does the Web site contain a frequently asked questions "FAQs" link? | Moderate |
| Does the home page Web site provide a text-only capability? | Weak |

Overall agency strengths and weaknesses

Overall, the agencies were compliant with the guidelines established by DIR. Few were compliant with the elements in the **final** category developed from the Brown University Study. Examples of best practices can be found in Appendix 2.

The agencies showed some overall strength in accessibility for individuals with disabilities by avoiding errors and design that would be accessibility more difficult. The agencies also showed an overwhelming practice of the publishing of privacy policies. This **same** category showed an overall weakness by the agencies in not providing a link to the posted policy from a Web based form in which personal **information** is submitted.

The results showed a strong effort on the parts of agencies to make Web pages, or at least the agency home page, a searchable Web document by using the Meta-data criteria established by DIR. Results **from** the **final** category did not prove to be positive at all. This category had the least **amount** of compliance by the agencies. The next section will discuss weaknesses found in this research process.

Weaknesses of the Research

One weakness that was a definite hindrance to this research is the lack of literature regarding Web design for specific features. Another weakness was the lack of diversity in size of the sample agencies. The exclusion of judicial sites and university sites could also be considered a weakness of the research.

The time allotted also limited the scope of the research. A greater amount of resources to review the Web sites further in depth could prove to be beneficial to evaluate the site and material contained on the site at a greater depth

Another weakness of the research is in the dynamic nature of Web sites and Web documents. Agencies are continuously adding to the material on their Web site and in many instances changing their Web page design.

Possible Follow-up Studies

This research could be followed up by reviewing the agencies in the sample on the elements that were not present on the Web site or Web page during this research. A follow up could also take into account forthcoming DIR rules that will add to the already established guidelines. Another follow-up research could be a similar study focusing on Federal Web sites that are required by law to be accessible to individuals with handicaps.

Recommendations and Conclusion

Agencies need to be more cognizant of the guidelines that are recommended by DIR that are intended to increase navigability and accessibility. These guidelines have no binding affect and agencies are not reprimanded for not following them. If this were to change, the Web site standards would be adhered to and viewers of state agency Web sites could expect some continuity and consistency when traveling public Web sites.

The demand for information that is posted on state Web sites is increasing. The availability of this information is also on the rise. Given these two factors, the accessibility of a Web site and its contents is critical to all public citizens.

APPENDIX 1

**Texas Administrative Code
1TAC201.12**

<<Prev Rule

Texas Administrative Code

Next Rule>>

TITLE 1 ADMINISTRATION
PART 10 DEPARTMENT OF INFORMATION RESOURCES
CHAPTER 201 PLANNING AND MANAGEMENT OF INFORMATION
RESOURCES TECHNOLOGIES
RULE 5201.12 State Web Sites

(a) **Definitions.** The following words and terms, when used in this section, shall have the following meanings unless the context clearly indicates otherwise.

(1) Agency contact information--a list of key personnel **and/or** position or program contacts, including public contact telephone numbers, general e-mail address, and other information deemed necessary by the agency for facilitating public access.

(2) alt tag--Alternative tag; an HTML code option associated with an image **file** on a Web page that is used to give a text description of the image. This information will assist a person using a text browser to understand the page content and navigation **directions**.

(3) Document image files--Files published in vendor-specific **file** formats (**e.g.**, portable document format (**pdf**) files) that create an image of a document.

(4) Frames--A **coding** technique used to present information on a Web page.

(5) Generally accessible Internet site--A state Web site that:

(A) complies with the Web Content Accessibility Guidelines for persons with visual disabilities promulgated by the **W3C**;

(B) contains no priority 1 errors; and

(C) complies with HTML standards published by the **W3C**.

(6) Historical document--either a document dated prior to 1991 for which the agency does not have the original document in electronic format, or a document dated prior to 1997 that contains a handwritten signature.

(7) Home page--The initial page or entry point to a state Web site.

(8) HTML--**HyperText** Markup Language.

(9) IETF--the Internet Engineering Task Force.

(10) Internet--the network of interconnected networks employing the **TCP/IP** standards as published by the IETF.

(11) Key public entry point--A Web page that a state agency has specifically designed for members of

the general public to access official information (e.g., the governing or authoritative documents) **from** the agency.

(12) Meta tag--An HTML code option for **identifying** information about a Web page that facilitates locating **specific** information on Web pages by search engines.

(13) P3P--Platform for Privacy Preferences; a technical specification published by the W3C that enables Web sites to **identify** their privacy practices in a **manner** that can be understood by commercially-available Web browsers.

(14) Priority 1 error--An HTML coding error on a Web page that **will** cause persons with visual disabilities to be unable to access information on the page.

(15) Priority 2 error--An HTML coding error on a Web page that may make it very **difficult** for persons with visual disabilities to access information on the page.

(16) Privacy Policy--a statement about what information is collected by a Web site, how the information will be used, and under what conditions the information may be shared or released to another party. Privacy Policy guidelines are available at <http://www.state.tx.us/Standards/srrpub11-privacy-policy.htm>

(17) Server log software and cookies--Particular methods employed for the purpose of tracking visitors to Web sites. The information collected for analysis can include where the request came **from**, time, pages visited, and **identifiable** information about the visitor.

(18) State Web site--a state agency-owned, -operated, or **-funded** Web site connected to the Internet, including a state agency's home page and any key public entry points.

(19) SSN--Social Security Number.

(20) SSL--Secure Sockets Layer; The Internet security standard for point-to-point, encrypted connections between Web servers and client browsers.

(21) Statewide Search--a **link** to the TRAIL Web site.

(22) TCP/IP--**Transmission Control Protocol/Internet Protocol**; a suite of protocols developed by the IETF and published as Request for Comments (**RFCs**).

(23) Texas home page--<http://www.state.tx.us/>.

(24) TRAIL--Texas Records and Information Locator or its successor. Additional information is available at <http://www.tsl.state.tx.us/>

(25) Transaction payment information--bank account and routing number, credit, **debit**, or other forms of card-based payment systems.

(26) Transaction Risk Assessment--An evaluation of the security and privacy required for an interactive Web session providing public access to government information and services. Additional information and guidelines are available at <http://www.state.tx.us/Standards/srrpub11.htm>

(27) W3C--World Wide Web Consortium

(b) **All** state agencies **will** adhere to the following:

(1 j As of July 1, 2000, the home page of all state Web sites, and any new or changed key **public** entry points, shall meet the definition of a generally accessible Internet site and the following guidelines:

(A) Every image on a state Web site shall use an **alt** tag with sufficient information describing the image, or a null for simple images (**e.g.**, a dot or bullet), so that a person unable to see the image can understand the content and meaning for its use. Except for geographic information systems, if image maps are used that do not comply with the Web Content Accessibility Guidelines for persons with visual impairments, a text alternative shall be provided.

(B) A state agency implementing flames on a state Web site shall:

(i) Not have any page that contains priority 1 or 2 accessibility errors.

(ii) Drop the **frame(s)** when indexing or pointing to other non-agency Web sites.

(C) A state agency posting document image **files** to a state Web site, for which the associated reader does not **fully** support accessibility, shall also make available an accessible version of the same information. The document image version **will** include a **link** to obtain a free copy of the associated reader, and accessibility instructions. Excluded **from** this provision are:

(i) Historical documents.

(ii) Documents for which the agency is not the original author.

(iii) Document image **files** of forms that are not currently designed for electronic use, but for which the use depends on a structured layout. These forms shall be identified in the section of the agency's Information Resources Strategic Plan that describes the agency's plans for receiving forms or payments electronically.

(D) A state agency shall publish a privacy policy for its Web site. The privacy policy shall address the following:

(i) Use of **server** logs **and/or** cookies.

(ii) Information collected by other technologies and processes.

(iii) Information collected via e-mail and **Web-based** forms. A Web-based form shall post a **link** to the policy. The form may include a provision for the individual to opt-out of sharing the information with another party, or a warning that the information may be a public record and therefore subject to the Texas Public Information Act.

(E) Web pages designed for children must comply with all applicable federal and state laws intended to protect minors.

(F) State agencies shall plan on implementing P3P on the home page and key public entry points to a state agency Web site.

(G) All Web pages, whether static or dynamic, must be accessible using generally available browser **software**, and be designed with consideration for the types of Internet connections available to the citizens of Texas. Standards Review and Recommendation Publication 11 (**SRRPUB11**) contains additional information that may assist agencies in the design of their Web sites. The guideline is available at <http://www.state.tx.us/Standards/srrpub11.htm>

(2) As of July 1, 2000, all new or changed **HTML** documents on a state agency Web site that meet the criteria of a state publication as **defined** by the Texas State Library and Archives Commission shall include the following meta tags:

(A) Title--page topic or subject;

(B) Description--brief description of the subjects covered;

(C) Keywords--specific to the page subject, and should not exceed 25 words; and

(D) Author--State of Texas and state agency name.

(3) As of July 1, 2000, the home page of a state Web site shall incorporate TRAIL metadata and shall:

(A) Provide **links** to the following State of Texas resources:

(i) Texas home page; and

(ii) Statewide Search.

(B) Provide **links** to the following agency information:

(i) Privacy policy;

(ii) Agency contact information; and

(iii) Description of the agency's open records **policy/procedures**.

(4) As of July 1, 2000, all key public entry points shall provide links to the following:

(A) Agency contact information; and

(B) Agency home page.

(5) Prior to providing access to information or services on a state Web site that require user identification, each state agency shall conduct a transaction risk assessment, and implement appropriate security and privacy safeguards. At a minimum, state Web sites that require a citizen to enter the following information shall use an SSL session or equivalent technology to encrypt the data:

(A) Both the individual's name and other personal information, such as an SSN;

(B) Transaction payment information; or

(C) An individual's identification code and password. Further guidance concerning server certificates and encryption key length are contained in **SRRPUB11** at <http://www.state.tx.us/Standards/srrpub11.htm>

Source Note: The provisions of this §201.12 adopted to be effective April 3, 2000, 25 TexReg 2783

[Next Page](#)

[Previous Page](#)

[List of Titles](#)

[Back to List](#)

[HOME](#) | [TEXAS REGISTER](#) | [TEXAS ADMINISTRATIVE CODE](#) | [OPEN MEETINGS](#) | [HELP](#) |

APPENDIX 2

BEST PRACTICES

Privacy Policy

Coding Source Page

Provided Associate Reader and Instructions

Frequently Asked Questions Page

Text-Only Capability

Language Translation Capability

Toll Free Phone Number

[Home](#)[Search](#)[Site Map](#)[What's New](#)[Contact Us](#)

Carole Keeton Rylander
Texas Comptroller of Public Accounts

[Window on State Government](#)

Privacy Policy

1. To improve the usefulness of our Web site, we collect **traffic** information from our site's server logs. This information does not **identify** the visitor individually. The information we collect consists of:
 - o The **name** of the domain from which the visitor accesses the Internet (for example, "aol.com," if the visitor is connecting **from** an America Online account).
 - o The Internet Protocol number.
 - o The date and time that the page was visited.
2. Some pages use **cookies** to maintain sessions or to automate navigation. We do not use **cookies** or any other similar technology to collect information about our visitors.
3. We collect the e-mail addresses of those individuals who communicate with us via e-mail or who give us their e-mail address.
4. We collect information that those individuals who communicate with us via e-mail or who submit forms on our Web site voluntarily provide.
5. We use e-mail addresses and volunteered information to send news, notices of upcoming events, and tax **information** to those who request it.
6. We will not market the **information** we collect.
7. The information that we collect will be retained and maintained as required by Texas [records retention laws](#) (Government Code Section **441.180** et seq.) and rules. Different types of information are required to be kept for different periods of time.
8. The information we collect may be subject to public disclosure under the [Texas Public Information Act](#).

[Carole Keeton Rylander](#) - Texas Comptroller of Public Accounts

[Window on State Government](#)

[Privacy Policy](#)

```

<html>
<head>
  <title>TCADA Home Page</title>

  <META NAME="keywords" CONTENT="texas, substance abuse, alcohol, un
  derage,
  drinking, beer, liquor, wine, minors, awareness, law, public, info
  rmation,
  educational, families, alcohol statistics, community, kids, childr
  en, youth,
  teenagers, illicit drugs, drugs, providers, treatment, statewide,
  state
  agencies, finding treatment, licensure, substance abuse, recovery
  , peer
  'pressure, schools, drug-free, anti-drug, talking to kids'>

  <META NAME="description" content="Texas Commission on Alcohol and
  Drug Abuse Home Page">
  <META NAME="DC.Identifier" CONTENT="http://www.tcada.state.tx.us">
  <META NAME="DC.Subject" CONTENT="Government information ">
  <META NAME="DC.Subject" CONTENT="State government">
  <META NAME="DC.Subject .Keyword " CONTENT="State Agencies">
  <META NAME="DC.Coverage" CONTENT=" Texas">
  <META NAME="DC.Type"CONTENT="Home Pages ">
  <META NAME="DC.Creator" CONTENT="Debby Baker">

  <script language="JavaScript">

    var head = '<HTML><HEAD><TITLE>www.youcanhelpkids.org</T
  ITLE></HEAD><BODY BGCOLOR="#0066cc"
  text="#ffffff" marginheight="0" marginwidth="0" topmargin="0" left
  margin="0">'
    var table1 = '<TABLE WIDTH="300" HEIGHT="175" BORDER="0" c
  ellpadding="0" cellspacing="0"><TR><TD
  WIDTH="300">'
    var table2 = '</TD></TR></TABLE>'
    var foot = '</body></html>'
    var c = '<center>'
    var c2 = '</center>'
    var p = '<p>'
    var p2 = '</p>'
    var a = '<a href="http://www.youcanhelpkids.org" targ
  et="_blank">'
    var a2 = '</a>'

```

```

    var font    = '<font color="#33ffff">'
    var font2  = '</font>'
    var img1   = ''

function do_it(form) {
    var given  = form.answers.options[form.answers.selectedInd
ex].value;

    if(given=="no") {
        lecture = window.open("", "lecture", "scrollbars=no, width=
300, height=175" );
        lecture.document.open();
        lecture.document.write(head+table1+a+img1+given+img2+a2+
table2+foot);

        lecture.document.close();

    }

    else {

        lecture = window.open("", "lecture", "scrollbars=no, width=30
0, height=175");
        lecture.document.open();
        lecture.document.write(head+table1+a+img1+given+img2+a2+ t
able2+foot);

        lecture.document.close();

</script>

</head>
<body text="#000000" bgcolor="#FFFFFF" link="#660000" vlink="#8400
00" alink="#840000">
<center><img SRC="images/tcadatitle.GIF" alt="TCADA Logo"><br></ce
nter>

<center><font face="Franklin Gothic Book"><font color="red" size="
-1"><marquee align="middle" height="18"
loop="0" width="80%" border="1" scrollamount="2" scrolldelay="81"

```

behavior="slide">TCADA is the
 headquarters for the Partnership for a Drug-Free Texas and the Tex
 as Red Ribbon Campaign.</marquee>
 </center>


```
<center>
<form name="myform">
<table border="0" cellpadding="0" cellspacing="0" width="468">
<!-- fwtable fwsrc="I0418_coach_468x60.png" fwbase="I0418_coach_46
8x60.gif" -->
  <tr valign="top"><!-- row 1 -->
    <td rowspan="3"></td>
    <td colspan="3"></td>
  </tr>
  <tr valign="top"><!-- row 2 -->
    <td rowspan="2"></td>
    <td width="217" height="27" bgcolor="#6699FF" valign="middle">

    <div align="center">
      <select name="answers" size=1 onChange="do_it(this.form)">
        <option value="null.gif">Choose One</option>
        <option value="chap.gif">Chaperone/drive</option>
        <option value="coach.gif">Coach</option>
        <option value="fund.gif">Fundraise</option>
        <option value="host.gif">Host/plan an event</option>
        <option value="null.gif">Give your time to kids</optio
n>
        <option value="teach.gif">Teach/mentor</option>
      </select>
    </div>
  </td>
  <td rowspan="2"><img name="/banner/I0418_coach_468x_r2_c4" src=
"I0418_coach_468x_r2_c4.gif" width="5"
height="29" border="0"></td>
</tr>
  <tr valign="top"><!-- row 3 -->
    <td></td>
  </tr>
```

```
</table>
</form>
</center>
```

```
<br>&nbsp;
<table BORDER=0 CELLSPACING=0 CELLPADDING=0 WIDTH="650" ALIGN="center">
<tr>
<td VALIGN=TOP ALIGN=RIGHT ROWSPAN="2" WIDTH="175" BGCOLOR="#FFFFFF"
F">
```

```
<a href="/preventingdruguse/">
<img SRC="images/drugusebutton.GIF" ALT="Preventing Drug Abuse" BORDER=0></a>
```

```
<a href="/findingtreatment/">
<img SRC="images/treatmentbutton.GIF" ALT="Finding Treatment" BORDER=0></a>
```

```
<a href="/info_research/">
<img SRC="images/ifo_researchbutton1.GIF" ALT="Information & Research" BORDER=0></a>
```

```
<a href="/awards/">
<img SRC="images/awardbutton3.GIF" ALT="Community Champions Awards" BORDER=0></a>
```

```
<a href="/providernews/">
<img SRC="images/providernewsbutton.GIF" ALT="Provider News" BORDER=0></a>
```

```
<a href="/licensure/">
<img SRC="images/licensurebutton.GIF" alt="Licensure" BORDER=0></a>
```

```
<a href="/abouttcada/">
<img SRC="images/aboutbutton.GIF" alt="About TCADA" BORDER=0></a>
```

```
<a href="/youth/">
<img SRC="images/youthbutton.GIF" ALT="Youth Line" BORDER=0></a>
<br>
```


<p> </p>
<p> </p>
<p> </p>
<p> </p>

<p>Last Update 11
/24/2000

<TD VALIGN="TOP" ALIGN="CENTER" WIDTH="10" ROWSPAN="2">

</TD>

<TD VALIGN="TOP" WIDTH="1" BGCOLOR="#808080" NOWRAP="NoWrap" ALIGN
="CENTER"
ROWSPAN="2">

</TD>

<TD VALIGN="TOP" WIDTH="10" NOWRAP="NoWrap" ALIGN="CENTER" ROWSPAN
="2">

</TD>

<TD VALIGN="TOP" ALIGN="LEFT" ROWSPAN="2" WIDTH="300">

<center><img SRC="images/new1.gif" alt="New at TCADA" height=35 wi
dth=187></center>

<u><a href="/
legislative/">
Increase in services</u>

The Texas Commission on Alc
ohol and
Drug Abuse served 763,492 people in fiscal year 2000, an increase
of more
than 4 percent over 1999. "This report is good news for TCADA and
good news
for Texas," Executive Director Jay Kimbrough said of the agency's
fourth
quarter performance measures report.

<p><u><a href="sc
hoolsurvey.pdf">
Student drug use declines</u>

Alcohol and drug use is declining among Texas students, according to a survey released Monday by the Texas Commission on Alcohol and Drug Abuse. Some of the most dramatic decreases were seen in tobacco use. The percentage of students reporting they had used tobacco in the month before the survey fell 15 percent between 1998 and 2000.

"These survey results are another positive sign for our state and our students. When we help young Texans avoid alcohol and drugs, we are creating an environment in which our children can learn and succeed," said Lt. Gov. Rick Perry.

[New Community Awards](/awards/)
"TCADA is dedicated to providing the leadership and resources to prevent substance abuse, but we need the help of Texans who care about our kids and our communities," says Jay Kimbrough, executive director of the Commission. "These Community Champions are part of a legion of caring volunteers and organizations all across Texas working to protect communities and give Texas youths the skills to avoid alcohol and drugs."

[Compact with Texans](compact_texans.html)
The Commission desires to better serve Texans by providing quality service and information to contractors, licensees, clients and the public.

<p>

[**Contact TCADA**](mailto:Denise_Mosel@tcada.state.tx.us)

Phone: (800) 832-9623
Office: 9001 N. IH 35, Suite 105, Austin
Mail: P.O. Box 80529, Austin, TX 78708

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<TD VALIGN="TOP" ALIGN="CENTER" WIDTH="10" ROWSPAN="2">

</TD>
<TD VALIGN="TOP" WIDTH="1" BGCOLOR="#808080" NOWRAP="NoWrap" ALIGN="CENTER" ROWSPAN="2">

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</TD>
<TD ALIGN="left" VALIGN="TOP" ROWSPAN="2" WIDTH="125">

<u>
News network:</u>

Hear this week's message
or scan past topics

<p>
<u>
Underage drinking:
</u>

A toolbox for parents and educators
<p>
<u>Classes:</u>

Alcohol education for minors , DWI and drug offender classes
<p>

<u>Hotline:</u>
Report underage drinking violations.

<p><u>
Red Ribbon:</u>
A planner's guide </td></tr></table></body></html>

Publications & Reports

Some of the following reports are available in .PDF format (viewable with the free Adobe(TM) Acrobat(TM) Reader). Users who are visually handicapped may access these documents using the Adobe Access plug-in to convert Acrobat documents to html.

Annual Reports

- Texas Vital Statistics 1998. 1997. 1996. 1995, 1994
- Perinatal Mortality in Texas. 1989-1994 (available in .PDF format only; 226K) -- posted June, 1997
- Child Fataliv Review Teams Biennial Report. 1996 - 1997 -- posted May, 1999
- Child Fatality Review Teams Annual Report 1995
- 1996 Mortality Report for Nursing Facilities and Related Institutions
- 1995 Mortality Report for Nursing Facilities and Related Institutions

Special Reports

We welcome your comments and suggestions regarding any paper presented here. We are also interested to know what topics you would like to see here in the **future**. Please **email** us at bvsweb@tdh.state.tx.us.

Nativity

Teen Births: Young Age and Its Association with Birth Outcomes

- Teen Pregnancy Table, 1998
- Delaved Childbearing: Increased maternal age at **first** birth and its association **with** labor and delivery outcomes. (HTML version) -- posted April, 1997
- Acknowledgment of Paternity and its Effect on Unmarried Mothers and Birth Outcomes. -- posted April, 1998

Mortality

- Infant Mortality Analyses, 1997 and 1998.
- The Impact of Alcohol Use on Mortality: New Estimates **from** the Revised Texas Death Certificate. (HTML version) -- posted April, 1997

Texas Vital Statistics News

- [Fall 2000. Vo14 No 1](#)
 - [Summer 1999. Vol. 2 No. 4 \(pdf format, 46 K\)](#)
 - [Spring 1999, Vol. 2 No. 3 \(.pdf format, 49 K\)](#)
 - [Winter 1998, Vol 2 No. 2 \(pdf format, 115 K\)](#)
 - [Fall 1998. Vol. 2 No. 1 \(.pdf format, 141 K\)](#)
 - [Summer 1998. Vol. I No. 4 \(.pdf format, 53 K\)](#)
 - [Spring 1998. Vol 1 No. 3 \(.pdf format, 206 K\)](#)
 - [Winter 1997. Vol. 1 No. 2 \(pdf format, 52 K\)](#)
 - [Fall 1997. Vol 1 No. I \(.pdf format, 4.8 M\)](#)
-

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[How do I **remove** my name from mailing lists?](#)

[How do I get a job at Texas Parks and Wildlife?](#)

[How do I **get** to Parks and Wildlife **Headquarters** in Austin?](#)

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The November issue of



looks at the official state of Texas Web portal.



The November issue of Fiscal Notes features Texas wind power.



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Texas Comptroller of Public Accounts
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How can we help?



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(888) 834-7406 · (888) 425-8889 (TDD)
Eric M. Bost · Commissioner

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Site Feedback: webmaster@dhs.state.tx.us

APPENDIX 3

**Texas Records and Information Locator
(TRAIL)
Home Page**



TRAIL: Texas Records and Information Locator

Texas State Library and Archives Commission

Texas State Library and Archives Commission home page



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Welcome to the Texas Records and Information Locator Service (TRAIL)

TRAIL will be down from 3-8 pm on Friday, December 15

TRAIL searches and locates information from over 150 Texas state agency web servers. You can [search for agency information by subject, agency name, keyword, or publication title.](#)

In addition to searching, TRAIL also provides basic information about state agencies including contact, legal, budgetary and background resources on our [agency locator pages.](#)

There are many other ways to find information on TRAIL that are fully explained, with examples, on the [Search tips and help page.](#)



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This page updated 12.14.2000

APPENDIX 4

Bobby Site Home Page



About Bobby

[History](#) | [Bobby Server](#) | [Future Releases](#) | [Future Enhancement Details](#)

History

Bobby grew out of CAST's **underlying** mission, which is to expand **opportunities** for people with disabilities through innovative uses of computer technology. In planning its own web site, CAST researchers wrestled with the idea of how to make the **entire** web more *universally designed*, i.e., more accessible and useful to **all** people, including those with **disabilities**. CAST examined existing web accessibility guidelines, recognized the improbability of web developers sitting down and reading a handbook of guidelines, and wanted to create an online tool web designers could use to easily implement those guidelines.

In exploring **this** concept, CAST developed the idea of a helpful detective - a web-based entity that would expose **barriers**, encourage compliance with existing guidelines and teach web masters about accessibility. Bobby was born. Guidelines for creating accessible web sites developed by the Trace Research and Development Center were considered the most comprehensive at that time and were readily adopted for Bobby.

CAST researchers and web consultants developed the first version of Bobby in just over just three months, releasing it in September, 1996. The project was funded by CAST's general research funds, outside foundation support, and royalties from CAST's commercial products. Bobby has since been upgraded many times to include improved page authoring guidelines, new features, technical enhancements, ease-of-use improvements, and complete documentation.

The downloadable application was released to meet the needs of developers who wanted to test pages before posting to the web or, behind a **firewall**, and internal Intranet documents within **large** corporations, government agencies, and educational institutions. **This** version also makes it practical for developers to test **large** sites in a single pass and to generate summary reports **highlighting** the most **critical** issues.

Since that time, CAST has worked closely with the World Wide Web Consortium's (**W3C**) [Web Accessibility Initiative \(WAI\)](#) to develop an evaluation tool which employs their [Web Content Accessibility Guidelines](#) and provides page and site evaluation supports for developers.

[Back to top](#)

Bobby Sewer

Copies of the Bobby Server are now available to organizations on a limited basis. The Bobby Server will enable **large** organizations that have web sites located behind **firewalls** to use Bobby. This first release is a **trial** to determine what difficulties may be encountered, and is appropriate for **organizations** that can provide internal technical support if needed. If your organization would **like**

to participate in the trial release, please contact us by using the [feedback form](#) or sending email to bobby@cast.org.

Future Releases

CAST is committed to helping web developers ensure their web sites are accessible by continuing to enhance Bobby. A major rewrite of Bobby is currently **under** development.

Version 4.0

Bobby 4.0 **will** include major technical changes that allow for additional features:

- More robust **page-checking** capability.
- API that allows you to write custom **page-checking** modules for internal use or wide distribution.
- API that allows third party programs, such as page authoring tools and accessibility repair tools, to control Bobby and its results.
- Single international version that allows you to choose a preferred language.
- Ability to confirm Manual Check items to **simplify** reports in subsequent **runs**.

[Back to top](#)

Future Enhancement Details

Page Checking Improvements

Bobby's examination of pages is due for an **overhaul!** Action items to address this:

- In coordination with members of the Web Access Initiative, the programmatic techniques used in the analysis of complex checkpoints **will** be examined.
- Bobby's internal code **will** be rewritten to provide a more flexible view of the HTML page and enable the development of more robust checking logic.
- Reformatted report for enhanced readability and comprehension.

Internationalization

CAST is **partnering** with several organizations to create non-English versions of Bobby. Translations that are currently under development include Dutch, French, German, and Japanese. These will be made available as separate programs as they are completed. In the future Bobby will support on-the-fly switching to the language the user selects.

Repair Tool

Bobby is an access evaluation tool, i.e., it flags accessibility violations and includes suggestions on how to make improvements. Bobby does not, however, have the capability of **repairing** the problems. In partnership with the [Trace Research and Development Center](#) and the University of Toronto Adaptive Technology Research Center, a new tool is being developed that helps fill this gap. The new tool will use the information from a Bobby report and walk the user through the process of repairing

[Back to top](#)



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Email: bobby@cast.org

APPENDIX 5

Overall Sample Scores

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Total | |
|----------|-----|----|---|----|-----|----|---|----|------|----|-----|-----|-----|-----|----|----|-----|------|------|------|------|------|------|------|-------|----|
| Agency | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TDAging | 2 | 1 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 33 |
| TDA | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 27 |
| TCADA | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 39 |
| AG | 2 | 1 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 35 |
| CPA | 2 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 42 |
| TDCJ | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 37 |
| TDED | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 33 |
| TEA | 2 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 38 |
| ERS | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 35 |
| GLO | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 31 |
| GSC | 2 | 1 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 37 |
| TDH | 2 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 40 |
| DHS | 2 | 2 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 39 |
| TDHCA | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 32 |
| TDI | 2 | 1 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 40 |
| TLC | 2 | 1 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 32 |
| MHMR | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 37 |
| TNRCC | 2 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 40 |
| TPW | 2 | 2 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 41 |
| DPS | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 29 |
| TPRS | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 33 |
| TxDOT | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 37 |
| TWDB | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 37 |
| TWC | 2 | 1 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 35 |
| TWCC | 2 | 1 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 36 |
| | 48 | 19 | 0 | 50 | 41 | 41 | 0 | 50 | 49 | 50 | 45 | 46 | 46 | 44 | 25 | 50 | 45 | 47 | 43 | 32 | 31 | 26 | 41 | 26 | 35.8 | |
| n=25 | 1.9 | 1 | 0 | 2 | 1.6 | 2 | 0 | 2 | 1.96 | 2 | 1.8 | 1.8 | 1.8 | 1.8 | 1 | 2 | 1.8 | 1.88 | 1.72 | 1.28 | 1.24 | 1.04 | 1.64 | 1.04 | | |

Glossary

accessibility - The art of ensuring that, to as large an extent as possible, facilities (such as, for example, Web access) are available to people whether or not they have impairments of one sort or another.

alt tag - Alternative tag; **an** HTML code option associated with **an** image file on a Web page that is used to give a text description of the image. This information will assist a person using a text browser to understand the page content and navigation directions.

browser - A Web client that allows a **human** to read information on the Web.

CERN: originally named after its 1953 founding body, the "**Conseil** European pour la Recherche Nucleaire", the institute is now named "European Laboratory for Particle Physics".

client - Any program that uses the service of another program. On the Web, a Web client is a program, such as a browser, editor, or search robot, that reads or writes information on the Web.

document: a piece of information that has an identifier. Its contents may be held in a file or it may be synthesised (**e.g.** the result of a data-base query).

Document image files - Files published in vendor-specific file formats (**e.g.**, portable document format (**pdf**) files) that create an image of a document.

Pdf – portable document format

Frames--A coding technique used to present information on a Web page.

Generally accessible Internet site--A state Web site that: complies with the Web Content Accessibility Guidelines for persons with visual disabilities promulgated by the **W3C**; contains no priority 1 errors; and complies with HTML standards published by the **W3C**.

GIF (Graphics Interchange Format) - A format for pictures transmitted pixel by pixel over the Net. Created by **CompuServe**, the GIF specification was put into the public domain, but **Unisys** found that it had a patent on the compression technology used. This stimulated the development of PNG.

graphics - Two- or three-dimensional images, typically drawings or photographs. See also GIF, PNG, SVG, and VRML.

Historical document - either a document dated prior to 1991 for which the agency does not have the original document in electronic format, or a document dated prior to 1997 that contains a handwritten signature.

Home page--The initial page or entry point to a state Web site.

HTML - The **HyperText** Markup Language (HTML) is a simple markup language used to create hypertext documents that are portable **from** one platform to another. HTML documents are SGML documents with generic semantics that are appropriate for representing information **from** a wide range of applications.

hypertext: text which contains links to other texts, whereby the following of links (navigation) is aided by computer.

Internet -the network of interconnected networks employing the **TCP/IP** standards as published by the IETF.

Internet - A global network of networks through which computers communicate by sending information in packets. Each network consists of computers connected by cables or wireless links.

Intranet - A part of the Internet or part of the Web used internally within a company or organization

IP (Internet Protocol) - The protocol that governs how computers send packets across the Internet. Designed by Vint Cerf and Bob **Khan**.

ISP (Internet service provider) - The party providing one with connectivity to the Internet. Some users have a cable or some sort of wireless link to their ISP. For others, their computer may dial an ISP by phone and send and receive Internet packets over the phone line; the ISP then forwards the packets over the Internet.

Java - A programming language developed (originally as "Oak") by James Gosling of Sun **Microsystems**. Designed for portability and usability embedded in small devices, Java took off as a language for small applications ("applets") that ran **within** a Web browser.

PEG (Joint Photographic Experts Group) - This group defined a format for encoding photographs that uses fewer bytes than the pixel-by-pixel approaches of GIF and PNG, without too much visible degradation in quality. The format (**JFIF**) is casually referred to as PEG.

Key public entry point - A Web page that a state agency has specifically designed for members of the general public to access **official** information (**e.g.**, the governing or authoritative documents) from the agency.

link - A reference **from** one document to another (external link), or **from** one location in the same document to another (internal link), that can be followed **efficiently** using a computer. **The** unit of connection in hypertext.

meta- A **prefix** to **indicate** something applied to itself; for example, a metarmeeting is a meeting about **meetings**.

metadata - Data about data on the Web, including but not limited to authorship, classification, endorsement, policy, distribution terms, **IPR**, and so on. A significant use for the Semantic Web.

Meta tag--An HTML code option for identifying **information** about a Web page that facilitates locating specific information on Web pages by search engines.

P3P--Platform for Privacy Preferences; a technical specification published by the W3C that enables Web sites to identify their privacy practices in a manner that can be understood by commercially-available Web browsers.

protocol - A language and a set of rules that allow computers to interact in a well-defined way. Examples are FTP, HTTP, and NNTP.

Priority 1 **error**--**An** HTML coding error on a Web page that will cause persons with visual disabilities to be unable to access information on the page.

Priority 2 error--An HTML coding error on a Web page that may make it very difficult for persons with visual disabilities to access information on the page.

Privacy Policy--a statement about what information is collected by a Web site, how the information will be used, and under what conditions the information may be shared or released to another party. Privacy Policy guidelines are available at <http://www.state.tx.us/Standards/srrpubl1-privacy-policy.htm>

Server log **software** and cookies--Particular methods employed for the purpose of tracking visitors to Web sites. The information collected for analysis can include where the request came **from**, time, pages visited, and identifiable information about the visitor.

server - A program that provides a service (typically information) to another program, called the client. A Web server holds Web pages and allows client programs to read and write them

State Web site--a state agency-owned, -operated, or **-funded** Web site connected to the Internet, including a state agency's home page and any key public entry points.

SSN--Social Security Number.

SSL--Secure Sockets Layer; The Internet security standard for point-to-point, encrypted connections between Web servers and client browsers.

Statewide Search--a link to the TRAIL Web site.

TCP/IP--Transmission Control Protocol/Internet Protocol; a suite of protocols developed by the IETF and published as Request for **Comments (RFCs)**.

(23) Texas home page--<http://www.state.tx.us/>.

TRAIL--Texas Records and Information Locator or its successor. Additional information is available at <http://www.tsl.state.tx.us/>

Transaction payment information--bank account and routing number, credit, debit, or other **forms** of card-based payment systems.

Transaction Risk Assessment--An evaluation of the security and privacy required for an interactive Web session providing public access to government information and services. Additional information and guidelines are available at <http://www.state.tx.us/Standards/srrpubl1.htm>

TCP (Transmission Control Protocol) - A computer protocol that allows one computer to send the other a continuous stream of information by breaking it into packets and reassembling it at the other end, resending any packets that get lost in the Internet. TCP uses IP to send the packets, and the two together are referred to as **TCP/IP**.

URI (Universal Resource Identifier) - The string (often starting with http:) that is used to identify anything on the Web.

URL (Uniform Resource Locator) - A term used sometimes for certain URIs to indicate that they might change. See URI.

W3C (World Wide Web Consortium) - A neutral meeting of those to whom the Web is important, with the mission of leading the Web to its **full** potential.

WAI (Web Accessibility Initiative) - A domain of W3C that attempts to ensure the use of the Web by anyone regardless of disability.

web: the set of documents available on the internet*, interlinked by their hypertext* **links**

World Wide Web - (three words; also known as WWW) The set of all information accessible using computers and networking, each unit of information identified by a URI.

W3C--World Wide Web Consortium.

Hypertext Terms

This is a glossary of terms used within the WWW project. In most cases, their use corresponds to conventional use in hypertext circles.

Anchor - An area within a the content of a **node** which is the source or destination of a **link**. The anchor may be the whole of the node content. Typically, clicking a mouse on an anchor area causes the link to be followed, leaving the anchor at the opposite end of the link displayed. Anchors tend to be highlighted in a special way (always, or when the mouse is over them), or represented by a special symbol. An anchor may, and often does, correspond to the whole node. (also sometimes known as "span", "region", "button", or "extent").

Annotation - The linking of a new commentary **node** to an existing node. If readers can annotate nodes, then they can immediately provide feedback if the information is misleading, out of date or plain wrong. Thus the quality of the information in the **web** can be improved. (More...)

Authoring - A **term** for the process of writing a document. "Authoring" seems to have come into use in order to **emphasise** that document production involved more than just writing.

Back link - A link in one direction implied from the existence of an explicit **link** in the other direction. See: Building back-links

Browser - A program which allows a person to read **hypertext**. The browser gives some means of viewing the contents of **nodes**, and of navigating from one node to another.

Button - An anchor which is the source of a **link**. Often, but not always, represented on screen to look like a push-button.

Card - An alternative term for a **node** in a system (**e.g.** Hypercard, Notecards) in which the node size is limited to a single page of a limited size.

Client - A program which requests services of another program. Normally, the browser is a client of a data server.

Cyberspace - This is the "electronic" world as perceived on a computer screen, the term is often used in opposition to the "real" world. With Web-extensions like VRML and the **Cyberspace** Protocol, Virtual Reality will one day come to your home computer.

Database - We have used this vaguely as a term for a collection of **nodes**. We imagine management information for one of these being kept in one place and all being accessible by the same server. Links outside this are "external", and those inside are "internal". We do not imply anything about how the information should be stored.

Daemon - A program which runs independently of, for example the browser . Daemons may perform various management tasks such as building indexes, overviews, and back-links. Under unix, "daemon" is used for "server ", because servers normally run independently.

Document - A term for a node on some systems (eg Intermedia). Sometimes used by others as a term for a collection of nodes on related topics, possibly stored or distributed as one. The **preferred** term in W3 documentation.

Domain - We have used this specifically for a unit of protection. It could possibly correspond to a database, and in that case would be a better (less vague) term for it

External - A link to a node in a different database. See Database

Host - A computer on a network. We use this term rather than the term "node " which is often used for a document in a hypertext web .

Hypermedia - **MultiMedia Hypertext** . **HyperMedia** and **HyperText** tend to be used loosely in place of each other. Media other than text typically include graphics, sound, and video. (More...)

Hypertext - Text which is not constrained to be linear. (More...)

Index - Something which points at other data; a server facility which provides pointers to particular data as a function of a query; a table of contents of a book in hypertext form. (**More**) .

Link - A relationship between two anchors , stored in the same or different database See "Internal" and "External" .

Navigation - The process of moving from one node to another through the hypertext web. **This** is normally done by following links . Various features of a particular browser may make this easier. These include keeping a history of where the user has been, and drawing diagrams of links between nearby nodes.

Node - A unit of **information**. Also known as a **frame** (KMS), card (Hypercard, Notecards). Used with this special meaning in hypertext circles: do not **confuse** with "node" **meaning** "network host".

Protection - The prevention of unauthorized users from reading, or writing, a particular piece of data. Also known as "authentication", "access control", etc. (More...)

Path - An ordered set of nodes or anchors which represent a sequence in which **a web** can be read. A path may represent the sequence a reader actually used, or may be a sequence recommended to the reader by the author.

Reader - We have used this term for the person who browses, to distinguish **him/her** from the program (browser) which **(s)he** uses.

Server - A program which provides a service to another, known as **the client** . In a **hypertext** system, a server will provide hypertext information to a **browser**.

Tracing - The automatic finding of nodes **by** automatic navigation . Examples might be finding all nodes dependent on another node, all people interested in a given node, all modules which use a given module. Another example is a trace starting with more than one node, such as to find a node in common between two groups, or path linking two nodes.

Topology - The allowable connectivity between nodes, anchors and links: for example, 1-1 or many-1 mappings. (More...)

Web - A set of **nodes** interconnected by **links** . Often, the set of all the nodes which are interconnected. See **also** Topology.

Definitions of Push (Technology)

General Definition - Personalized information delivery **from** a publisher to a subscriber.

More Complete Definition - An intelligent, bi-directional relationship between two or more communications nodes—a channel.

tag - descriptive markup delimiting the start and end (including its generic identifier and any attributes) of an element.

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