

Building a Citywide Web Accessibility Strategy

Karen Pellegrin & Chad Menard | City and County of Denver



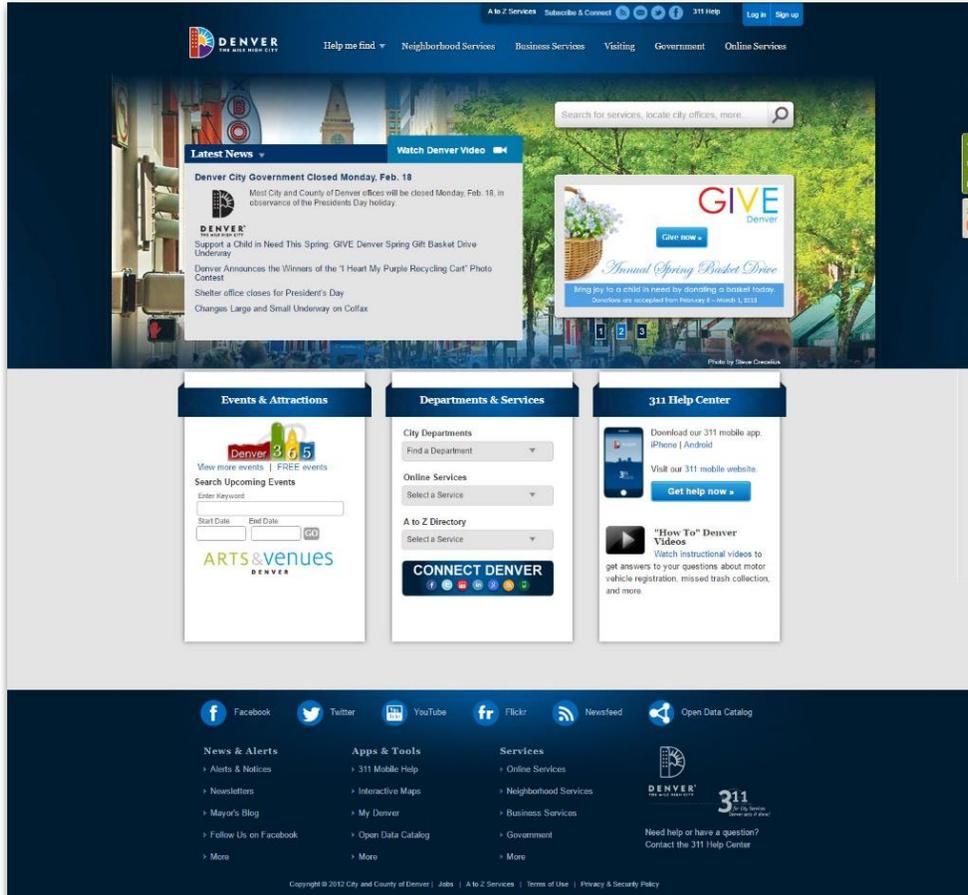
DenverGov.org underwent a huge transformation from 2013 to 2015 which included:

- Preparing for a migration to a new content management system
- Cleaning up and reducing over 12,000 pages to just under 4,500
- Removing editor access for hundreds of web content authors, many of who we had no way of tracking

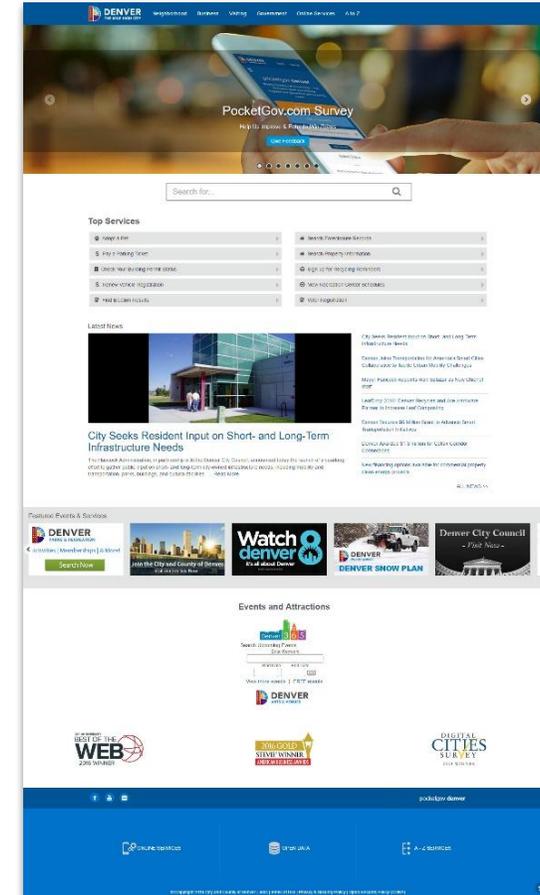


Background

DenverGov.org ca. 2013



DenverGov.org ca. 2015



Then... The Accolades!

After years of toil and hard work, we had a lean and mean website and the recognition to match! Some of the awards that stemmed from the redesign included:



2016 City Portal Category 1st Place



Adobe Government Creativity Awards Winner
– Interactive Web Design



We Came, We Saw, We... Wait...

NAGW

Like most web design projects, being done felt great.

VICTORY WAS OURS!



Now What?

For a few years, DenverGov.org was humming along. But new problems were starting to arise:

- Custom components & templates that were once a godsend became hellspawn
- Workflows didn't work properly
 - Even with limited authors, content was getting out of control
- Upgrades, maintenance, and even small bug fixes were suddenly huge hurdles to overcome
- And just when we thought we were getting a handle on things...



DOJ Accessibility Settlement

In 2016, we learned of a DOJ settlement reached with the City and County of Denver for violating the ADA(American With Disabilities Act).



So, Add a Few Alt Tags, Right? Easy! **NAGW**

To say we misunderstood the scope of work was an understatement. Initially we thought we just had to do basic accessibility updates, and even then only for our website.



Then Reality Set In...

After taking inventory, we found the truth to be overwhelming. We were going to have to audit all of our content... but how?



**Actual photo of us going through all of our websites, assets and applications*



The “List”

To meet the DOJ settlement requirements, we were told we would have to meet 100% WCAG 2.0 AA requirements for the following:

- ALL public-facing digital experiences including DenverGov.org and a large number of external websites that were owned by the city
 - For DenverGov **alone** that meant over 25,000 pages and 75,000 assets
- Approximately **200** Applications hosted on those sites as well as third party vendor applications we owned and were linked to on those sites
- Closed captioning of all video
- Mandatory ADA training for all digital content creators
- Manual and automated testing of all new public-facing digital experiences
 - Additionally, automated and manually testing done annually for all existing sites and applications

Taking Stock of Our Resources

With our marching orders in place, we needed to assess our resources and plan accordingly...



Taking Stock of Our Resources

Resources available to us when we started:

- Web Authors
- Internal Developers
- Free Tools and Plugins (WAVE, Google Drive, etc.)
- Analytics and other research tools to help assess the lift
- Policies and Guidelines developed from official sources
- Forums and subject matter expert sites/materials for reference
- Army of champions and defenders (City Attorneys, Community Leaders/Organizations, etc.)

All of these resources took time to find and work with. It took a village.



Executive Buy-in



When the Department of Justice knocks, people tend to listen but we still needed support and understanding from leadership.

- Presenting to IT Managers and Directors to show the tremendous scope of the issue
- Estimating time and resources needed
 - Address applications and websites separately while still collaborating between the appropriate teams
- Identifying tools (*see: expensive stuff*) that you really need that you will have to beg for and hope you get

Depending on your structure, you may need need additional technical help so account for everything including:

- Internal developers to assist with applications, more complicated code, and general updates that you can't perform
- Engage teams that can handle domain redirects, vanity URL updates, etc. for pages and content that might shift in your sites
- Any additional help you can find, including asking for interns or contractors (if applicable) to help with the early tasks and basic content lift so you can focus on larger efforts like strategy



Stand Your Ground

As you know, people **LOVE** change and are always open to it.

Just in case that is not true, here are some tips:

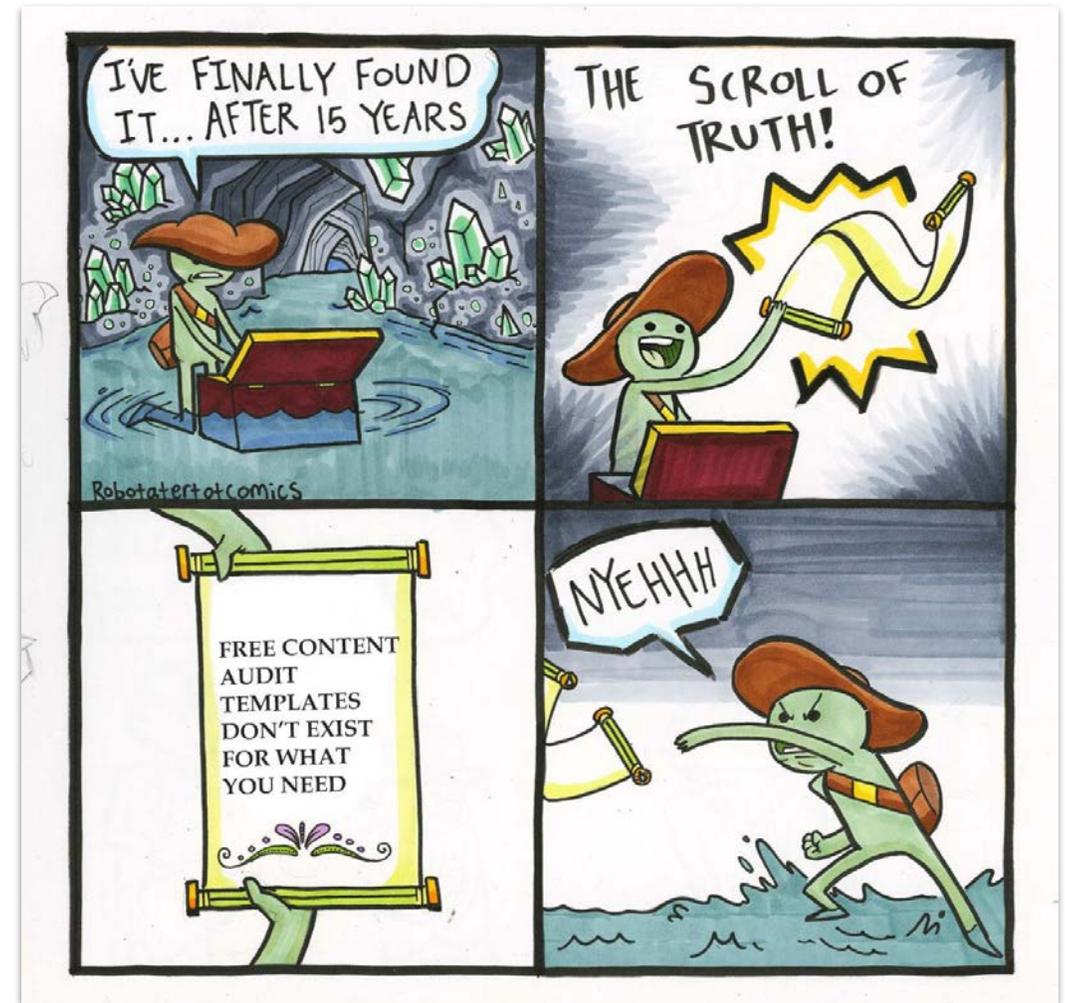
- Have a strong team to back you (*see: Buy-in from the earlier slide*)
- Establish your process and guidelines early on so that you always have something to point to and remember that as you learn more, those processes and guidelines may change
- Engage primary stakeholders at every level of your audit to ensure that the “decision-makers” are present and understand the *how* and *why* of what is going on
- Point to the ceiling and say, “Department of Justice!” over and over



Developing The Plan

Once initial resources and buy-in have been established, it's time to begin developing a plan and executing the process.

Good thing there are plenty of ADA Content Audit and Remediation Plans for Government websites out there with templates and processes available, right?... **RIGHT?!**

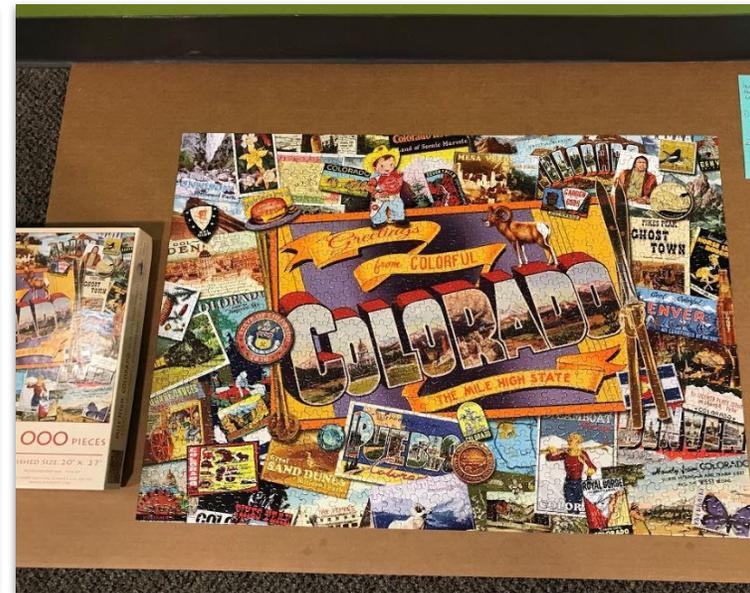


Developing The Plan

TO THE WEB CAVE!

Step 1A: Make your workplace fun and strategic...

You are going to spend a LOT of time here:



Developing The Plan

Start With An Attack Strategy:

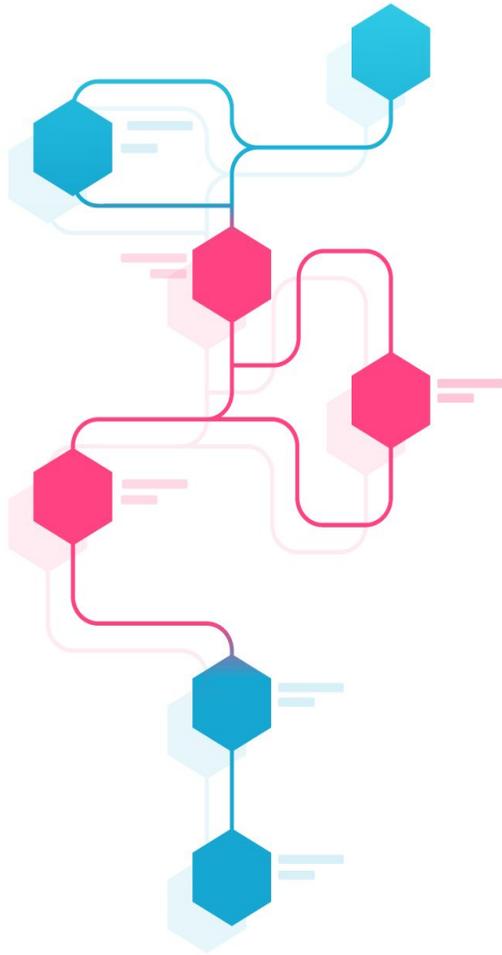
112 portals, over 25k pages and 75K assets (documents & images).

Plus, over 50 departments/agencies to work with?! Yikes!!

What do we attack first?

- Prioritize portals by doing a “level of effort matrix” exercise
 - low effort/high value, high effort/low value, etc.
 - LOE Rankings based on pages, assets, & analytics
- Knock out the quick wins
 - Small portals with little or no assets and portals the web team managed themselves





Initial Plan Development

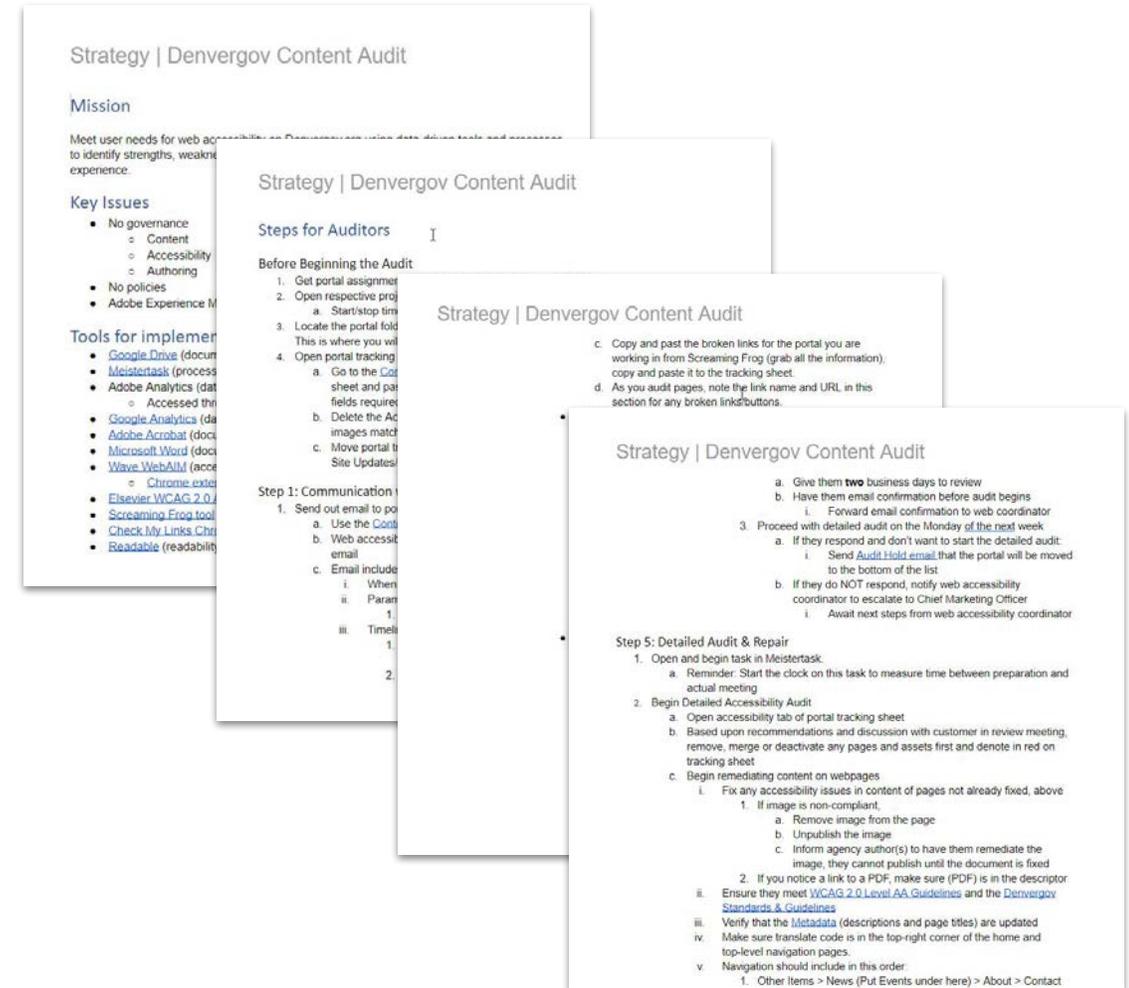
- Communications
 - Getting out in front of the audit to warn/give notice about when and where and how it affects everything
- Documentation
 - Begin fleshing out documents for the audit
 - Communications plan, process document, strategy, guidelines, tracking sheets, etc.
- Prioritizing efforts

Which brings us to the Content Audit Process itself.

The Content Audit Process

The content audit process is designed to do several things including:

- Communicate to city agencies and leaders
- Prioritize auditing efforts for web portals
- Identify content and accessibility issues
- Make recommendations for remediation
- Provide a plan for remediation
- Set training for authors
- Maintain governance and standards moving forward



Content Audit Process Overview

1. Communication with Agency

- Send out notification of audit and what to expect
- Once agency approves to move forward with audit, lock out web authors from system

2. Research & Analysis

- Update portal tracking sheet, pull analytics, track time, etc.

3. Evaluate & Score

- Denote ADA and other content errors in tracking sheet(missing tags, color contrast, etc.)
- Score the site to denote a general level of effort of the work after analysis has been done
- Create a scope of work document with high level findings and recommendations

4. Review Meeting with Agency

- Meet with agency to discuss findings and agree on a path forward to fix everything

5. Detailed Audit/Remediation

- Work with agency author(s) to fix the site. Split the efforts where you can.

6. Review, Maintain & Follow-up

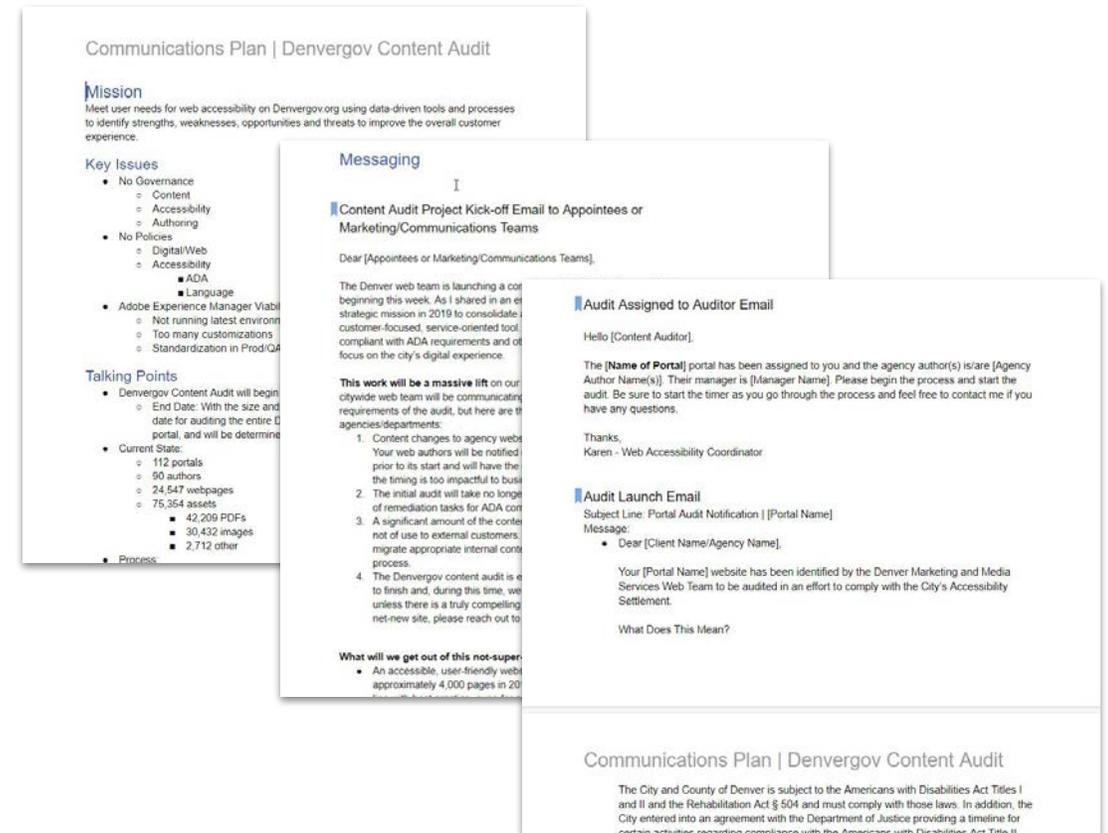
- Re-train content authors on ADA compliance and web editing
- Set up checkpoints to ensure process has been followed after audit is “complete”

Communication With Agency

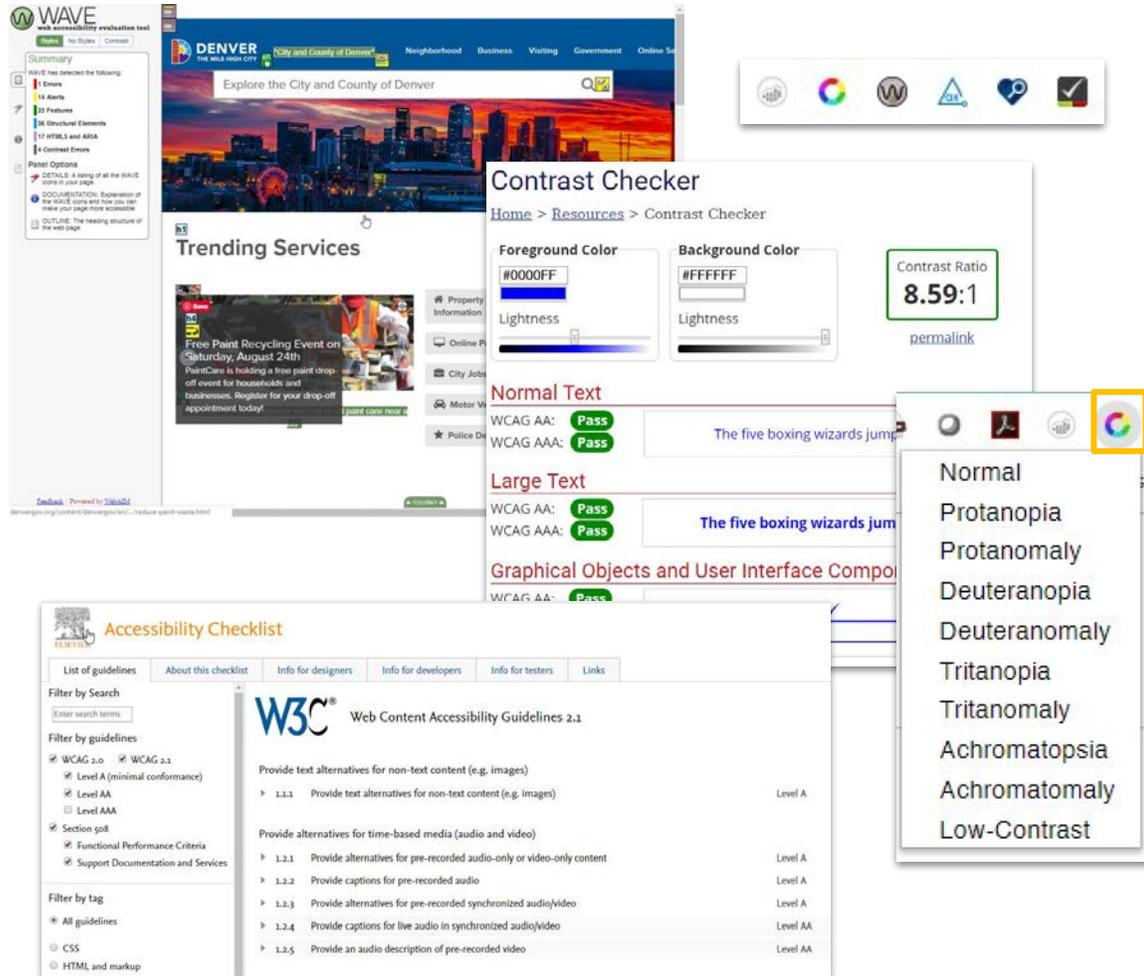
Know what you want to communicate with agencies/departments, public information officers, web authors, and your internal teams members.

A few templates we've created include:

- Overview guide:
 - Mission
 - Key Issues
 - Talking Points
 - Tactics/Deliverables)
- Email Messaging Templates
 - Audit Kickoff to City Appointees & Marcomms Teams
 - Audit Assigned to Auditor
 - Audit Launch Email to Agency
 - Audit Hold
 - Review meeting
 - Follow-up
 - Audit Complete
 - 311 update
 - Internal newsletter and quarterly reports



Research & Analysis

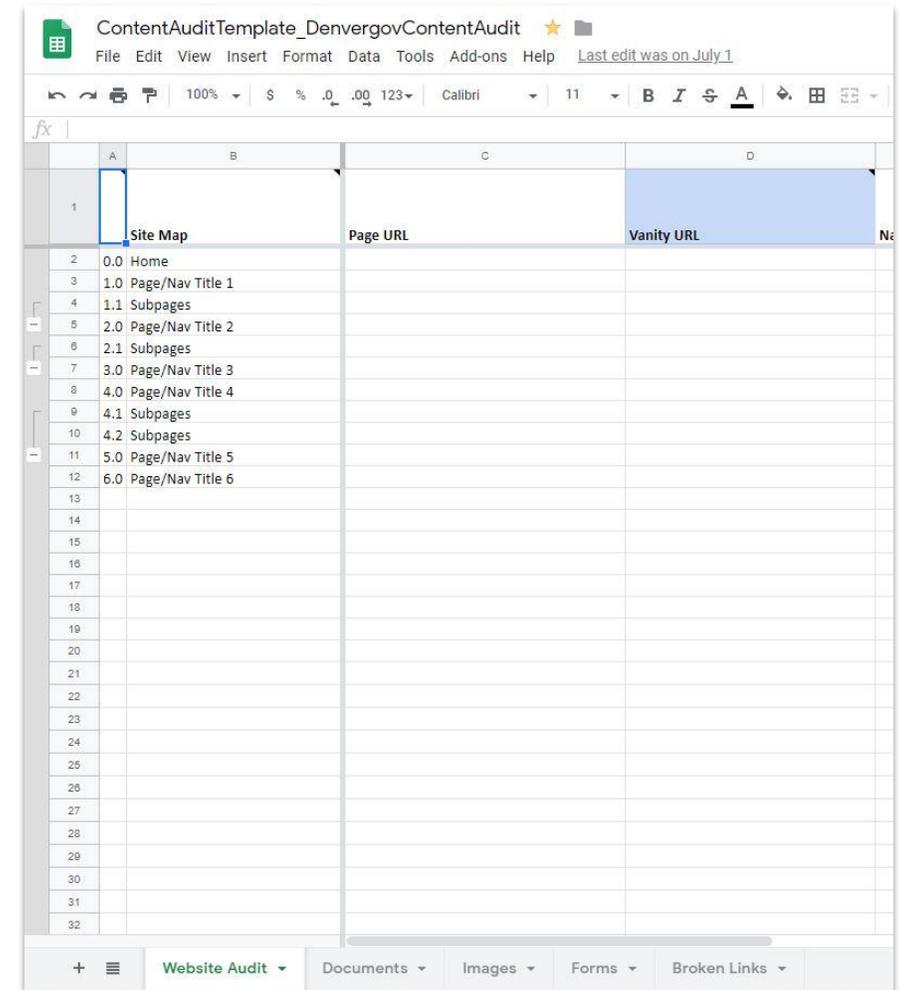


Free or Low-Cost Tools

- Web AIM web tool or browser plugin
 - Contrast Checker
- Google Drive
 - Google Sheets, Docs, Etc. for easy collaboration
- Check My Links Chrome plug-in
- Screaming Frog site indexer
- Google Analytics
- Meistertask Project Management Software
- Systrix SERP Tool
- Chrome VOX
- AXE Accessibility Checker

Research & Analysis

- Use a template to develop individual tracking sheets for each portal
 - Create tabs to separate out tracking for pages, documents, images, and forms so that you can tackle content in clear, manageable chunks
- The template helps to easily track information pulled from other relevant reports for accessibility, analytics, readability, word count, etc.
- Individual tracking sheets are stored in folders on a shared drive (Google drive in this case) with other “working documents” so that agency authors, auditors and the accessibility can all work together and track each others efforts



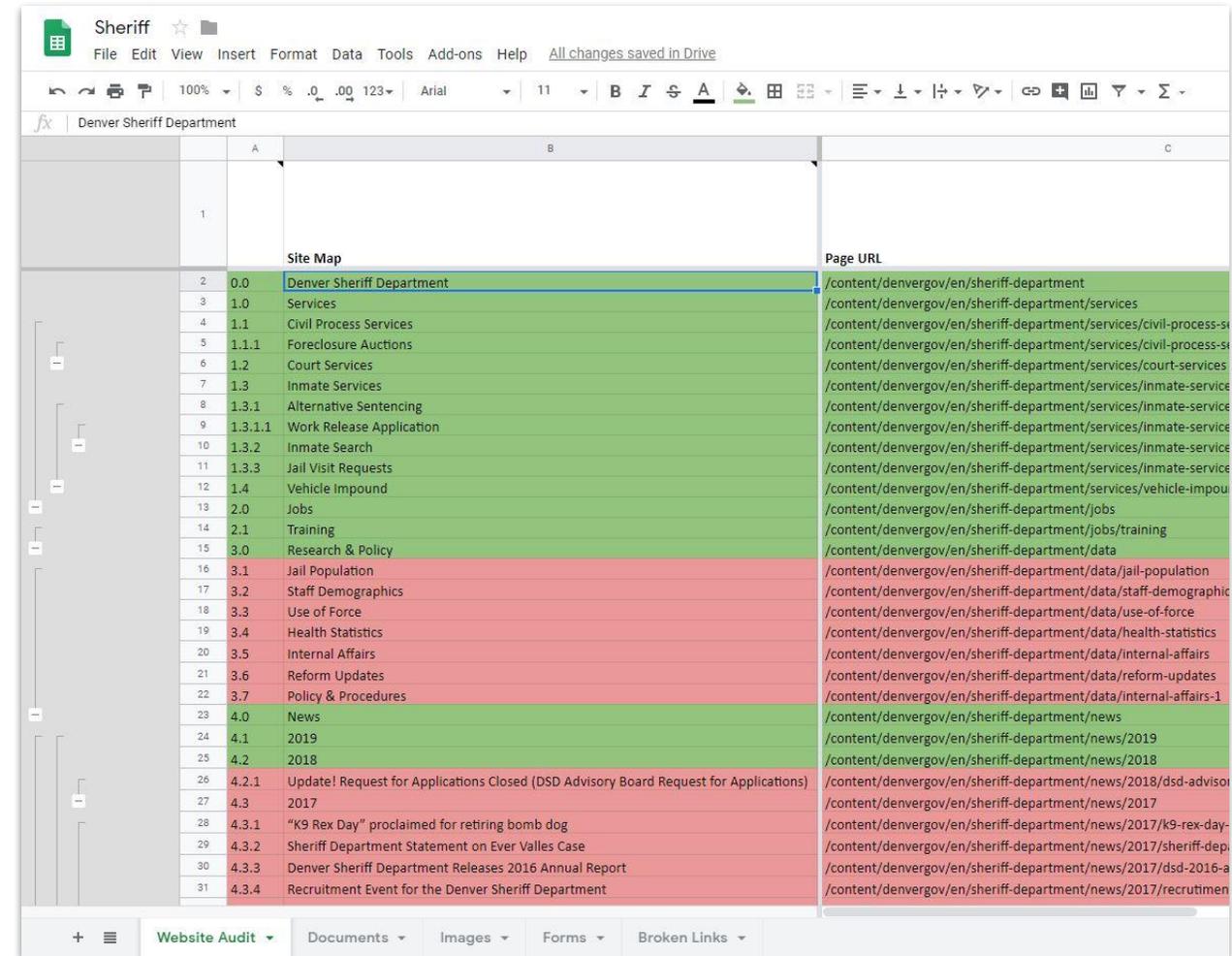
The screenshot shows an Excel spreadsheet with the following structure:

	A	B	C	D
1		Site Map	Page URL	Vanity URL
2	0.0	Home		
3	1.0	Page/Nav Title 1		
4	1.1	Subpages		
5	2.0	Page/Nav Title 2		
6	2.1	Subpages		
7	3.0	Page/Nav Title 3		
8	4.0	Page/Nav Title 4		
9	4.1	Subpages		
10	4.2	Subpages		
11	5.0	Page/Nav Title 5		
12	6.0	Page/Nav Title 6		
13				
14				
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32				

The spreadsheet has tabs at the bottom: Website Audit, Documents, Images, Forms, Broken Links.

Evaluate & Score

- Identify content, based on your research and analysis, to help make decisions on whether to:
 - Keep
 - Merge
 - Delete
 - Move Internally
- Color code rows for easy identification of recommendations
 - Green= Keep
 - Red= Delete
 - Yellow= Merge with another page
 - Blue= Move to Internal site



	A	B	C
1			
		Site Map	Page URL
2	0.0	Denver Sheriff Department	/content/denvergov/en/sheriff-department
3	1.0	Services	/content/denvergov/en/sheriff-department/services
4	1.1	Civil Process Services	/content/denvergov/en/sheriff-department/services/civil-process-s
5	1.1.1	Foreclosure Auctions	/content/denvergov/en/sheriff-department/services/civil-process-s
6	1.2	Court Services	/content/denvergov/en/sheriff-department/services/court-services
7	1.3	Inmate Services	/content/denvergov/en/sheriff-department/services/inmate-services
8	1.3.1	Alternative Sentencing	/content/denvergov/en/sheriff-department/services/inmate-services
9	1.3.1.1	Work Release Application	/content/denvergov/en/sheriff-department/services/inmate-services
10	1.3.2	Inmate Search	/content/denvergov/en/sheriff-department/services/inmate-services
11	1.3.3	Jail Visit Requests	/content/denvergov/en/sheriff-department/services/inmate-services
12	1.4	Vehicle Impound	/content/denvergov/en/sheriff-department/services/vehicle-impou
13	2.0	Jobs	/content/denvergov/en/sheriff-department/jobs
14	2.1	Training	/content/denvergov/en/sheriff-department/jobs/training
15	3.0	Research & Policy	/content/denvergov/en/sheriff-department/data
16	3.1	Jail Population	/content/denvergov/en/sheriff-department/data/jail-population
17	3.2	Staff Demographics	/content/denvergov/en/sheriff-department/data/staff-demographic
18	3.3	Use of Force	/content/denvergov/en/sheriff-department/data/use-of-force
19	3.4	Health Statistics	/content/denvergov/en/sheriff-department/data/health-statistics
20	3.5	Internal Affairs	/content/denvergov/en/sheriff-department/data/internal-affairs
21	3.6	Reform Updates	/content/denvergov/en/sheriff-department/data/reform-updates
22	3.7	Policy & Procedures	/content/denvergov/en/sheriff-department/data/internal-affairs-1
23	4.0	News	/content/denvergov/en/sheriff-department/news
24	4.1	2019	/content/denvergov/en/sheriff-department/news/2019
25	4.2	2018	/content/denvergov/en/sheriff-department/news/2018
26	4.2.1	Update! Request for Applications Closed (DSD Advisory Board Request for Applications)	/content/denvergov/en/sheriff-department/news/2018/dsd-adviso
27	4.3	2017	/content/denvergov/en/sheriff-department/news/2017
28	4.3.1	"K9 Rex Day" proclaimed for retiring bomb dog	/content/denvergov/en/sheriff-department/news/2017/k9-rex-day-
29	4.3.2	Sheriff Department Statement on Ever Valles Case	/content/denvergov/en/sheriff-department/news/2017/sheriff-dep.
30	4.3.3	Denver Sheriff Department Releases 2016 Annual Report	/content/denvergov/en/sheriff-department/news/2017/dsd-2016-a
31	4.3.4	Recruitment Event for the Denver Sheriff Department	/content/denvergov/en/sheriff-department/news/2017/recrutimen

Review Meeting

Meet with key stakeholders (typically public information officers and agency web authors) to present key findings:

- Provide analytics and review tracking sheet
- Walk through the scope of work document
 - High-level findings
 - Key Findings
 - Analytics of top pages and documents clicked
 - Link to existing site map
 - Recommended site map and metadata
 - Accessibility, readability & word count issues
- Agreement for remediation plan
 - Web team tasks
 - Agency tasks
 - Timeline

Scope of Work | Denvergov Content Audit

Executive Summary

Portal Name: Elections Division
Audit Period: August 5, 2019 to TBD
Completed by: Karen Pellegrin

Overview

The Denver Elections Division web portal has lots of relevant information for its users but much of it is focused around voter, campaign information, and historic data. The rest of the content is generally not being viewed and there are a number of links and pages that are circular in navigation and/or repetitious. We believe that much of the content can be combined and/or restructured to just a few landing pages.

The bulk of the work will be around restructuring the page structure of the navigation, standardization of page layouts/components, simplifying some of the web copy for readability (sentences too long), and a focus on accessibility issues. Note that some pages have been recommended to be merged. This is due to a number of landing pages being sparse and navigation being a bit difficult with too many clicks to subpages that were buried in the navigation

Additionally, the url for this portal needs to be fixed due to a spelling error in the "denver-elections-divison" portion of the URL.

Key Findings

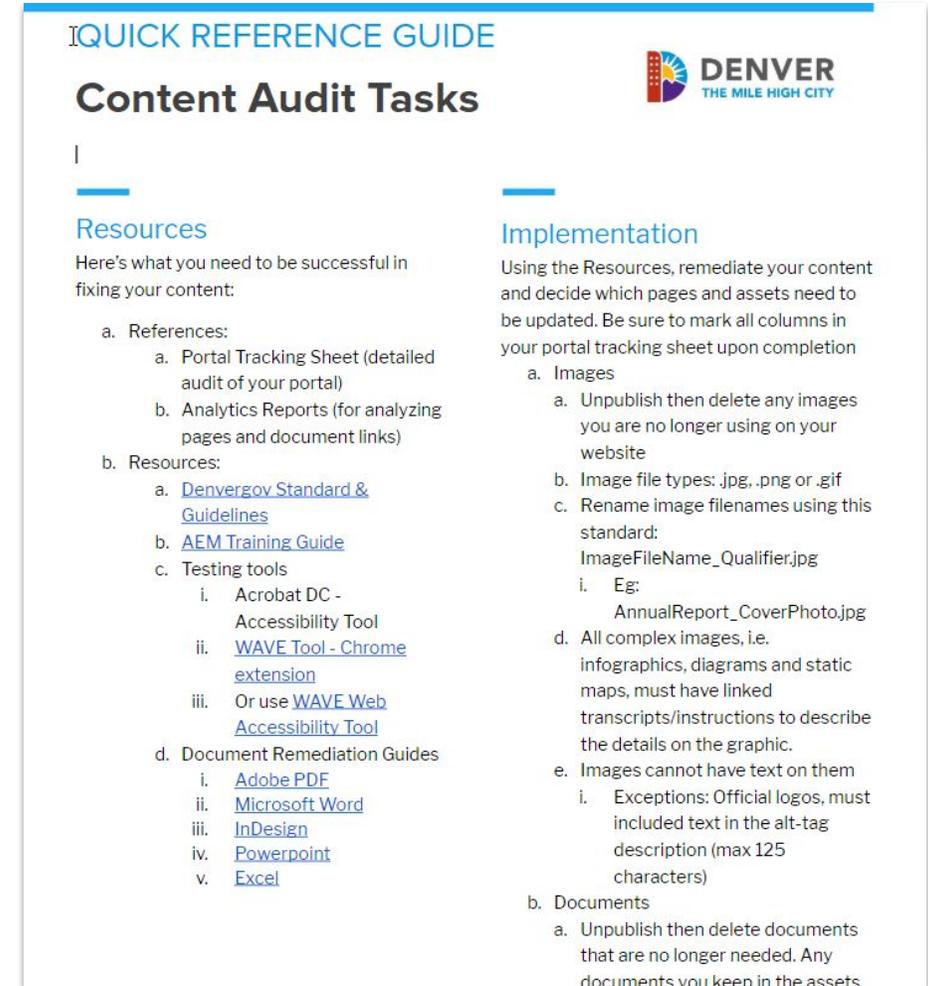
Total Pages: 147

- Published: 56
- Unpublished: 92
- Status:
 - Keep - 40 to 49 (Depending on Spanish pages merging content into other pages)
 - Merge - 8
 - Delete - 13
 - Move to Intranet - 0
- Average Word Count: 350
- Average Readability Score: C
 - Sentences too long on many pages. Consider breaking them up.
- Accessibility Score: 77.9
- Broken Links: 37
 - Broken Links in PDFs: 0

Review Meeting (Cont.)

There's a lot of information to take in and remember. Help your agency partners out by:

- Provide a “cheat sheet” for anyone who is helping with the remediation and include:
 - Resources & Tutorials
 - Quick implementation tips with clear steps for remediation of content
 - Final Steps to get them over the finish line
- Link directly to official resources for the tools and tutorials they need, and explain processes in this one page document to assist them moving forward.
- Offer a one-on-one session with authors for any remediation tasks they are having trouble with



QUICK REFERENCE GUIDE

Content Audit Tasks

Resources

Here's what you need to be successful in fixing your content:

- References:
 - Portal Tracking Sheet (detailed audit of your portal)
 - Analytics Reports (for analyzing pages and document links)
- Resources:
 - [Denvergov Standard & Guidelines](#)
 - [AEM Training Guide](#)
- Testing tools
 - Acrobat DC - Accessibility Tool
 - [WAVE Tool - Chrome extension](#)
 - Or use [WAVE Web Accessibility Tool](#)
- Document Remediation Guides
 - [Adobe PDF](#)
 - [Microsoft Word](#)
 - [InDesign](#)
 - [Powerpoint](#)
 - [Excel](#)

Implementation

Using the Resources, remediate your content and decide which pages and assets need to be updated. Be sure to mark all columns in your portal tracking sheet upon completion

- Images
 - Unpublish then delete any images you are no longer using on your website
 - Image file types: .jpg, .png or .gif
 - Rename image filenames using this standard: ImageFileName_Qualifier.jpg
 - Eg: AnnualReport_CoverPhoto.jpg
 - All complex images, i.e. infographics, diagrams and static maps, must have linked transcripts/instructions to describe the details on the graphic.
 - Images cannot have text on them
 - Exceptions: Official logos, must include text in the alt-tag description (max 125 characters)
- Documents
 - Unpublish then delete documents that are no longer needed. Any documents you keep in the assets

Detailed Audit/Remediation

- Work through all site issues with agency content authors and remediate.
- Track progress and information by using the shared tracking sheet via tool like Google Sheets.
 - Mark your final decisions on the sheet using a darker version of the color you used in the initial research & analysis portion of the process
 - Some pages that were marked green in the initial recommendations may be marked red or yellow when you do your detailed audit. Be flexible to make your site work best.

	A	B	C	D	E
1		Current Site Map	Page URL	Vanity URL	Page Title
2	0.0	Denver Motor Vehicle	/content/denvergov/en/denver-motor-vehicle	/dmv AND /motorveh	Denver County DMV DenverGov.org
3	1.0	Driver's License & Records	/content/denvergov/en/denver-motor-vehicle/driver		Driver's License & Records DenverGov.org
4	2.0	Register a Vehicle	/content/denvergov/en/denver-motor-vehicle/register		Register a Vehicle City and County of Denver
5	2.1	Register a New or Used Vehicle	/content/denvergov/en/denver-motor-vehicle/register		Register a New or Used Vehicle DenverGov.org
6	2.1.1	Dealership purchases	/content/denvergov/en/denver-motor-vehicle/register		Dealership Purchases - Register a Vehicle
7	2.1.2	Private party purchases	/content/denvergov/en/denver-motor-vehicle/register		Private Party Purchases - Register a Vehicle
8	2.1.3	New Colorado Residents	/content/denvergov/en/denver-motor-vehicle/register		New Colorado Resident - Register a Vehicle
9	2.1.4	Gifted Vehicles	/content/denvergov/en/denver-motor-vehicle/register		Gifted Vehicles - Register a Vehicle
10	2.1.5	Military Vehicle Registration	/content/denvergov/en/denver-motor-vehicle/register		Military Vehicle - Register a Vehicle
11	2.1.6	Register an Inherited Vehicle	/content/denvergov/en/denver-motor-vehicle/register		Register an Inherited Vehicle - Register a Vehicle
12	2.2	Renew Registration	/content/denvergov/en/denver-motor-vehicle/register		Renew Registration Denver County DMV
13	2.3	Change of Address	/content/denvergov/en/denver-motor-vehicle/register		Change of Address - Motor Vehicle DenverGov.org
14	2.5	Trailers, Equip, Motorcycles, RVs	/content/denvergov/en/denver-motor-vehicle/register		Equipment, Motorcycles, Trailers, RVs
15	2.6	Fees and Sales Tax	/content/denvergov/en/denver-motor-vehicle/register		Registration Fees & Sales Tax City and County of Denver
16	2.7	Address Finder	/content/denvergov/en/denver-motor-vehicle/register		Address Finder City and County of Denver
17	3.0	Title Services	/content/denvergov/en/denver-motor-vehicle/title-s		Vehicle Title Services City and County of Denver
18	3.1	Transfer Title to New Owner	/content/denvergov/en/denver-motor-vehicle/title-s		Transfer a Title to New Owner - Title Services
19	3.1.2	Buying or Selling a Vehicle	/content/denvergov/en/denver-motor-vehicle/title-s		Buying or Selling a Vehicle - Transfer Title
20	3.1.3	Gifted or Donating a Vehicle	/content/denvergov/en/denver-motor-vehicle/title-s		Gifted or Donating a Vehicle - Transfer Title
21	3.1.4	Transferring Ownership to Family	/content/denvergov/en/denver-motor-vehicle/title-s		Transferring Ownership to Family - Transfer Title
22	3.1.1	Inheriting a Vehicle	/content/denvergov/en/denver-motor-vehicle/title-s		Inheriting a Vehicle - Transfer Title to New Owner
23	3.2	Change Name on Title	/content/denvergov/en/denver-motor-vehicle/title-s		Change Name on Title - Title Services
24	3.3	Lost / Duplicate Title	/content/denvergov/en/denver-motor-vehicle/title-s		Lost or Damaged Title - Title Services
25	3.4	Salvaged Vehicle Titles	/content/denvergov/en/denver-motor-vehicle/title-s		Salvaged Vehicle Titles - Title Services
26	3.5	VIN Verifications	/content/denvergov/en/denver-motor-vehicle/title-s		Denver VIN Verification - Title Services
27	4.0	License Plates	/content/denvergov/en/denver-motor-vehicle/licens		License Plates City and County of Denver
28	4.1	Disability Plates and Placards	/content/denvergov/en/denver-motor-vehicle/licens		Disability Plates and Placards - License Plates
29	4.2	Lost or Damaged Plates, Placards	/content/denvergov/en/denver-motor-vehicle/licens		Lost, Damaged, Stolen License Plates
30	4.3	Temporary Permits / Plates	/content/denvergov/en/denver-motor-vehicle/licens		Temporary Tags & Plates City and County of Denver
31	4.4	Schedule Plate Pickup	/content/denvergov/en/denver-motor-vehicle/licens		Schedule Vanity Plate Pickup City and County of Denver
32	5.0	Emissions & Insurance	/content/denvergov/en/denver-motor-vehicle/emiss		Emissions & Insurance Requirements
33	5.0	Dealers & Financial Institutions	/content/denvergov/en/denver-motor-vehicle/deale		Dealer & Financial Institutions City and County of Denver



Audit Review: The Accessibility Coordinator

Despite sometimes feeling like an ogre, the accessibility coordinator can help the ship run smoothly by reviewing the site after the audit is complete. This is the final check before we sign off and ensures nothing has been missed.

They can also:

- Advise development teams, vendors, and other contractors
- Act as “the heavy” to impress upon people the importance and legal requirements for accessibility
- Offer accessibility training
- Monitor and report on accessibility efforts and status

**THIS IS
KAREN**



Review, Maintain, & Follow-Up

A big part of our content audit process is making sure all our work doesn't go to waste. Unless you control all of your content on your site this means training and follow-up for content authors.



Training & Expertise

The most important person to train is yourself!

1. **Keep up to date.** Find and participate in ADA training where you can and stay informed on the latest standards & best practices as new processes and rules are added often.
2. **Don't learn in a vacuum.** Join organizations and groups that can help you with resources, feedback and ways to find out even *more* information.
3. **Engage with disability experts.** Meet with and talk to disability experts, including those with disabilities, to learn about the experience from their experiences and expertise.
4. **Forums are your friend.** Research tools and other helpful ways to make your accessibility/content checks easier to do.
5. **Create a processes & policies to guide people.** Develop, document and share policies & guidelines with staff so that regardless of who asks, you have consistent answers on what is or is not ADA compliant or up to your brand standards.

Your employees want guidance and will feel far more confident if they have clear answers to reference.

Providing Website Follow-up

When the content audit is complete, that doesn't mean it's over!

- After each audit, **mark your calendar** for a follow-up meeting to ensure compliance is being met
- Come to these meetings with analytics data to show improvements to site traffic and, if applicable, any issues that may have resurfaced over time
- If possible, provide monthly or quarterly reports on the completed sites to the relevant parties to keep a finger on the pulse and help them identify gaps or successes



Training Follow-up

People forget things and standards can slip. Web authors and content creators need yearly training to keep skills & knowledge fresh.

- First time authors and content creators should always undergo ADA training to ensure compliance. Make it a yearly requirement for continued web access
- Consider offering training on a set schedule. For example we offer new author training, ADA training, and open labs once a month at set intervals
- Consider group trainings for departments and agency staff that create large amounts of documents or web content.
- Provide guides and resources on your intranet or other internal tools such as Microsoft Teams or Sharepoint
- Provide sourced links on how to remediate sites and assets using official sources, don't recreate the wheel!

Lessons Learned

1. **Your process won't be perfect the first time.**
 - a. Start small with sites that you control and see how the process works. This includes “low-hanging fruit” that you have identified early in your analytics reviews
2. **Do a burndown.** After the 1st or 101st audit, always have a burn down review with your team and any agency clients to discuss what works and what didn't.
3. **Be flexible.** Like undergarments on a hot day, adjust, adjust, adjust...
4. **Give yourself a break.** Set aside time for things other than the audit. Make a pretty banner for your homepage, do a puzzle, stare at the sky & have an existential crisis, or go for a walk. Don't wait until you've thrown your mouse across the room.
5. **Connect with others.** Reach out to other cities that you know are doing the same thing for idea shares or just venting sessions. The therapy alone is worth it.



Moving Forward...

To keep with accessibility down the road:

1. Perform yearly audits
2. Maintain standards & guidelines
3. Continue with regularly scheduled training
4. Keep stakeholders and leadership engaged
5. Budget for better monitoring & testing tools
6. Keep your system upgraded and up to date
7. Develop a technology intake process that includes accessibility, web standards, security and privacy compliance
8. Get yearly manual and automated testing scheduled early
9. Assign a digital accessibility coordinator

THANK YOU

NAGW



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