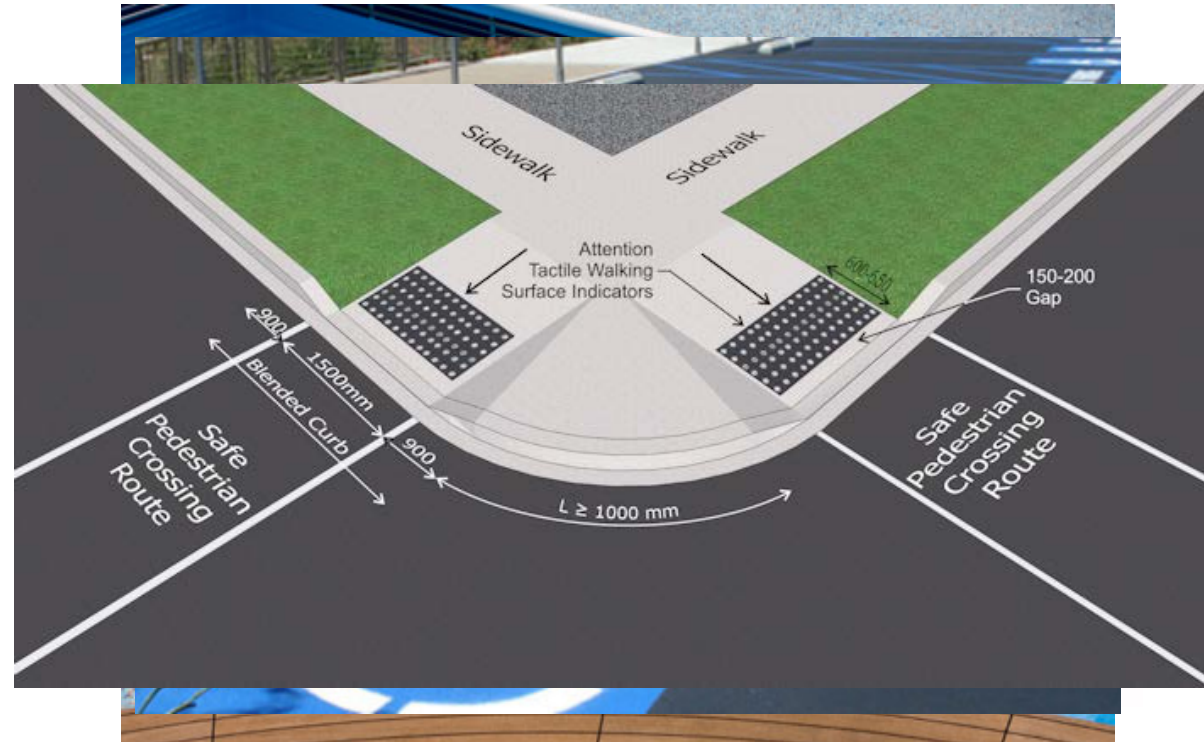




Apps for Maps & Accessibility

Michael Funaro

Latitude Geographics



[Policies](#)[Accessibility Policy](#)

Web Standards for Universal Accessibility

It is the policy of the State of to ensure that people with hearing, visual and other disabilities have equal access to public information that is available on the Internet and the World Wide Web. It is the direct responsibility of the agency and its web page developers to become familiar with the guidelines for achieving universal accessibility and to apply these principles in design and development of the State of Rhode Island Portal.

It has been estimated that 54 million people or 20.6% of all Americans have some level of disability. This is a large segment of society waiting for opportunities to interact with all levels of government.

Estimates indicate that 95-99 percent of all Web sites are inaccessible at some level. These statistics are staggering considering the number of sites that come online daily. As of January 2000, there were an estimated 10 million Web sites online, by the end of the year - 25 million and by the year 2002, one hundred million. To date there have been no formal complaints filed against a governmental agency under the ADA of 1990. The use of the guidelines below will ensure that Web sites created by the State of Rhode Island are developed to serve the largest possible audience. Following these guidelines will also provide an added benefit to those users with text-based browsers, slow(er) modem connections and/or no multi-media capabilities on their computer.

The Access Board (the federal board assigned to create Section 508 standards) used the W3C Web Accessibility Initiative guidelines as the benchmark for developing their standards.

Policies:

[Accessibility Policy](#)[Cookies Policy](#)[Copyright Policy](#)[Disclaimer Policy](#)[Legal Notices](#)[Links Policy](#)[Privacy Policy](#)[Security Policy](#)[HELP](#)

Section 508

United States Federal Government: Section 508 Requirements



“Section 508” is actually an amendment to the Workforce Rehabilitation Act of 1973

- Requires that electronic and information technology that is developed by or purchased by Federal Agencies be accessible by people with disabilities
- Does not directly apply to private sector or public sites that are not U.S. Federal Agency sites or do not receive Federal Funding or grants



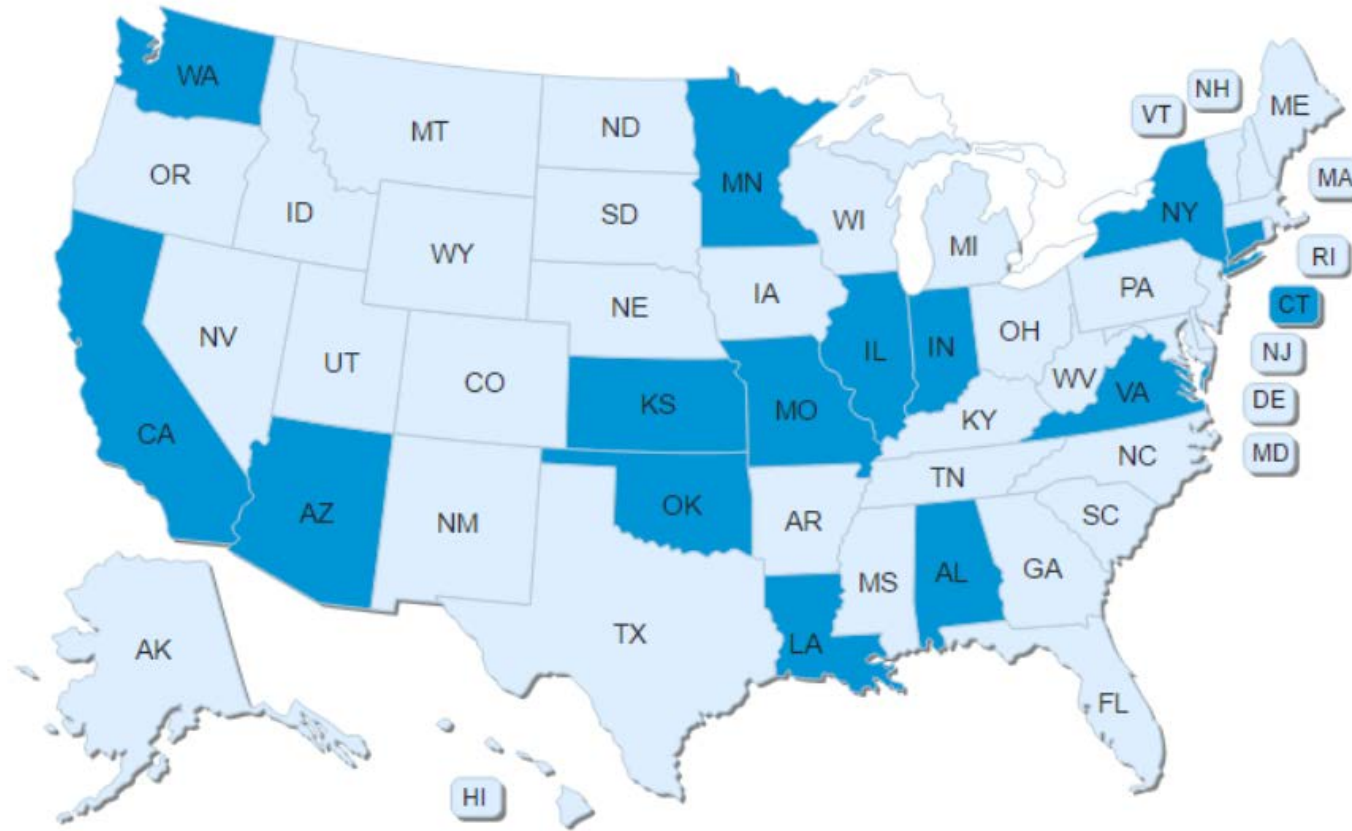
WCAG 2.0

Web Content Accessibility Guidelines (WCAG) are part of a series of web accessibility guidelines published by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C), the main international standards organization for the Internet.

Where does your State or Local Government stand?



State IT and Accessibility Laws



Accessible New York

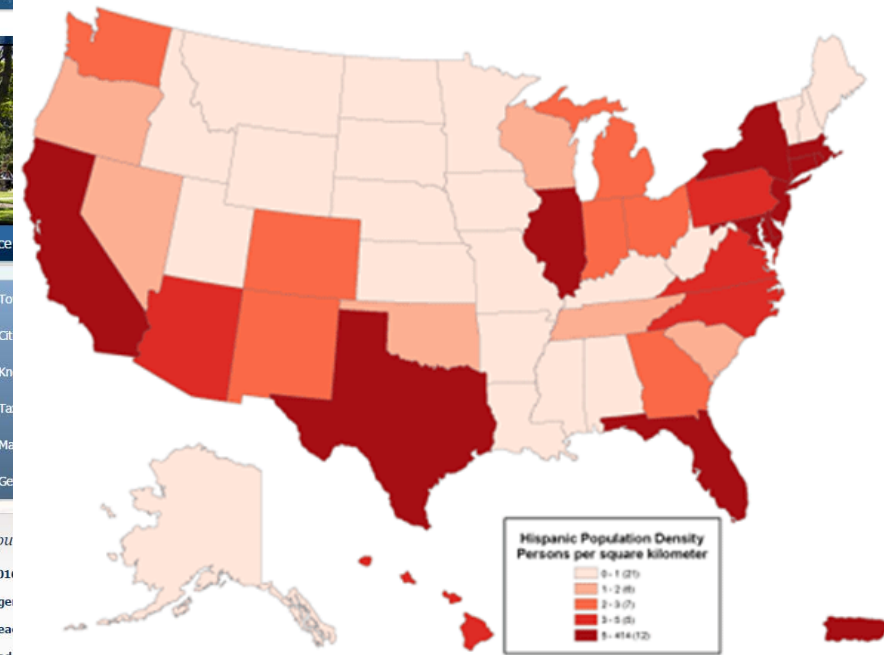
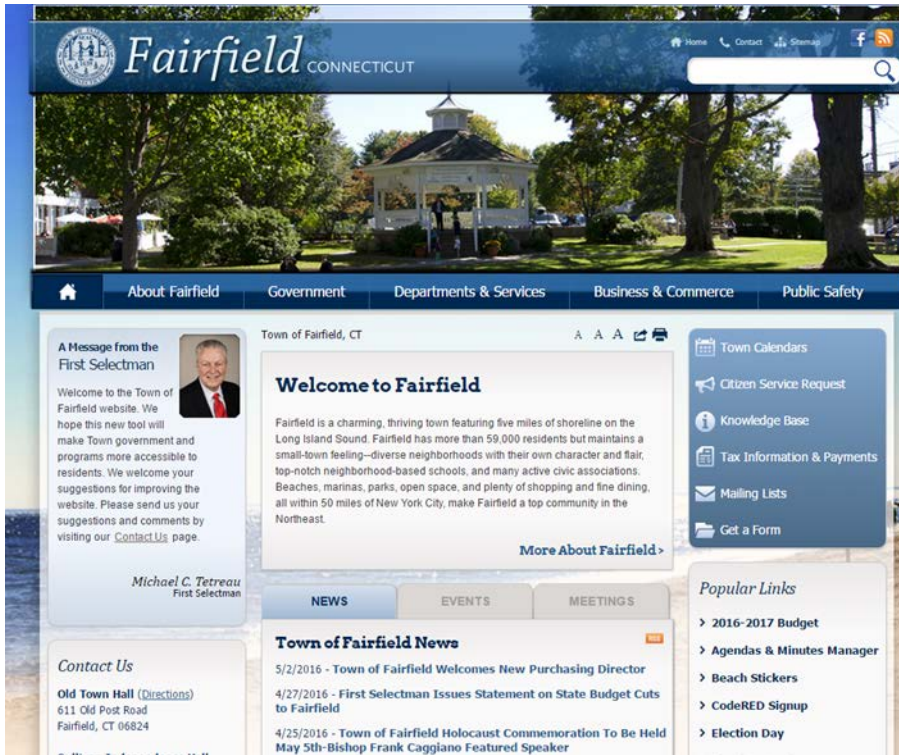
New York City Mayor de Blasio signs legislation



- Adoption of a protocol for website accessibility
- Based on Section 508 and WCAG 2.0

Bill 683-A

Serving Everyone





City Crime Viewer

Help | City Hall | Police Dept



Map Contents

☒ Crime 2008 incidents

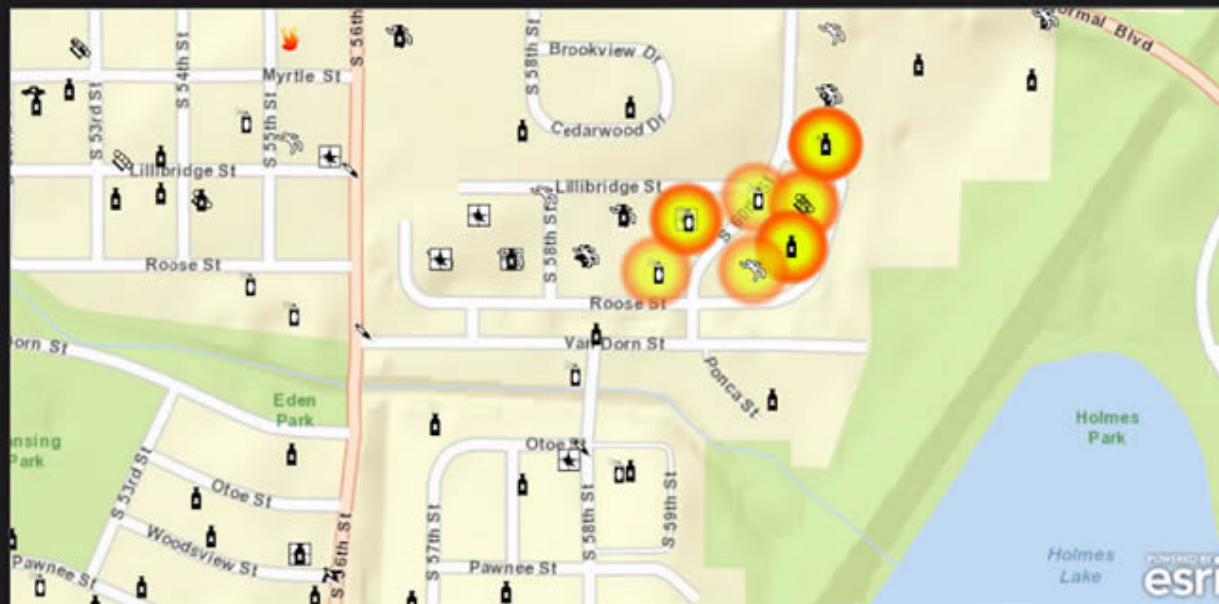
- Default Symbol
- ARSON
- ASSAULT
- AUTO THEFT
- BURGLARY
- INDECENT EXPOSURE
- LARCENY
- LARCENY FROM AUTO
- NARCOTICS
- OTHER
- ROBBERY
- VANDALISM
- WEAPONS

☒ Median Household Income

☒ USA Median Household Income

☒ Block Groups

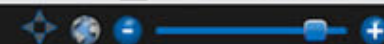
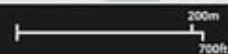
- \$84,001 to \$375,000
- \$70,001 to \$84,000
- \$41,001 to \$70,000
- \$27,001 to \$41,000



Attributes of Crime 2008 incidents

SYMBOLGY	TEAM_AREA
BURGLARY	Southeast Team
VANDALISM	Southeast Team
OTHER	Southeast Team
VANDALISM	Southeast Team

Record: << < 2 > >> Records (18 out of 1009 Selected) Options Commit



• Education and outreach

• Working with research and development

W3C Organized

• four Domains within the W3C, with two Activities

Technical Activity

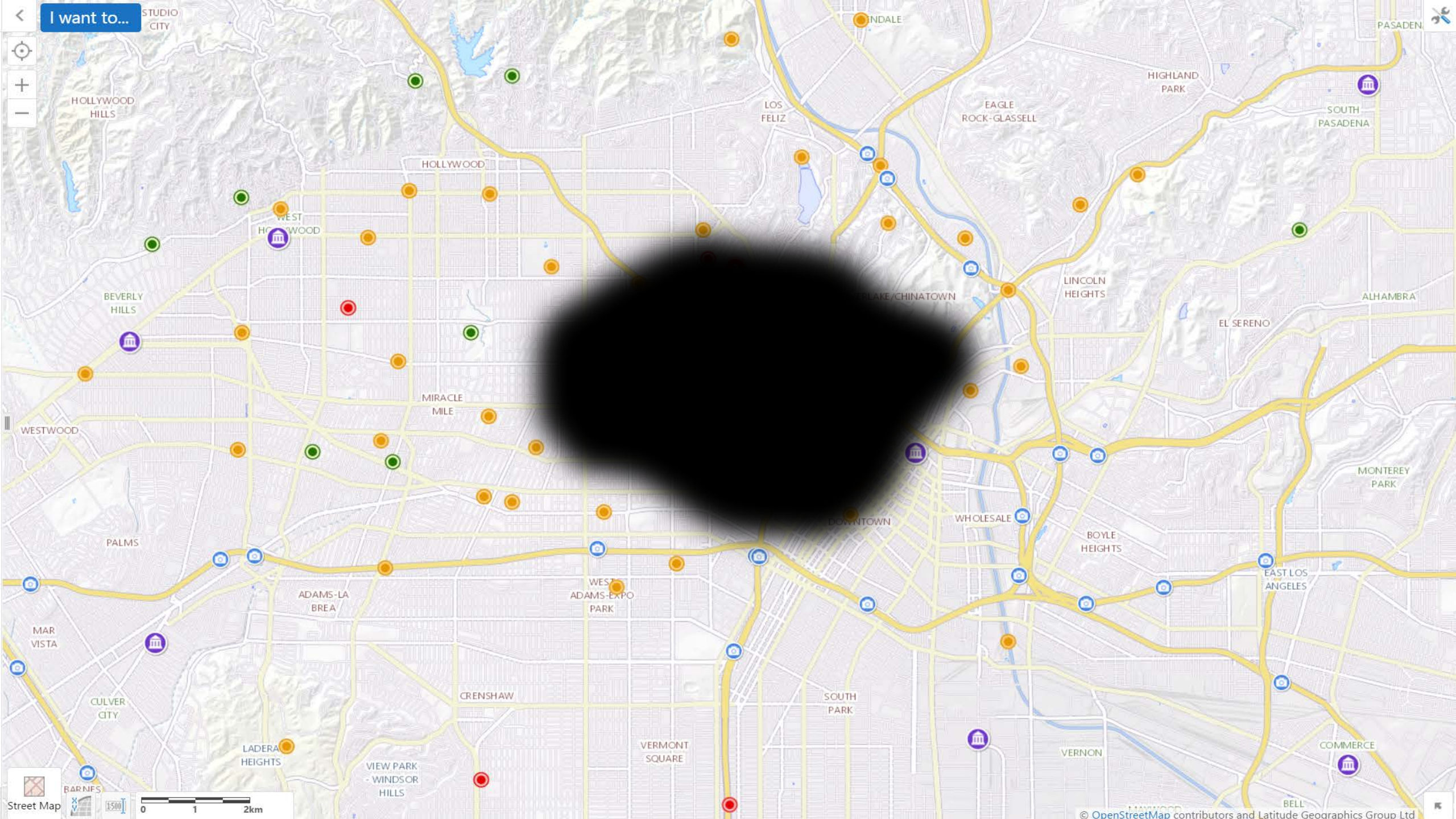
• Protocols and Formats Working Group (PFWG)

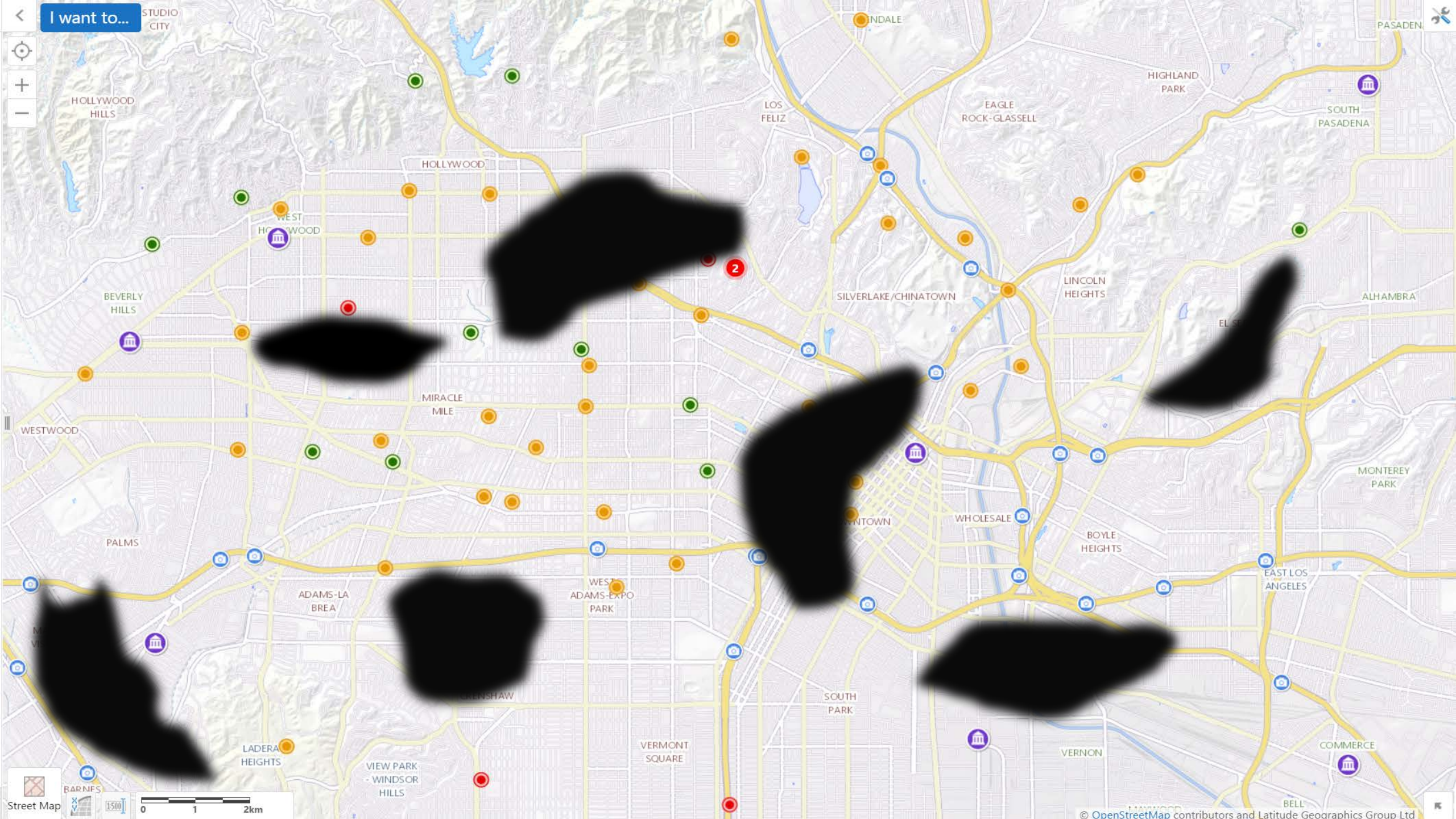
• Web Content Accessibility Guidelines Workgroup

• Authoring Tool Accessibility Guidelines

• Agent Accessibility Guidelines

• Assessment and Repair Tools





I want to...

PASADENA

HOLLYWOOD HILLS

HOLLYWOOD

WEST HOLLYWOOD

BEVERLY HILLS

WESTWOOD

PALMS

ADAMS-LA BREA

WEST ADAMS
ADAMS-EXPO PARK

GREENSHAW

LADERA HEIGHTS

VIEW PARK - WINDSOR HILLS

VERMONT SQUARE

SOUTH PARK

LOS FELIZ

EAGLE ROCK - GLASSSELL

HIGHLAND PARK

SOUTH PASADENA

SILVERLAKE/CHINATOWN

LINCOLN HEIGHTS

ALHAMBRA

MONTEREY PARK

EAST LOS ANGELES

BOYLE HEIGHTS

WHOLESALE

DOWNTOWN

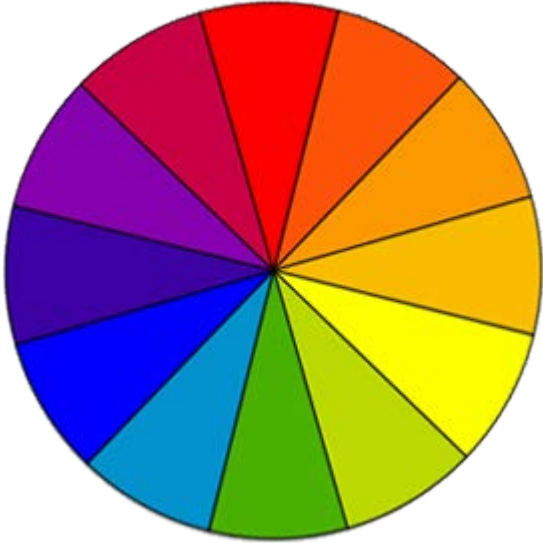
VERNON

COMMERCE

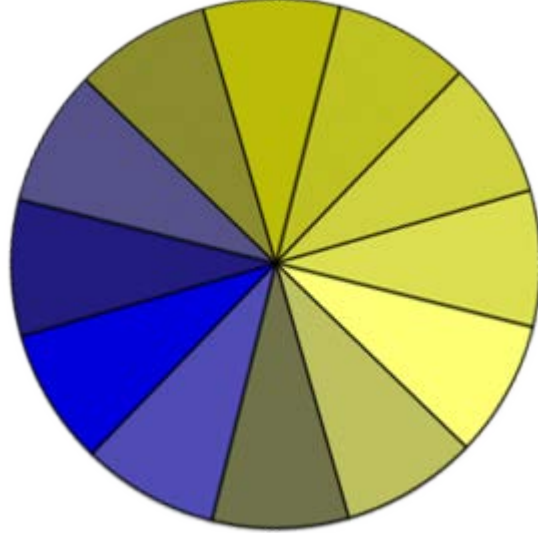
BELL

© OpenStreetMap contributors and Latitude Geographics Group Ltd

Simulated Examples of Color Blindness



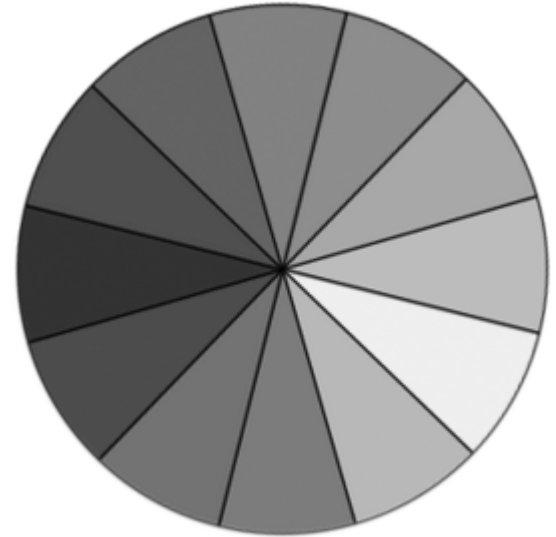
Full Color
Perception



Red-Green Color
Blindness



Blue-Yellow Color
Blindness



No Color
Perception (*rare*)



How do we build web
accessible mapping
applications?



Geocortex

Accessibility Module

Details		
Shape	Record Name	GP_1
Point	3/12/2018	10320
OBJECTS	CONNECTION	GP_2
1373	N/A	122
PAD_NUM	TRAIL_NAME	GP_3
10976	8/17/2012	50
PAD_NAME	UNIT_ID	WELDRONE
BRESEE, EMMMA JO UNIT	401439027600004	A
PAD_ID	UNIT_ID	30, 4000
PAD_STAT	80, 389, 251, 35, 1272	30, 4000

Accessibility Tools

Keyboard Controls

Accessibility Tools

General Keyboard Shortcuts

The HTML5 Viewer uses standard shortcuts to navigate the page

General Keyboard Shortcuts for Accessibility

To do this...

Navigate forward through the page's components
Navigate backward through the page's component
Select or activate the current UI component
Select checkbox
Pan the map (if selected)
Move slider
Jump slider
Jump slider to the start or end

HTML5 Viewer Keyboard Shortcuts

The HTML5 Viewer has its own shortcuts for working with shape tools that require the user to manipulate a shape on the map.

HTML5 Viewer Keyboard Shortcuts for Accessibility

To do this...

Add a vertex to the shape that you are creating
Move vertex horizontally or vertically
Move vertex diagonally
Move the selected shape horizontally or vertically

Arrow keys

PAGE UP; PAGE DOWN

HOME; END

To do this...	Press...
Move the selected shape diagonally	PAGE UP; PAGE DOWN; HOME; END
Enlarge the selected shape uniformly	S
Reduce the selected shape uniformly	SHIFT + S
Rotate the selected shape to the right	R
Rotate the selected shape to the left	SHIFT + R
Complete the shape	ENTER, ENTER (press ENTER twice)
Enter vertex editing mode	V
Select the next vertex of the current shape (in vertex editing mode)	V

Arrow keys

Collaboration Demo - Google Chrome

collaborate.geocortex.com/html5viewer/index.html?viewer=DemoSite.Viewer#

Apps Today's Tasks ~ Sales SF Reports GCX Demo Site Sunrise Calendar Calendar - Outlook My meetings | GoTo! Boomerang Welcome! | LinkedIn Trello NHDOT Examples Latitude Resources GCX Sites To Do HP Connected OverDrive: eBooks, au Printer Other bookmarks

Collaboration | Geocortex Demonstration

Search... Sign out

Tools

Home Initial View Identify Print Export Collaboration After Action Playback

Basic Tools

Collaboration

Join a Room...

Cam Barnard ~ Nov 8, 1:46 PM

Report of chemical spill

Scott Stafford-Veale ~ Nov 9, 9:58 AM

This drawing has been erased.

Scott Stafford-Veale ~ Nov 9, 9:58 AM

area of interest

Scott Stafford-Veale erased a drawing from I345 Possible Chemical Spill

Scott Stafford-Veale erased a drawing from I345 Possible Chemical Spill

Scott Stafford-Veale erased a drawing from I345 Possible Chemical Spill

Scott Stafford-Veale ~ Nov 9, 9:59 AM

deploy here

Scott Stafford-Veale ~ Nov 9, 10:00 AM

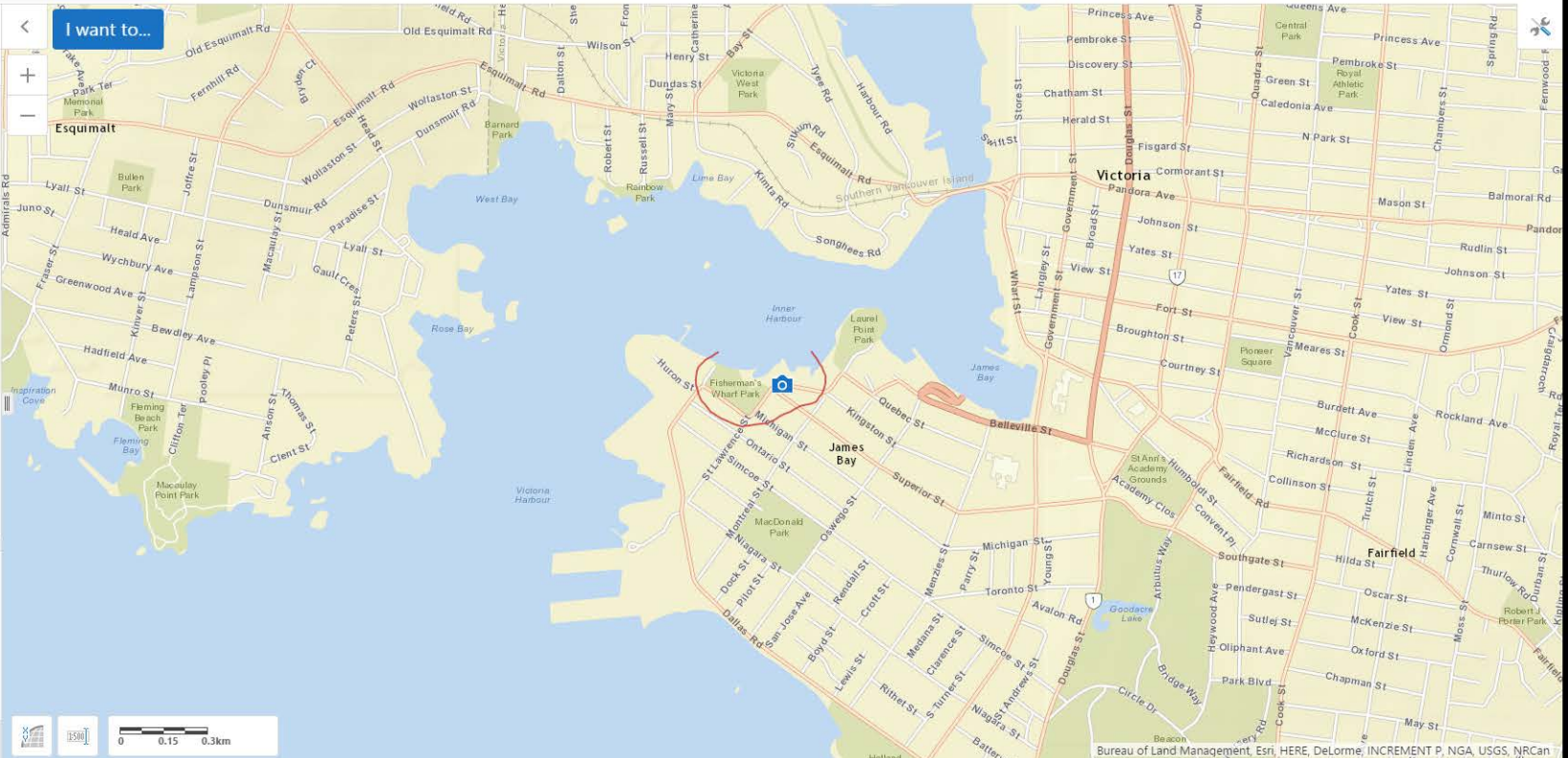
Michael Funaro joined I345 Possible Chemical Spill

Drawing Image

Enter a message to send.

Post message to I345 Possible Ch... Send

I want to...



0 0.15 0.3km

Bureau of Land Management, Esri, HERE, DeLorme, INCREMENT P, NGA, USGS, NRCan

Accessibility Tools

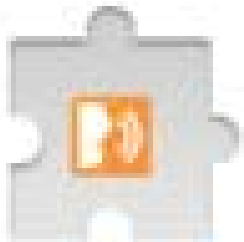
Screen Readers

Accessibility Tools



JAWS (Windows)

NVDA (Windows)



ChromeVox

Voice Over
(Mac/iOS)



What can you do?

<!DOCTYPE
<HTML>
<HEAD>
<TITLE>RA
<LINK REV
<META NAM

Semantic HTML: Give meaning to structure

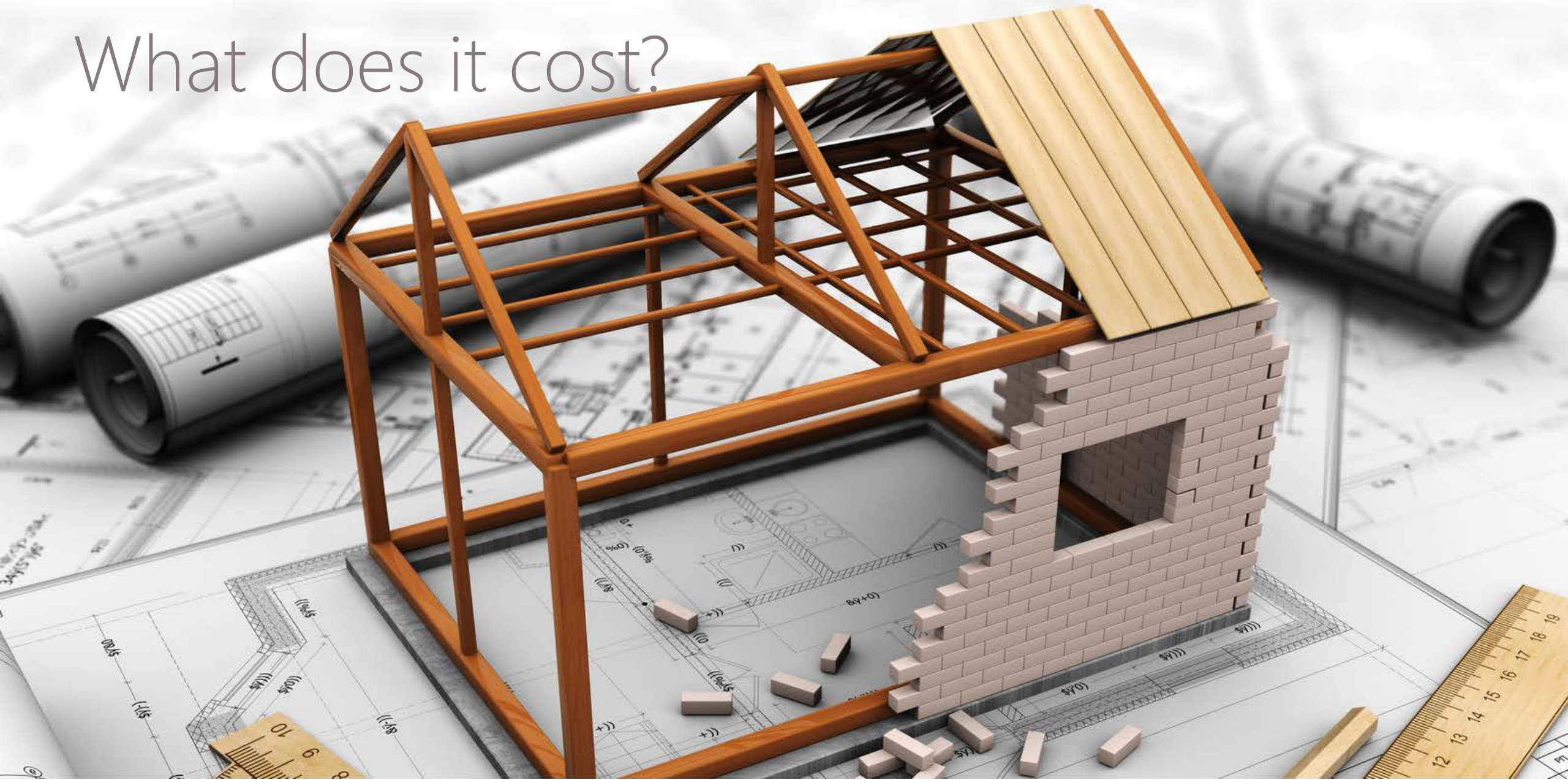
Tips to improve semantics:

1. Don't use `<div>` and `` for everything
2. Links to other web pages or URLs should be an anchor `<a>` tag
3. Links that perform an action or command are best implemented with `<button>` tags
4. Use standard HTML form elements (`<select>`, `<input type="submit">`, etc.)



SEMANTICS

What does it cost?



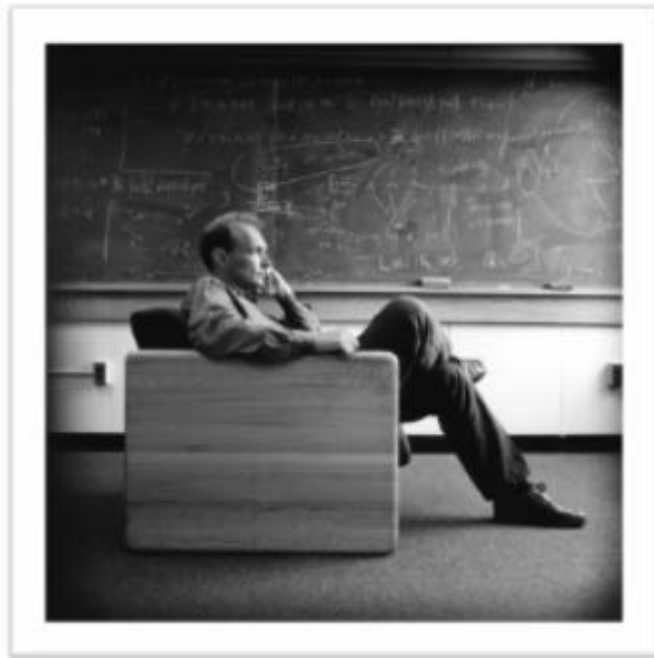
What does it cost?



Web Accessibility Litigation

Year	Plaintiff(s)	Defendant(s)	Citation
2015	Access Now Inc., Michelle Sipe, Jill Gross and R. David New	Ace Hardware	http://pennrecord.com/stories/510652975-nonprofit-sues-ace-hardware-corp-claiming-failure-to-comply-with-disability-regulations
2015	US Dept. Of Education	Argyle Independent School District	http://www2.ed.gov/about/offices/list/ocr/docs/investigations/more/06141592-b.pdf
2015	NFB, et al.	Atlantic Cape Community College	https://nfb.org/national-federation-blind-and-two-blind-students-resolve-complaint-against-atlantic-cape-community
2015	Ashley Cwikla	Bank of America	http://lflegal.com/2015/06/bofa-travel-agreement/
2015	US DOJ	Carnival	http://www.ada.gov/carnival/carnival_sa.html
2015	US DOJ	Champaign County, IL	http://www.ada.gov/champaign_pca/champaign_sa.html
2015	US DOJ	Chaves County, New Mexico	http://www.ada.gov/chaves_county_pca/chaves_sa.html
2015	US DOJ	City of Cedar Rapids, IA	http://www.ada.gov/cedar_rapids_pca/cedar_rapids_sa.html
2015	US DOJ	City of Dekalb Illinois	http://www.ada.gov/dekalb_il_sa.html
2015	US DOJ	City of Fallon, NV	http://www.ada.gov/fallon_nv_sa.html
2015	US DOJ	City of Galveston, TX	http://www.ada.gov/galveston_tx_pca/galveston_tx_sa.html
2015	US DOJ	City of Parowan, UT	http://www.ada.gov/parowan_sa.html
2015	US DOJ	City of Ruidoso, NM	http://www.ada.gov/ruidoso_sa.html
2015	US DOJ	City of the Isle of Palms, SC	http://www.ada.gov/isle_palms_sa.html
2015	US DOJ	City of Vero Beach, FL	http://www.ada.gov/vero_beach_sa.htm

Web Accessibility Makes it Better



Founder of World Wide Web

-Tim Berners-Lee

Better for...

- Brand Reputation
- Ability to meet the needs of an aging market
- Search Engine Optimization (SEO)
- Mobile devices and tablets
- Reduces litigation risk



Thank You!

mfunaro@latitudegeo.com

Accessibility Tools

DEMO

General Keyboard Shortcuts

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General Keyboard Shortcuts for Accessibility

To do this...

- Navigate forward through the page
- Navigate backward through the page's component
- Select or activate the current UI component
- Select checkbox
- Pan the map (if selected)
- Move slider
- Jump slider
- Jump slider to the start or end

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Move vertex diagonally

Move the selected shape horizontally or vertically

Arrow keys

PAGE UP; PAGE DOWN

HOME; END

To do this...

Move the selected shape diagonally

Enlarge the selected shape uniformly

Reduce the selected shape uniformly

Rotate the selected shape clockwise

Rotate the selected shape to the left

Complete the shape

Enter vertex editing mode

Select the next vertex of the current shape (in vertex editing mode)

Arrow keys

PAGE UP; PAGE DOWN; HOME; END

S

SHIFT

R

SHIFT + R

ENTER, ENTER (press ENTER twice)

V

V

