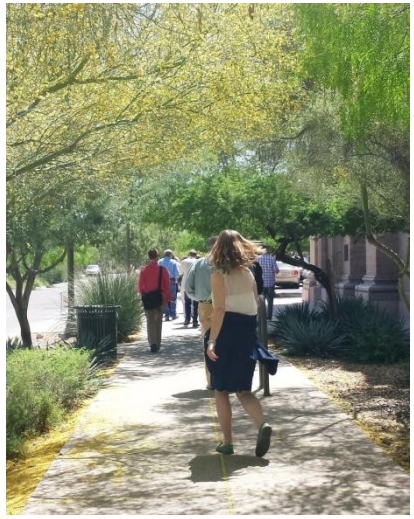
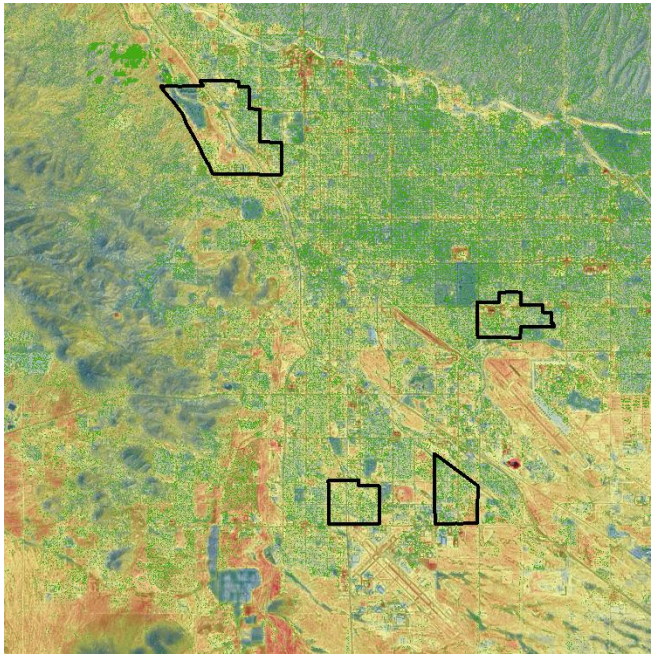
Green Infrastructure Prioritization Tool:

How to use the tool for your project planning needs

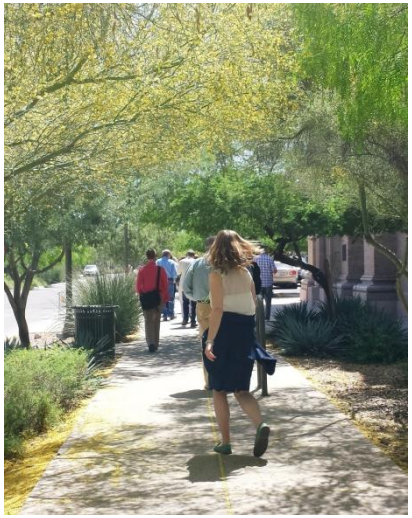
Pima Association of Governments





Outline

- Introduction
- Available layers
- Navigating the tool
- Applying layers
- Making measurements
- Saving and printing
- Feedback



Introduction

Purpose

- Select priority areas for Green Infrastructure investments
- Provide tree shade to reduce heat exposure and urban heat islands
- Enhance stormwater management, mobility and livability in our community

Who should use the tool?

- Municipalities
- Non-profits
- Neighborhood groups

Available layers

Access to Shade

- Regional Tree Canopy Cover
- Percent Tree Canopy Cover by Census Block
- 10,000 Tree Campaign Priorities

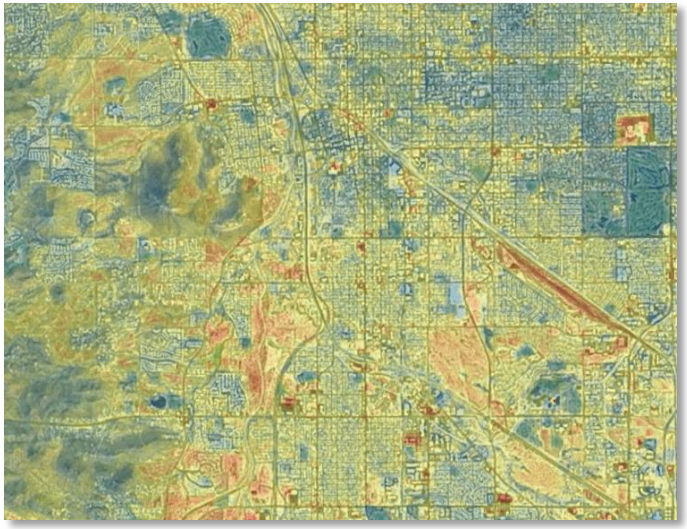
Water Resources

- Stormwater
- Shallow Groundwater Areas
- Washes
- Watersheds
- Waste- and Reclaimed Water
- Tucson Water Service Areas

Available layers

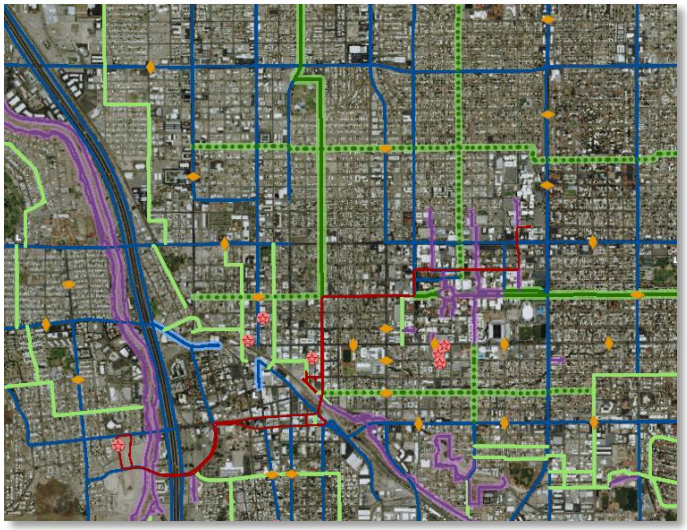
Vulnerabilities

- Regional Surface Temperature
- Extreme Heat Event Vulnerable Population
- USDA 2013 Food Deserts



Mobility

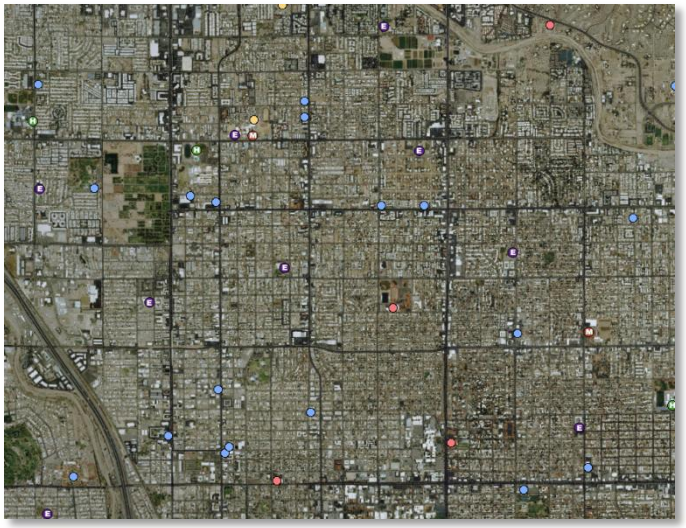
- Tucson Bikeways
- Regional Pedestrian Demand Areas
- Bus Stops



Available layers

Community

- Schools
- Ward Boundaries
- City of Tucson Neighborhood Associations



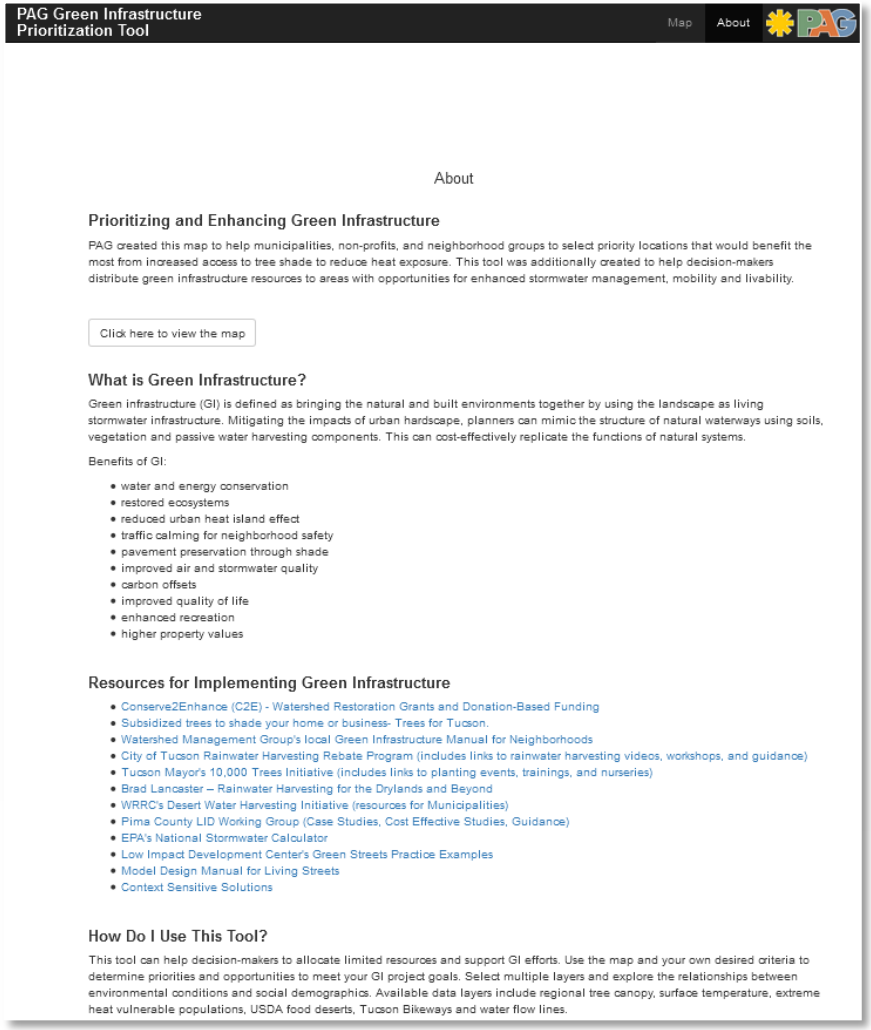
Navigating the tool

Location

- GISmaps.PAGregion.com/PAG-giMap/

Note:

- This tool is optimized for use in Google Chrome. Some features may not work properly in Mozilla Firefox. Internet Explorer is not recommended.
- If you encounter issues with the map, hit F5 on your keyboard to refresh the map.



PAG Green Infrastructure Prioritization Tool

Map About

About

Prioritizing and Enhancing Green Infrastructure

PAG created this map to help municipalities, non-profits, and neighborhood groups to select priority locations that would benefit the most from increased access to tree shade to reduce heat exposure. This tool was additionally created to help decision-makers distribute green infrastructure resources to areas with opportunities for enhanced stormwater management, mobility and livability.

Click here to view the map

What is Green Infrastructure?

Green infrastructure (GI) is defined as bringing the natural and built environments together by using the landscape as living stormwater infrastructure. Mitigating the impacts of urban hardscape, planners can mimic the structure of natural waterways using soils, vegetation and passive water harvesting components. This can cost-effectively replicate the functions of natural systems.

Benefits of GI:

- water and energy conservation
- restored ecosystems
- reduced urban heat island effect
- traffic calming for neighborhood safety
- pavement preservation through shade
- improved air and stormwater quality
- carbon offsets
- improved quality of life
- enhanced recreation
- higher property values

Resources for Implementing Green Infrastructure

- Conserve2Enhance (C2E) - Watershed Restoration Grants and Donation-Based Funding
- Subsidized trees to shade your home or business- Trees for Tucson.
- Watershed Management Group's local Green Infrastructure Manual for Neighborhoods
- City of Tucson Rainwater Harvesting Rebate Program (includes links to rainwater harvesting videos, workshops, and guidance)
- Tucson Mayor's 10,000 Trees Initiative (includes links to planting events, trainings, and nurseries)
- Brad Lancaster – Rainwater Harvesting for the Drylands and Beyond
- WRRC's Desert Water Harvesting Initiative (resources for Municipalities)
- Pima County LID Working Group (Case Studies, Cost Effective Studies, Guidance)
- EPA's National Stormwater Calculator
- Low Impact Development Center's Green Streets Practice Examples
- Model Design Manual for Living Streets
- Context Sensitive Solutions

How Do I Use This Tool?

This tool can help decision-makers to allocate limited resources and support GI efforts. Use the map and your own desired criteria to determine priorities and opportunities to meet your GI project goals. Select multiple layers and explore the relationships between environmental conditions and social demographics. Available data layers include regional tree canopy, surface temperature, extreme heat vulnerable populations, USDA food deserts, Tucson Bikeways and water flow lines.

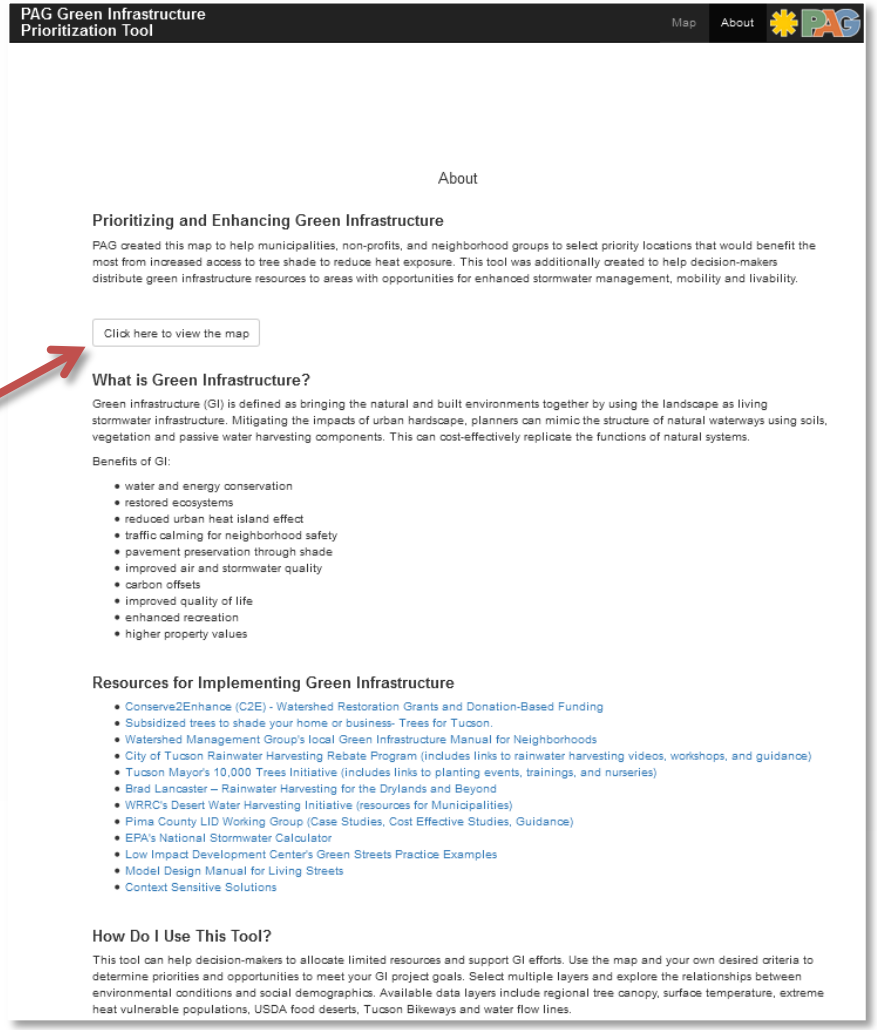
Navigating the tool

About page

- What is Green Infrastructure?
- Resources for Implementing Green Infrastructure
- How Do I Use This Tool?

Opening the map

- Click the button to view the map



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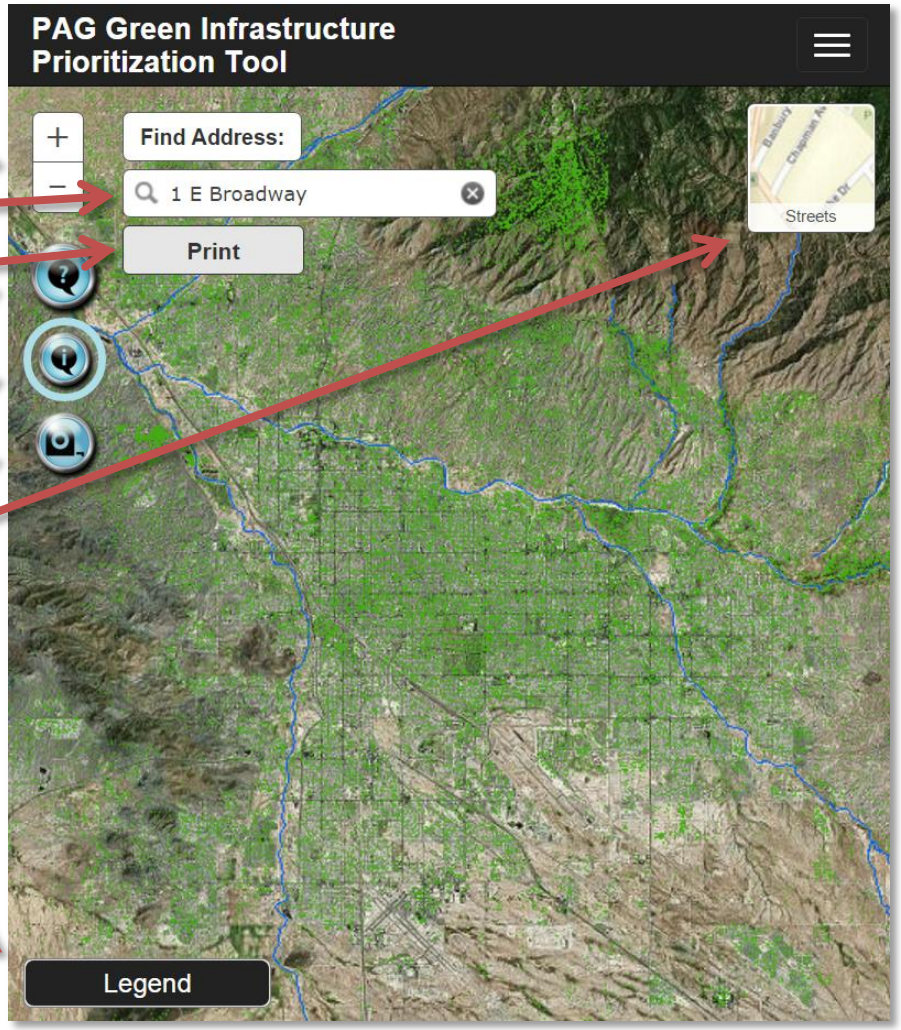
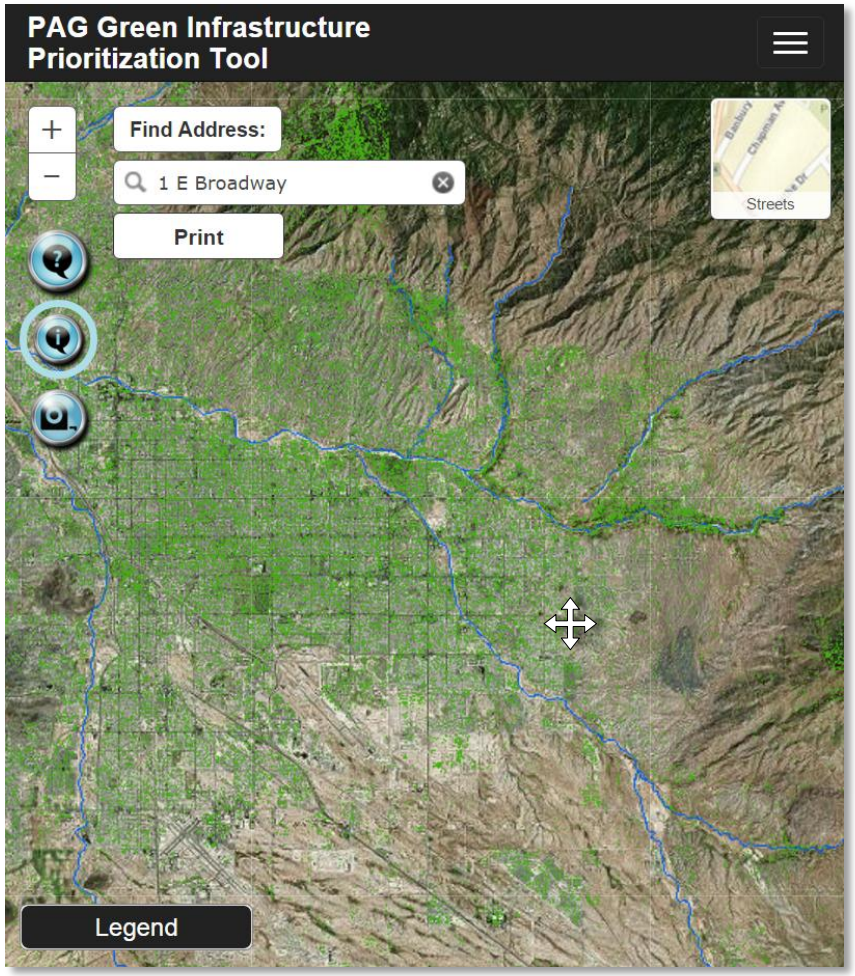
Navigating the tool

Buttons and tools

- Zoom in/out
- Search for an address
- Save PDF to print
- Open “how to” panel
- View layer attributes
- Measurement tools
- Toggle to view streets
- Select layers



Navigating the tool



Mouse navigation

- Click and drag map to pan
- Double click an area of interest to zoom in
- If your mouse has a wheel, point the cursor at your area of interest and spin the wheel up/down to zoom in/out

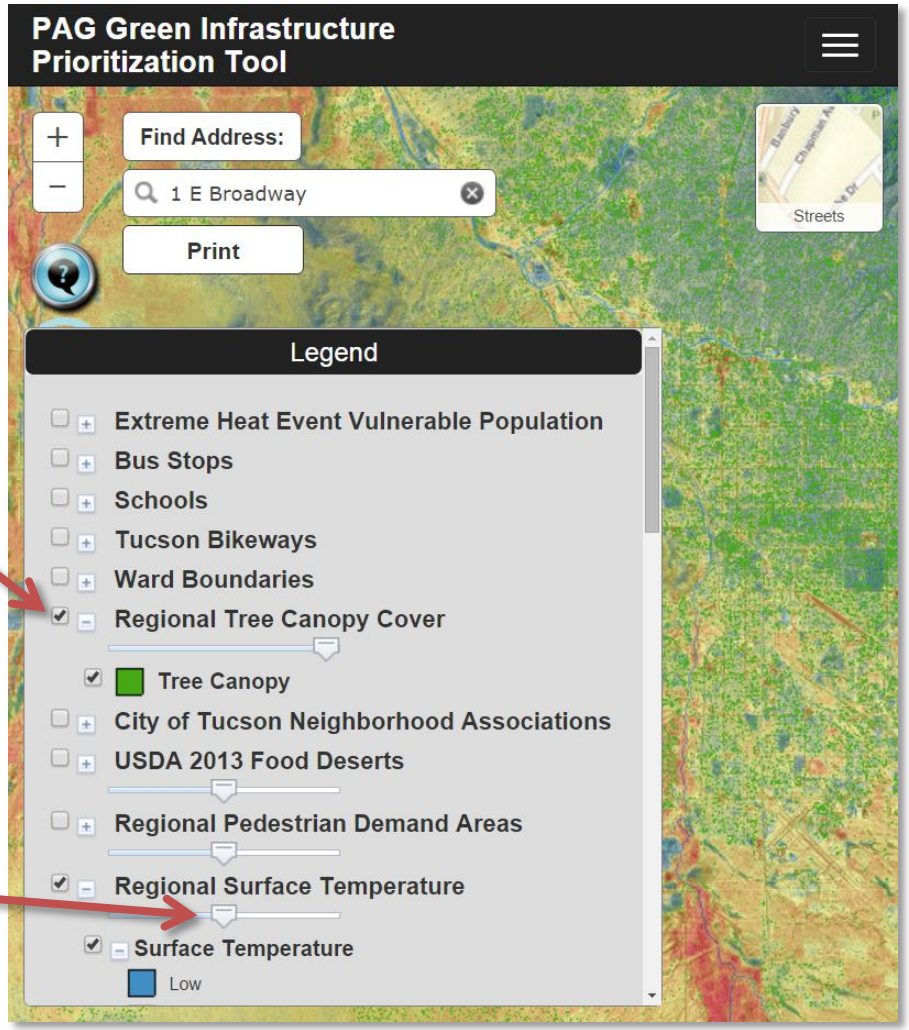
Applying layers

Selecting layers

- In the legend, click the boxes to select layers you are interested in
- A check mark will show up next to selected layers

Adjusting transparency

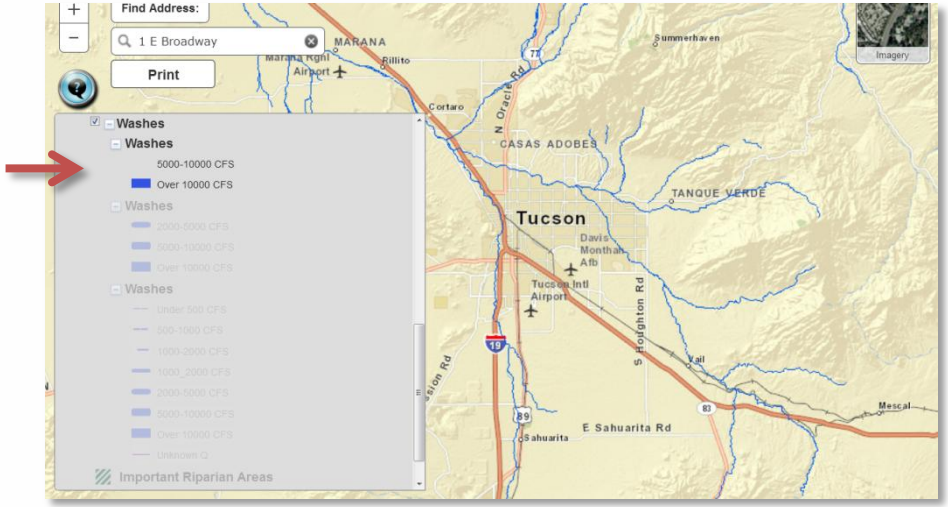
- Some layers allow you to adjust transparency
- Use the slider below the layer name to increase or decrease the transparency

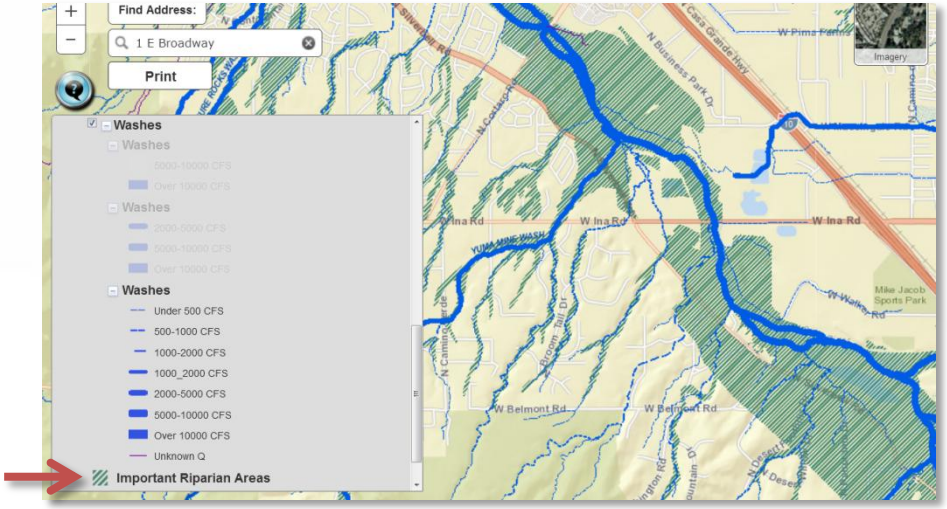


Applying layers

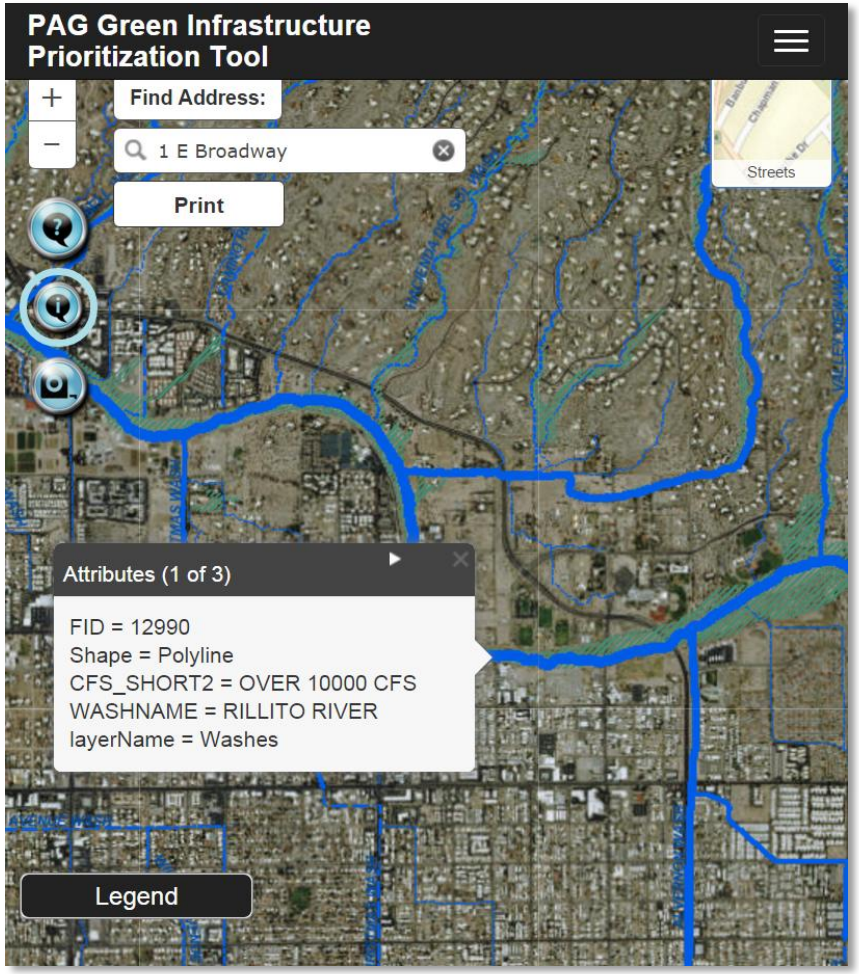
Layer visibility & map scale

- Some layers display more detailed information as you zoom in. Examples: washes and Tucson Bikeways
- Other layers and sub layers contain more localized information and are only visible when zoomed in. Examples: stormwater flow lines and riparian areas





Making measurements



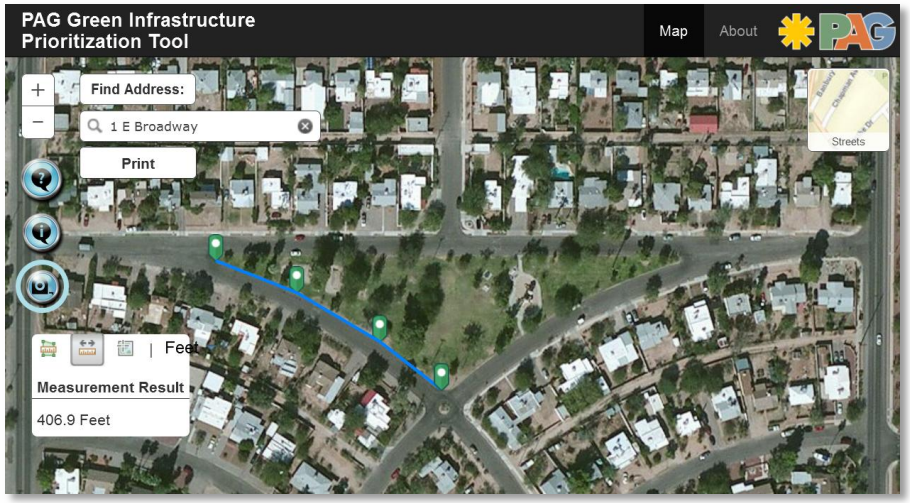
Viewing layer attributes

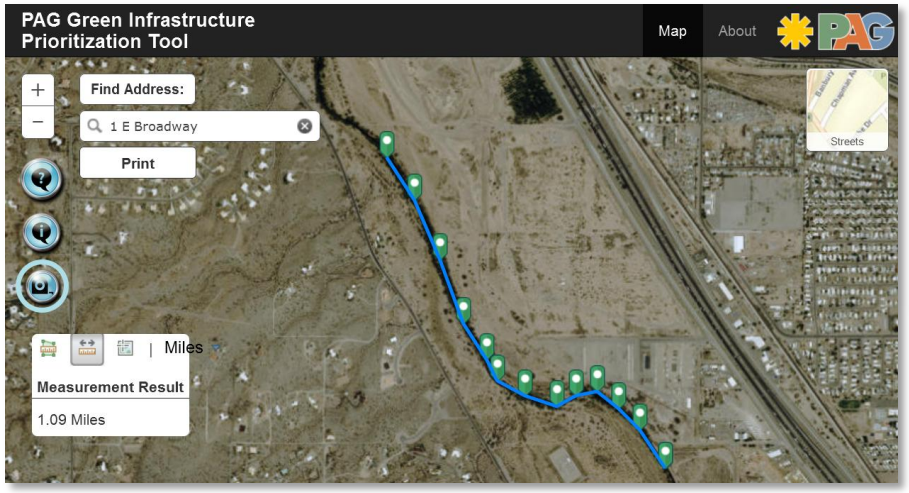
- Click on , then click on the portion of a layer that you are interested in defining
- Attributes may display on more than one tab, indicated by (1 of __). Click the arrow to scroll through more attributes.
- This is especially useful for finding information about washes and watersheds

Making measurements

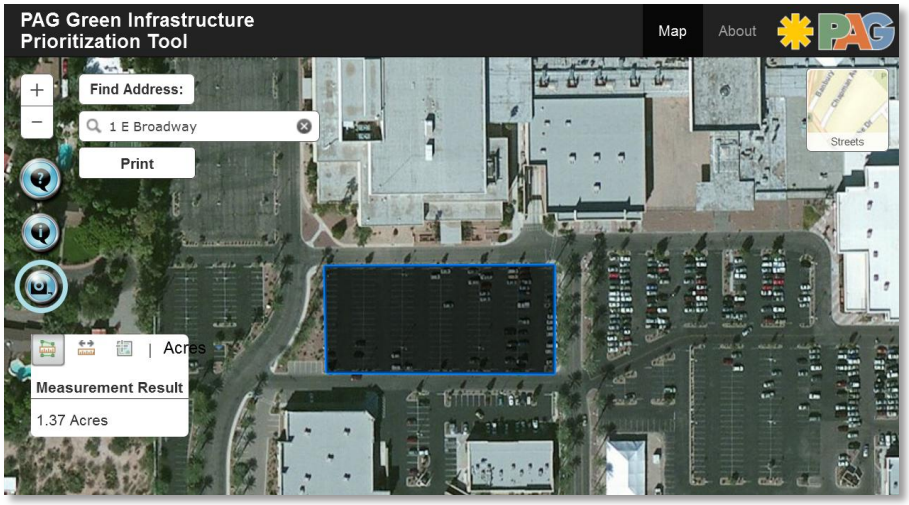
Measuring distance

- Click on and select
- Change the unit of measure in the dialogue box
- Click on the edge of the location you would like to measure
  - A green tab will appear in each spot you click and a blue line will stretch between each point
  - Double click your final point to complete the line





Making measurements



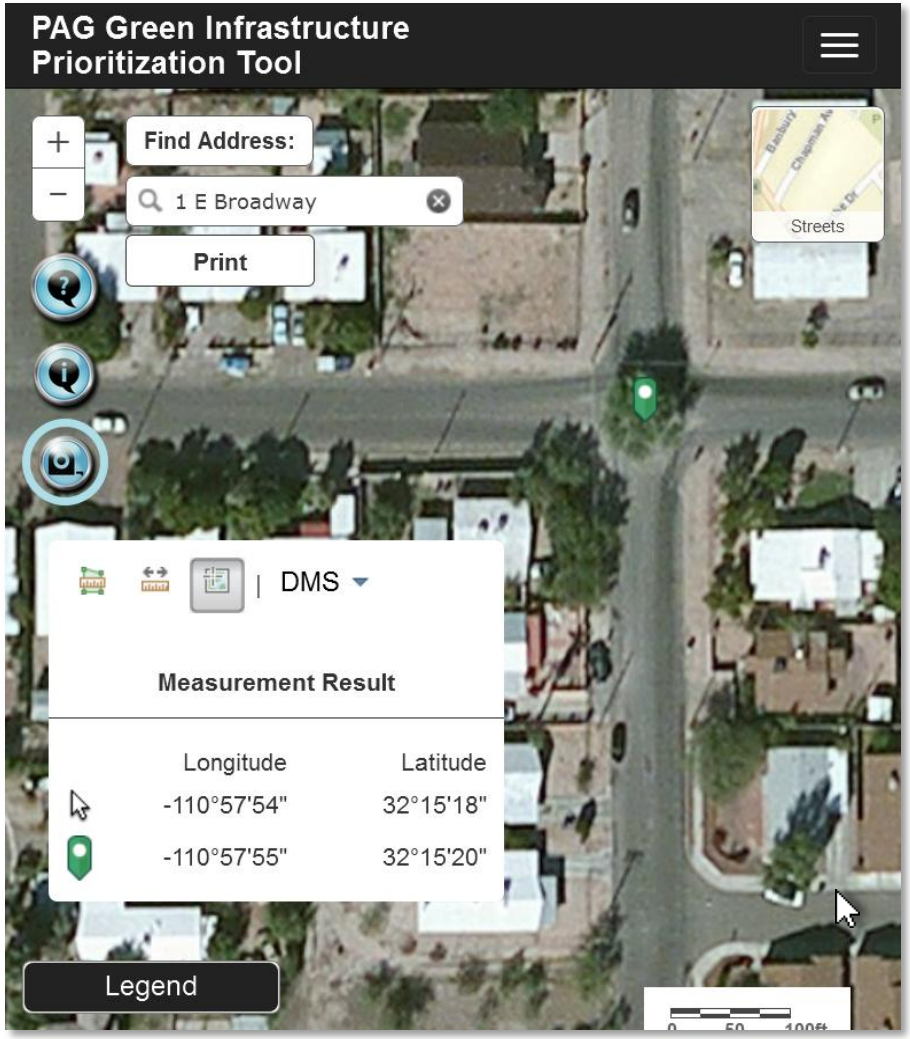
Measuring area

- Click on and select
- Change the unit of measure in the dialogue box
- Click on the edge of the location you would like to measure
  - A blue line will stretch between each spot you click on, and the inner area will be shaded
  - Double click your final point to complete the polygon

Making measurements

Latitude and Longitude

- Click on and select
- Switch between Degrees and DMS in the dialogue box
- Click on a location to place a green tab
- The tool will display map coordinates for both the cursor and green tab



Saving and printing

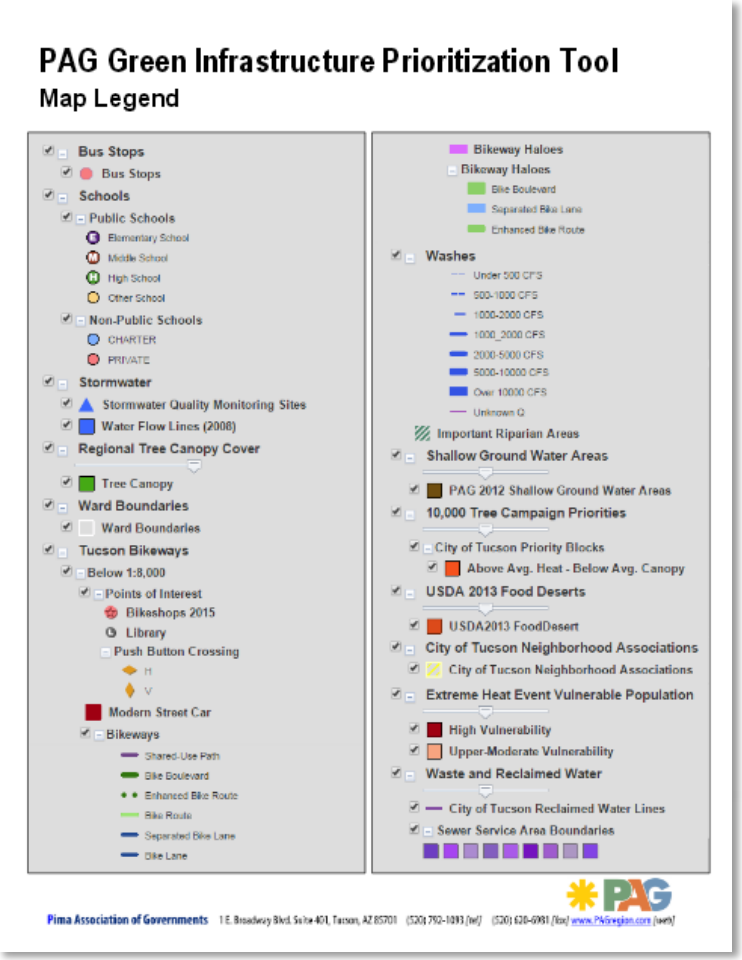
Save the map as a PDF

- Click the Print button on the map
- In the dialogue box, enter a map title and notes where indicated and click “Set Map Title”
- Click on the drop-down next to “Print” to select paper size, then hit “Print”
- A PDF version will appear in a new window
- If title and notes don’t show up properly, hit F5 to refresh
- Save a digital copy or print directly from your browser

Saving and printing

Including a map legend

- Due to the number of layers and features, the PDF export does not currently include a legend
- A separate PDF copy of the legend is available to print here



Feedback

Thank you for your interest in the Green Infrastructure Prioritization Tool!

If you have any questions or suggestions, contact us at

PAG-GIMap@PAGregion.com

Please let us know if you wish to participate in the further development of this resource or would like us to help address your planning needs.