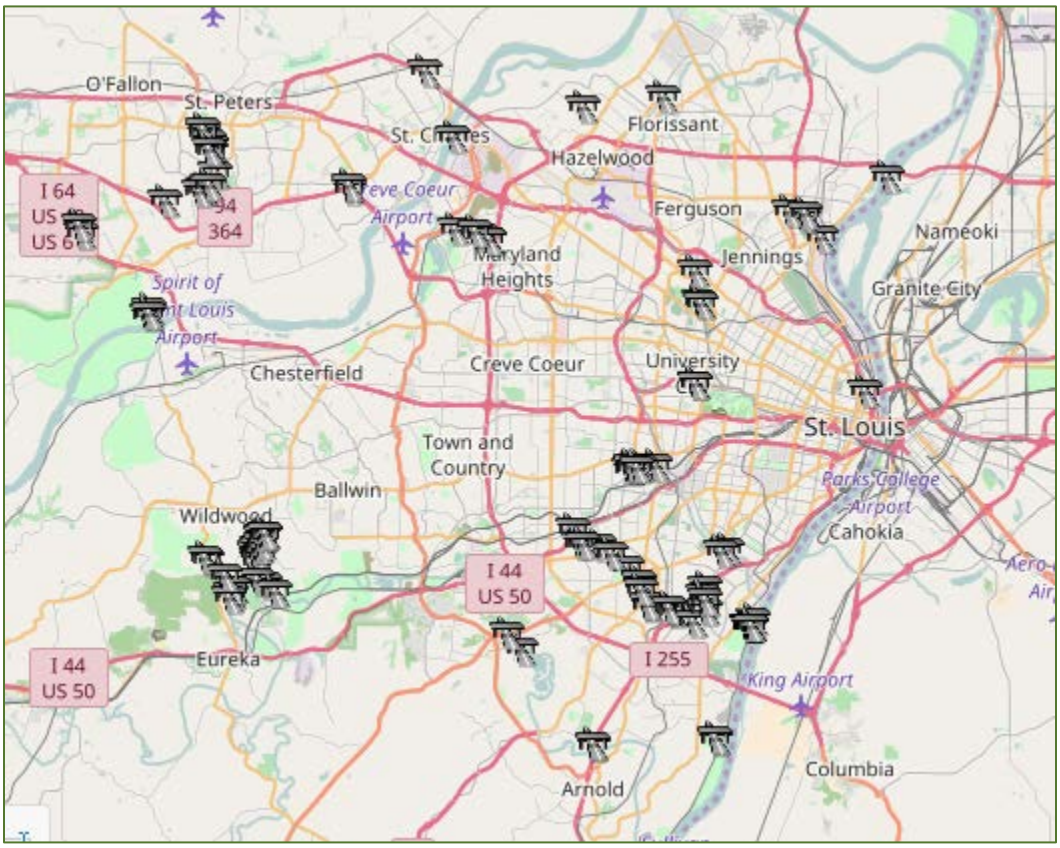
Great Rivers Greenway



GIS Bridge Inventory Report

By Christopher Cattron

July 28, 2017

Contents

This report was prepared by the 2017 summer intern Christopher Cattron.

Abstract

The GIS Bridge Inventory project began in May 2017 and concluded at the end of July 2017. An engineering intern performed field visits to each bridge throughout the greenways to gather data, record observations, collect measurements, and take photographs. Relevant plans, drawings, and other documents were collected for each bridge as was available. The collected data, photos, and documents were uploaded to their corresponding bridges in the GIS. With the assistance of Horner & Shifrin, the bridge layer in the GIS was modified to better organize available data. The collected data will be used to put together a program for regular inspections and maintenance of Great Rivers Greenways many bridges. This report contains a brief description of the methods used, the changes made to the GIS, and a summary and discussion about the collected data. Recommendations based on the findings of this project are given as well.

Background

In 2015, Great Rivers Greenway (GRG) began using a geographic information system (GIS) provided by the services of Horner Shifrin Inc. for the mapping, planning, operations, and maintenance of GRG's numerous greenways. After GRG's greenway trails were plotted on the GIS, a database of GRG assets (including many items such as benches, bollards, bridges, lighting, receptacles, signs, etc.) were mapped out as well. Following the failure of a boardwalk on the Busch Greenway due to a crossing emergency vehicle in August 2016, GRG set out to put together a plan of regular inspections and maintenance of structural assets on their greenways. Beginning in May 2017, an engineering intern began collecting data, photos, and relevant documents for each bridge on GRG's greenways.

When the project began, 59 bridges had been identified on GRG's greenways. The location and a photograph of each bridge was the extent of what was available for each bridge in the GIS asset inventory. It was believed that these 59 locations represented the entirety of all bridges on the greenway.

Data Collection Methods

The engineering intern (hereafter referred to as *the intern*) was given an iPad with a cellular data package and was directed to visit each bridge that was shown on the GIS. At each bridge, the general procedure was as follows:

1. Take photographs of bridge from several angles
2. Measure spatial dimensions using a 25' steel tape (or surveyors wheel)
3. Note bridge characteristics
4. Record other observations including a description of the surrounding vegetation and comments about the condition of the bridge

A more detailed description of the field visit procedure is given in Appendix A.

Relevant engineering documents for each bridge were collected as well. These documents included project plan sets, specifications, shop drawings, inspection reports, and structural calculations[1]. These documents were not available for all bridges. The intern secured as many documents as possible primarily by

- Searching through project folders on the projects drive on GRG's servers
- Looking through hard copies of project documents on file in the GRG office basement
- Reaching out to the manufacturers of bridges that had serial numbers

When finding documents was especially difficult, the intern sought assistance from project managers in the GRG office for guidance, or contacted the entities who constructed the bridge to see if they could offer direction.

While conducting field visits, the intern discovered several bridges that were not identified on the GIS. Upon making this observation, the intern set out to identify any bridges that may have been looked over in the original inventory of bridges. The intern used aerial imagery from the East-West Gateway Region (EWG) 2015 6 inch base map to aid in identifying possible bridge locations. When a possible bridge location was identified, the intern would look at the project plans (if available) for the respective greenway and check to see if a bridge was present. In addition, whenever the intern came across a set of plans for any section of the greenway, the intern would check the drawings to see if a bridge was present. Between the aerial imagery and the engineering plans, if a significant degree of certainty was established regarding the existence of a bridge, the intern would conduct a field visit. Using the combination of these three methods (field visits, aerial imagery, and project documentation), the intern identified a total of 107 bridges on GRG's greenways.

[1] Too see a chart of which bridges have these documents, see the table in Appendix D.

Discussion

Results

When the GIS Bridge Inventory project began, 59 structural assets had been identified and mapped on GRG's GIS asset inventory. The location and a photograph was available for each bridge in the GIS asset inventory. It was believed that these 59 locations represented the entirety of all bridges on the greenway. However, during the course of the bridge inventory project, the intern discovered several bridges that were not identified on the GIS. Using the methods described in the Data Collection Methods section of this report, a total of 107 bridges were identified. Of these 107 "bridges", 74 were normal bridges, 24 were structural culverts, 7 were boardwalks, and 3 were tunnels. All-in-all there were almost 3.2 miles of bridges (this number includes the widths of structural culverts and the lengths of bridges, boardwalks, and tunnels). As of the time of this report, 16 of the total 107 bridges are currently in the construction phase; this includes ten normal bridges, four boardwalks, and two structural culverts.

The condition of the bridges were determined using the guidelines set in Section II of the GIS Bridge Layer Guide (this guide is in Appendix C of this report). A tabular summary of the conditions of the bridges in the asset inventory are given in Appendix B of this report in Tables I, II, and III for bridges in good condition, fair condition, and poor condition respectively.

Changes

At the beginning of this project, the GIS bridge layer had 19 data fields, shown below in the order they appeared on the GIS:

- Bridge ID
- Bridge Greenway
- Bridge Type
- Bridge Design
- Bridge Material
- Bridge Traffic
- Bridge Span Type
- Bridge Span Length
- Bridge Span Width
- Bridge Height
- Bridge Install Date
- Bridge Maintenance Date
- Bridge Maintained By
- Bridge Condition
- Bridge Last Update

- Bridge Editor
- Bridge Comment
- Inventory Load Rating
- Operating Load Rating

The bridge layer organizational structure was changed in order to include more data fields and more specific value options within each data field. The goal was to have the bridge layer resemble the organizational structure of the National Bridge Inventory (NBI) database while having the layer optimized for use in pedestrian and bicycle trail applications. The updated list of data fields is shown below in the order they appear on the GIS, and categorized by the type of data they hold:

Bridge Nominal Identification

- Bridge ID
- Bridge Name
- Bridge Greenway
- Bridge Serial Number

Bridge Design

- Bridge Type
- Bridge Design
- Bridge Material
- Bridge Deck Material
- Bridge Finish
- Bridge Span Type
- Bridge Manufacturer
- Bridge Manufacturer Style
- Bridge Safety Railing
- Bridge Deck Camber

Bridge Spatial Characteristics

- Bridge Total Length
- Bridge Span Lengths
- Bridge Span Width
- Bridge Deck Clear Width
- Bridge Height
- Bridge Minimum Vertical Clearance On
- Bridge Minimum Vertical Clearance Under
- Bridge Railing Height

Bridge Traffic Information

- Bridge Traffic On
- Bridge Traffic Under
- Bridge Average Daily Traffic

Bridge Load Information

- Inventory Load Rating
- Operating Load Rating
- Bridge Posted Load Limit
- Pedestrian Design Load
- Vehicle Design Load
- Miscellaneous Design Loads

Bridge Condition Information

- Bridge Vegetation Condition
- Bridge Condition
- Bridge Comment

Bridge Maintenance

- Bridge Inspection Frequency
- Bridge Inspection Date
- Bridge Maintenance Date
- Bridge Maintained By
- Bridge Install Date
- Bridge Manufacture Date

Bridge Update

- Bridge Last Update
- Bridge Editor

Though the field "Bridge ID" existed before changes were made to the bridge layer, none of the bridges on the GIS had an ID assigned to them. For this project, each bridge in the inventory was assigned a number as their Bridge ID in order to help keep track of the bridges. No concrete procedure or reasoning was used in assigning Bridge ID numbers to each bridge. Bridges were also given a Bridge Name.

Inventory and operating load ratings require an in-depth engineering inspection and load rating process that is both time and cost intensive. These load ratings have only been computed for one out of 107 bridges on GRG's greenways: the Old Chain of Rocks Bridge. In order to keep track of the types of loads and to give a general idea of the magnitude of loads a bridge was designed for, the data fields Bridge Posted Load Limit, Pedestrian Design Load, and Vehicular Design Load were added to the bridge layer.

The fields Bridge Traffic and Bridge Span Length were removed in order to break them down into more specific fields. Bridge Traffic became Bridge Traffic On and Bridge Traffic Under, while Bridge Span Length became Bridge Span Lengths and Bridge Total Length. Fields were also added to keep track of the amount of bridge traffic (Bridge Average Daily Traffic), the clear width of the bridge (Bridge Deck Clear Width), and the type of railing on the bridge (Bridge Safety Railing).

Although some reasoning was given for some changes, detailed reasons for all changes made to the bridge layer will not be discussed here. Descriptions of each data field and their meaning is available in Section II of the GIS Bridge Layer Guide (available in Appendix C of this report).

Limitations

There are several limitations of the GIS Bridge Inventory. For one, it is possible that not all bridges are recorded in the GIS. The intern was not able to visit all segments of the greenway and relied heavily on existing bridge locations, satellite imagery, and project plans found at the office in order to identify bridge locations.

Secondly, not all bridges had documentation or drawings available. Many of the bridges are quite old, and some were built by others and acquired later by GRG without the transfer of original engineering documents. The intern reached out to Contech, Wheeler, and Big R for shop drawings on the bridges with serial numbers. Contech and Big R supplied all of the documents they had. These documents have all been uploaded to their respective bridges in the GIS. Wheeler has the documentation but has only sent over documents for eight out of 34 bridges.

Another limitation of the GIS Bridge Inventory is that measurements input into the GIS are approximate, and some are simply estimations (especially for many of the height measurements). The equipment used to make measurements in the field were not intended to be precise, but rather to give a general idea of the spatial characteristics of the bridges.

Recommendations

Upon spending many hours in the field and seeing firsthand the condition of the assets on GRG's greenways, the intern observed that there are a multitude of culverts that were not recorded on the GIS, and the majority of culverts encountered in the field were in poor condition and not well maintained. It is recommended that a GIS culvert inventory project be conducted similar to the GIS

Bridge Inventory project in order to put together a schedule of regular maintenance and cleaning of culverts.

Secondly, it is recommended that GRG keeps the bridges in the GIS updated. The bridge inventory is only going to be as good as the data that is input into it. When a new bridge is being constructed or acquired, GRG should seek out the relevant bridge data and documentation from the appropriate contractors, manufacturers, municipalities, etc., and enter the information as soon as it becomes available. Keeping the GIS up-to-date with relevant and current data will help in keeping the structural assets in good condition for the public to use and enjoy.

Lastly, the GIS asset inventory provided by the services of Horner & Shifrin has many useful applications and can be a powerful tool for planning, sustaining, and promoting the greenways. It is recommended that all staff be familiar with its functionality and potential uses.

Conclusion

At the end of the GIS Bridge Inventory project, data and pictures had been collected and uploaded to GRG's GIS asset inventory for each bridge. Documentation including project plans, specifications, shop drawings, and reports were attached to each bridge in the GIS as was available. The data was organized similar to the National Bridge Database while being optimized for use in pedestrian and bicycle trail applications. The GIS Bridge Inventory has its limitations, but can be used effectively as a source for general information and as a hub for available documentation. It is recommended that bridge data be kept up-to-date and given field observations, it is recommended that a GIS inventory of greenway culverts be conducted in the future as the first step to creating a schedule of regular maintenance and cleaning of culverts in an effort to better maintain the greenways.

Appendix A: Field data collection procedure

Procedure for taking pictures

For each bridge, photographs were taken of the following:

- each side of the bridge
- each support
- the railing
- load postings (if available)
- abutments
- approaches
- at least one oblique view
- any notable features or damages

This procedure was followed for most of the bridges, but for some bridges less photos were taken; this was often due to physical limitations (e.g., unsafe to reach an area, area submerged in water, etc.). For box culverts and tunnels, pictures were taken of both openings, the path above the buried structure, and views through its length. Pictures of any notable features or damages were taken as well.

Procedure for measuring dimensions

The following were measured using a 25' steel tape measure:

- total end-to-end length of the bridge (occasionally measured using a surveyor's wheel)
- length of each span (if more than one)
- width of the bridge from rail to rail
- height of the bridge measured from the deck surface to ground or water surface elevation below
- The height of the railing

For box culverts and tunnels, the height, width, and lengths were measured. If the opening to a culvert was large enough for the intern to enter, the lengths were measured in the field—if the opening was too small, the intern would record an estimate of the length and cross-reference the estimate with a measurement using the *Measure Distance* tool and satellite imagery in the GIS.

Procedure for noting characteristics

If available, the following characteristics were recorded:

- Bridge type (e.g., half-through truss, stringer/girder, slab, box culvert, etc.)

- Bridge material (e.g., steel, concrete, timber, etc.)
- Deck material (e.g., concrete, asphalt, timber, etc.)
- Railing type (e.g., vertical picket, horizontal, mesh, etc.)
- Traffic type below bridge (e.g., creek, road, railway, etc.)
- Bridge finish (e.g., weathered, painted, galvanized, etc.)
- Manufacturer and serial number
- Span type (i.e., simple or continuous)
- Number of spans
- Cambered (Y/N)

Procedure for recording observations

The intern recorded the extent and general type of vegetation growing on, near, or around the bridge. The intern also recorded a brief description of any damages, noting the general condition of the bridge.

Appendix B: Summary of bridge conditions

As outlined in Section II of the GIS Bridge Layer Guide, the bridge condition was determined by a basic visual inspection—not an engineering inspection. For the summer 2017 GIS Bridge Inventory project, an engineer intern (disclaimer: NOT a licensed or professional engineer) rated the conditions of the bridges using the follow criteria:

A bridge has a condition of ***Good*** if it was constructed recently, has no notable damages, no major maintenance concerns, or any obvious visual blemishes.

A bridge has a condition of ***Fair*** if one or more of the following are true:

- the bridge appears to be an outdated structure or is over 50 years old and not renovated
- the bridge has some structural concerns identified by a licensed engineer (as in the case of the Old Chain of Rocks Bridge on the Mississippi Greenway and the Duckett Creek Boardwalk on the Busch Greenway)
- the bridge has obvious visual blemishes (e.g., graffiti, chipping paint, etc.)
- the bridge appears to be not well maintained

A bridge has a condition of ***Poor*** if it is over 70 years and not renovated or if there is any major deterioration.

Table I: Bridges in Good Condition

Bridge ID	Bridge Name	Greenway	Notes
1	Forest Park Pkwy Pedestrian Bridge to Washington University Campus	Centennial	Good. Being removed and replaced soon.
2	St. Vincent County Park Boardwalk	St. Vincent	Watch for overgrowth and scour.
3	St. Vincent County Park Box Culvert	St. Vincent	Watch for sediment buildup under.
4	UMSL Campus Pedestrian Tunnel	St. Vincent	Good.
5	Grant's Trail Bridge over I-44	Gravois	Old, not sure if ever inspected
10	Clydesdale Park Bridge South	Gravois	Watch for overgrowth.
11	Clydesdale Park Bridge North	Gravois	Watch for overgrowth.
17	Riverfront Trail Maline Creek Crossing	Mississippi	Old but in good condition. Water pools on deck sometimes.
19	River Des Peres Bridge	River des Peres	Under deck ducts in disrepair. Replace lights?
22	Busch 70' Bowstring Bridge	Busch	Watch for overgrowth.
23	Busch 28' Bowstring Bridge	Busch	Watch for overgrowth. Bend in railing.
26	Deer Creek Park Pedestrian Bridge	Shady-Deer	Good.
28	East Sherman Beach Park Bridge	Meramec	Watch for overgrowth.
29	Rock Hollow Trail Bridge #1	Meramec	Watch for weathering and stuff getting caught beneath.
30	Rock Hollow Trail Bridge #2	Meramec	Watch for weathering and stuff getting caught beneath.

Table I: Bridges in Good Condition (continued)

Bridge ID	Bridge Name	Greenway	Notes
31	Rock Hollow Trail Bridge #3	Meramec	Watch for weathering and stuff getting caught beneath.
32	Rock Hollow Trail Bridge #4	Meramec	Watch for weathering and stuff getting caught beneath.
33	Rock Hollow Trail Bridge #5	Meramec	Watch for weathering and stuff getting caught beneath.
34	Al Foster Memorial Trail Bridge Span #1	Meramec	Watch growth below.
35	Al Foster Memorial Trail Bridge Span #2	Meramec	Watch growth below.
36	West Sherman Beach Park Bridge	Meramec	Watch for overgrowth.
37	Rock Hollow Trail Bridge #6	Meramec	Watch for weathering and stuff getting caught beneath.
38	Rock Hollow Trail Bridge #7	Meramec	Watch for weathering and stuff getting caught beneath.
39	Rock Hollow Trail Bridge #8	Meramec	Watch for weathering and stuff getting caught beneath.
40	Rock Hollow Trail Bridge #9	Meramec	Watch for weathering and stuff getting caught beneath.
41	Rock Hollow Trail Bridge #10	Meramec	Watch for weathering and stuff getting caught beneath.
42	Rock Hollow Trail Bridge #11	Meramec	Watch for weathering and stuff getting caught beneath.
43	Rock Hollow Trail Bridge #12	Meramec	Watch for weathering and stuff getting caught beneath.
44	Rock Hollow Trail Bridge #13	Meramec	Watch for weathering and stuff getting caught beneath.
45	Vantage Park Pedestrian Bridge	Dardenne	Good.
46	Legacy Park to Vantage Park Bridge	Dardenne	Good. Watch for overgrowth.
47	St. Charles Community College Bridge	Dardenne	Good.
48	Rabbit Run Park Dardenne Creek Bridge	Dardenne	Good.
49	Bridge to Rabbit Run Prairie Overlook	Dardenne	Watch for overgrowth.
50	Rabbit Run Culvert C-2	Dardenne	Keep clean
51	BaratHaven Long Bridge	Dardenne	Watch for overgrowth.
52	Rabbit Run Cuvlert C-5	Dardenne	Keep clean
53	BaratHaven Short Bridge	Dardenne	Good.
54	Rabbit Run Culvert C-4	Dardenne	Keep clean
55	McKelvey Woods Trail Concrete Bridge	Fee Fee	Good.
56	McKelvey Woods Trail Long Span Pedestrian Bridge	Fee Fee	Good. Some graffiti below.
57	McKelvey Woods Trail Short Span Pedestrian Bridge	Fee Fee	Some rust on steel pan that holds concrete deck.
60	Riverwoods Trail Pedestrian Bridge	Missouri	Floods pretty heavy. Needs touchup paint.
62	Al Foster Memorial Trail Stone Arch Cuvlert	Meramec	Good. Renovated with steel plate lining and concrete.
63	George Winter Park Bridge	Meramec	Good.
64	Meramec Double Pratt Truss Pedestrian Bridge	Meramec	Unknown origin. Needs paint.
65	Louisville Creek Double Box Culvert	Fee Fee	New
66	Fee Fee Creek Bridge	Fee Fee	New

Table I: Bridges in Good Condition (continued)

Bridge ID	Bridge Name	Greenway	Notes
71	Ramp to Forest Park Pkwy Pedestrian Bridge to Washington University Campus	Centennial	Good. Will be removed and replaced soon.
73	Highway 94 Pedestrian Crossing	Centennial	New
74	Highway 364 Pedestrian Crossing	Centennial	New
76	Hamilton Carr Pedestrian Tunnel under Old State Road	Western	Good.
77	Hamilton Carr Trail Wooden Bridge	Western	Watch for overgrowth
78	Hamilton Carr Pedestrian Tunnel under 109	Western	Good
81	Jefferson Barracks Pedestrian Bridge Span #1	Mississippi	Good
82	Jefferson Barracks Pedestrian Bridge Span #2	Mississippi	Good
83	Jefferson Barracks Pedestrian Bridge Span #3	Mississippi	Good
84	Jefferson Barracks Pedestrian Bridge Span #4	Mississippi	Good
85	Jefferson Barracks Pedestrian Bridge Span #5	Mississippi	Good
86	Jefferson Barracks Pedestrian Bridge Span #6	Mississippi	Watch for overgrowth
87	Jefferson Barracks Pedestrian Bridge Span #7	Mississippi	Watch for overgrowth
88	Jefferson Barracks Pedestrian Bridge Span #8	Mississippi	Watch for overgrowth
89	Jefferson Barracks Pedestrian Bridge Span #9	Mississippi	Watch for overgrowth
90	Jefferson Barracks Pedestrian Bridge Span #10	Mississippi	Watch for overgrowth
91	Jefferson Barracks MSD Lagoons Pedestrian Bridge	Mississippi	Good.
99	Rabbit Run Culvert A-2	Dardenne	Keep clean
100	Rabbit Run Culvert A-3	Dardenne	Keep clean
101	Vantage Park Dock Bridge	Dardenne	Good.
102	Hwy N double box culvert	Dardenne	New
110	Bella Fontaine Park Bridge #1	Maline	New
111	Bella Fontaine Park Bridge #2	Maline	New
112	Bella Fontaine Park Bridge #3	Maline	New
120	Cliff Cave Short Pedestrian Bridge	Mississippi	New
121	Pedestrian Bridge over Cliff Cave Road	Mississippi	New
140	Lorraine Davis Park Pedestrian Bridge	Shady-Deer	New
141	Lorraine Davis Park Boardwalk #1	Shady-Deer	New
142	Lorraine Davis Park Boardwalk #2	Shady-Deer	New
143	Lorraine Davis Park Boardwalk #3	Shady-Deer	New
144	Lorraine Davis Park Boardwalk #4	Shady-Deer	New
145	Glen Road South Storm Sewer Inlet Bridge	Shady-Deer	New

Table II: Bridges in Fair Condition

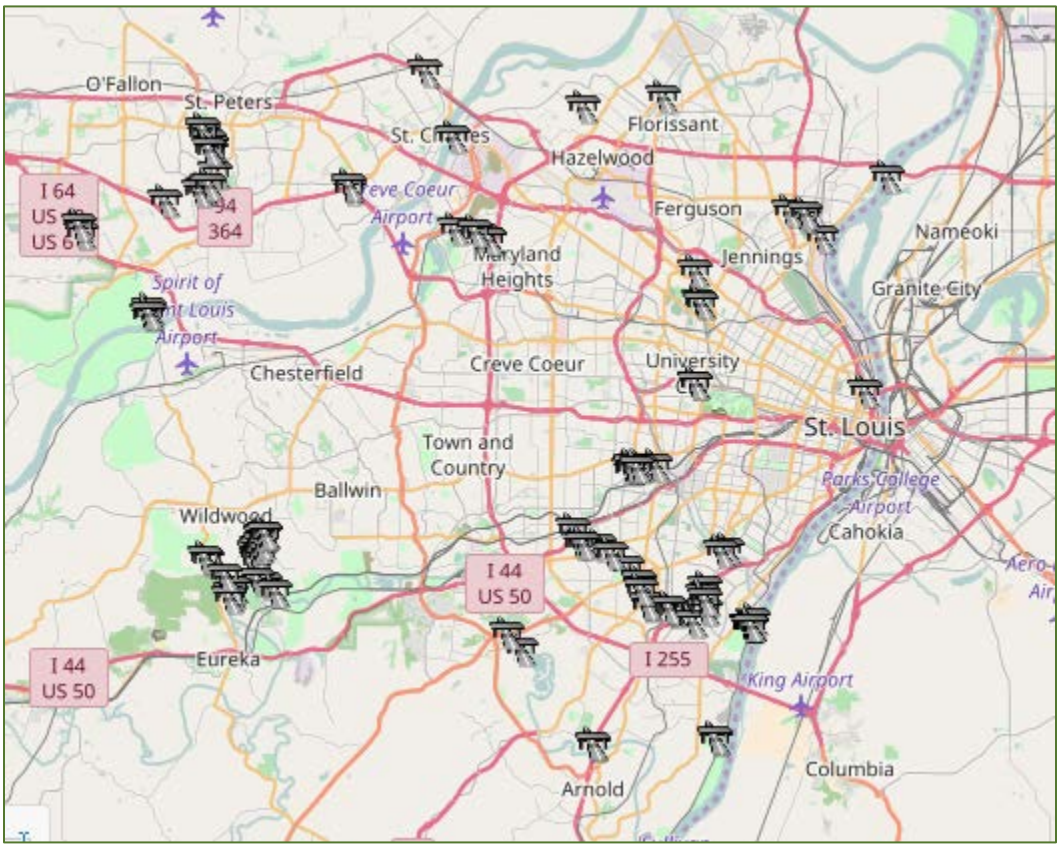
Bridge ID	Bridge Name	Greenway	Notes
6	Gravois Creek 1952 RR Bridge	Gravois	Old. Graffiti and effloresence. Has newer railing and decking surface.
8	Grant's Trail 1920 Box Culvert	Gravois	Very old, but appears to be in fair condition.
16	Grant's Trail 1944 Double Box Cuvlert	Gravois	Water pools. Old. Concrete holds up well for its age.
18	Old Chain of Rocks Bridge	Mississippi	See recent structural reports by Horner & Shifrin.
20	River Des Peres Tributary Bridge	River des Peres	Could use paint job/ touchup.
21	Duckett Creek Boardwalk	Busch	Structure fair-- failed recently. Not adequate for vehicular traffic.
25	Lower Meramec Park Long Span Slab Bridge	Meramec	Lots of exposed rebar on sides. Old. Deck not consistent with trail.
58	Fox Hill Park Trail Bridge	Boschert	Bridge of odd design and unknown age-- not built by GRG.
59	Cold Water Creek Pedestrian Bridge	Sunset	Could use paint job/ touchup. Graffiti, defacing of load posting.
72	Truman Park Pedestrian Bridge	Missouri	Quite overgrown, poorly cared for, lip at bridge approaches significant on both sides.
92	Iron Horse Trestle	Confluence	See recent inspection reports by others.
95	Grant's Trail Large CMP	Gravois	Seems to be bent-in a bit. Water pools inside.
135	Lower Meramec Park Short Span Slab Bridge	Meramec	No railing. Old.

Table III: Bridges in Poor Condition

Bridge ID	Bridge Name	Greenway	Notes
7	Grant's Farm Unknown Culvert	Gravois	Terribly crumbling, no cover over reinforcement.
9	Grant's Trail Old Short-span RR Bridge	Gravois	Outdated (very?) old timber structure
12	Grant's Trail Old Medium-span RR Bridge East	Gravois	Outdated (very?) old timber structure
13	Grant's Trail Old Medium-span RR Bridge West	Gravois	Outdated (very?) old timber structure
14	Grant's Trail 1923 Double Box Culvert	Gravois	Wingwall destroyed. Poor
15	Grant's Trail 1919 Box Culvert	Gravois	Very old. Deteriorated.
24	Dillman Bridge	Gravois	Timber structure in very poor condition. (Very?) old.
27	Grant's Trail 1945 Box Culvert North	Gravois	Poor
61	Al Foster Memorial Trail Stone Box Culvert	Meramec	VERY old.
79	Grant's Trail 1923 Single Box Culvert	Gravois	Poor
80	Grant's Trail 1945 Box Culvert South	Gravois	Poor
93	Grant's Trail 1917 Box Culvert	Gravois	Very old. Crumbling. Structure is nearly non-existent at mid-span.
94	Sappington Road Masonry Sewer Cuvlert/Tunnel	Gravois	REALLY old. Fairly far below ground. Part of old sewer system? Or RR?
134	Sherman Beach Park Masonry Arch Culvert	Meramec	Structure questionable. VERY old. Similar structure nearby rehabilitated with steel plate liner in 2011.

Appendix C: Guide to GIS bridge layer

Great Rivers Greenway



GIS Bridge Layer Guide

By Christopher Cattron

July 28, 2017

Contents

About this Guide

Section I of this guide offers a general tutorial on how to use Great Rivers Greenway's geographic information system asset inventory (GIS) to access and input information for bridges and other assets. Section II gives a run-through of what each data field in the *Bridge* layer means and how bridge conditions were classified. This guide focuses on the bridge layer, but can be applied to access other data as well. This is not a comprehensive manual and is only intended to serve as general guidance to perform basic functions. A general understanding of GIS terms is assumed. For help with questions regarding the functionality and use of the GIS, reach out to Ben Grossman or one of the GIS analysts from Horner Shifrin who help manage the GIS.

Section I: Tutorial

Accessing the bridge layer

When you boot up the GIS and sign in (using the *Sign in* link at the top-right hand of the page). You should now be able to see a toolbar with a line of icons and tabs saying "Navigation", "Identify", "Search", "Measure & Draw", "Editing", and "Tasks" at the top as shown in Figure 1.

Note: if you do not see the toolbar with the icons at the top, click the *Open toolbar* button (screwdriver and wrench icon) in the top-right hand corner of the page.

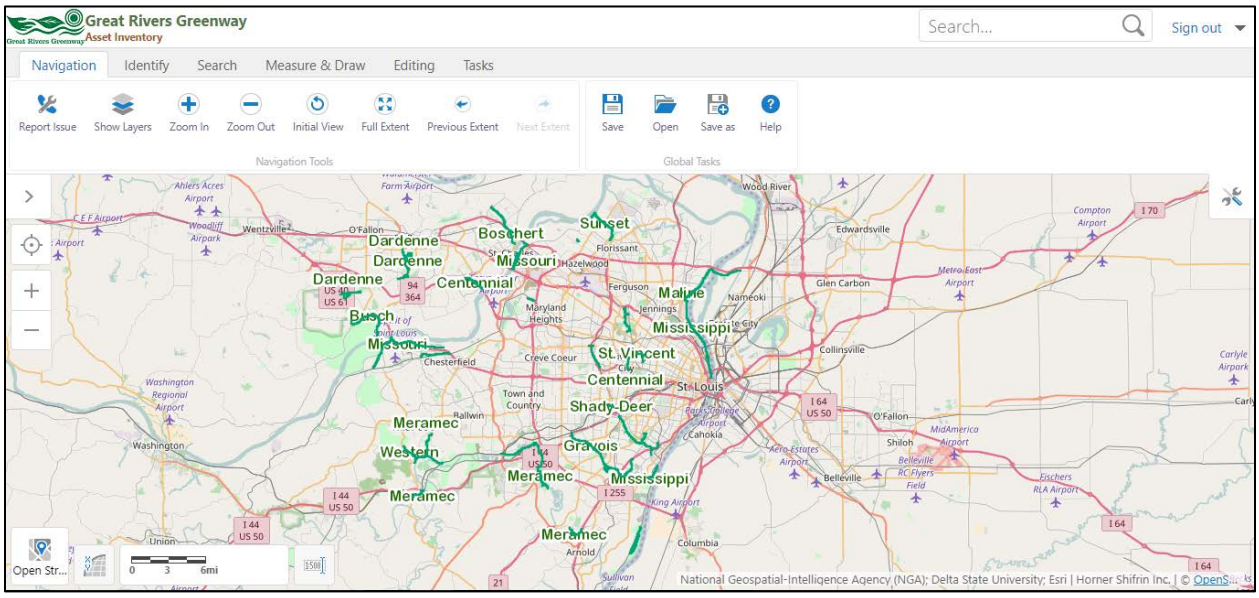


Figure 1: Main interface of Great Rivers Greenway's GIS Asset Inventory

Click the *Navigation* tab and then select the *Show Layers* icon on the toolbar. Upon selecting the *Show Layers* tab, a menu will pop up on the left hand side of the screen with a list of layers whose visibility can be turned on and off by clicking the white box next to the layer's icon and name. Click this box for the bridge layer. A checkmark should appear in the box and all of the bridges should show up on the map in their respective locations.

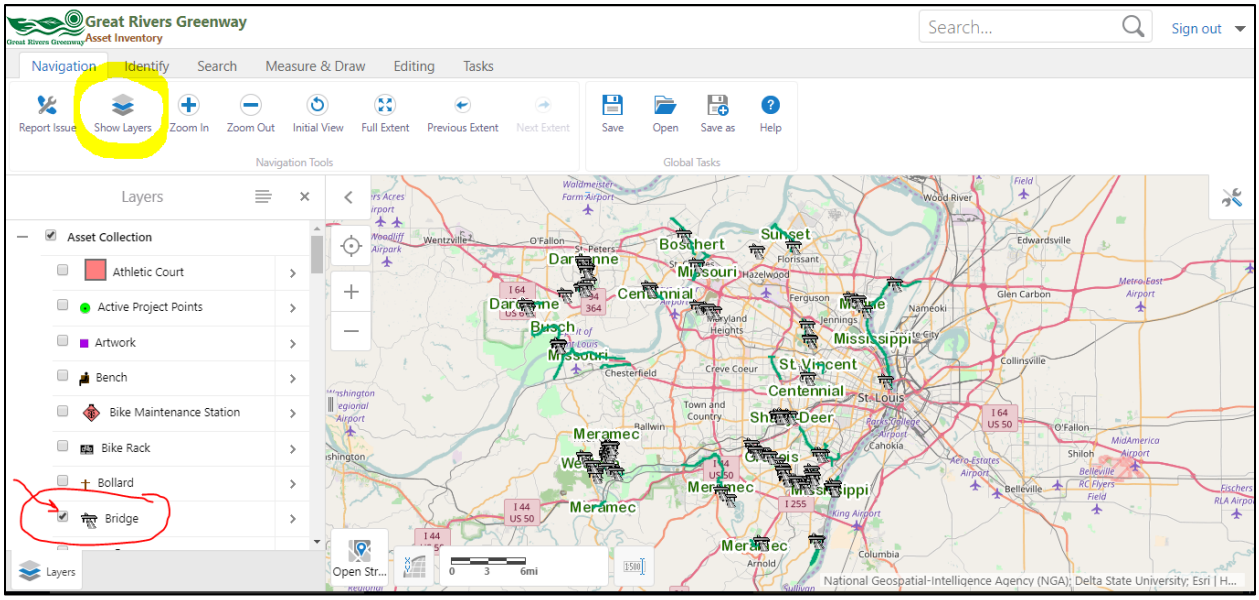


Figure 2: The *Show Layers* menu with the *Bridge* layer selected. Bridges are visible on the map to the right.

Once the *Bridge* layer is visible, click on any bridge you want to know more about. For the tutorial, a bridge on the Dardenne Greenway will be selected. You may zoom in on the map using the *Zoom In* and *Zoom Out* features on the toolbar or by using the scrolling button on your mouse. Selecting the bridge shown in Figure 3 will cause a red pin to appear on the bridge selected and a popup menu will appear displaying some of the data fields for the bridge, including the *Bridge ID*, *Bridge Name*, *Bridge Greenway*, *Bridge Serial Number*, and more. Information about what these fields mean is given in detail in Section II of this guide.

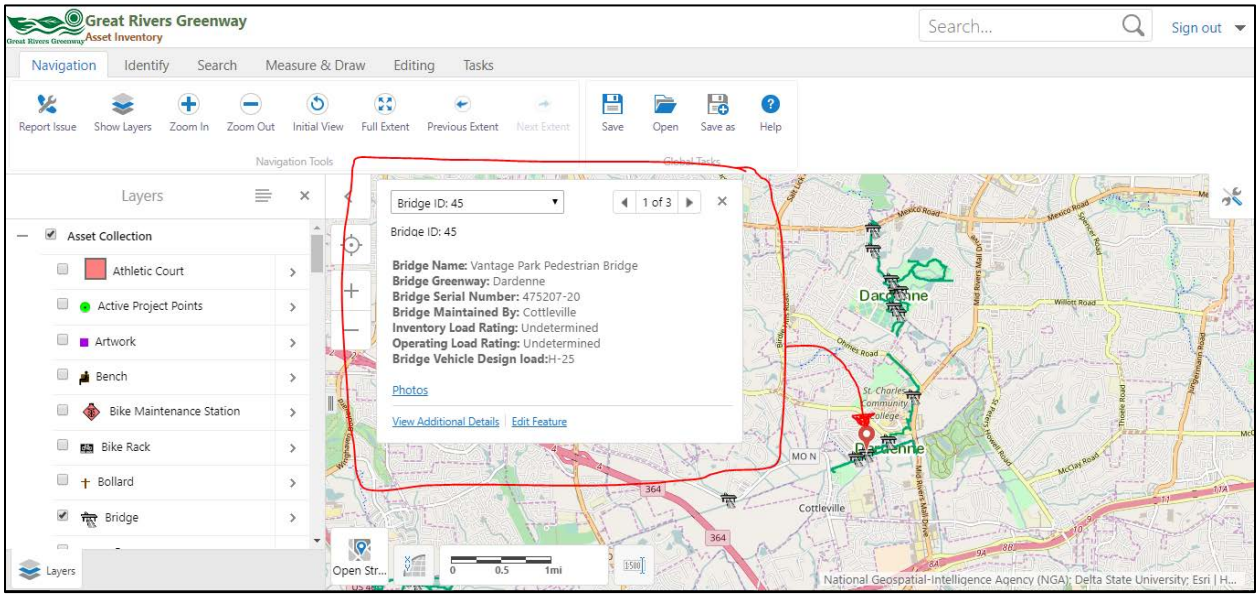


Figure 3: The popup menu. Showing some information about the selected bridge (bridge 45).

By clicking the Photos link on the popup menu you will be able to see pictures of the bridge selected. The photos can be opened in another tab on your internet browser if you click on them.

Note: The photos are automatically uploaded to the GIS in a low resolution, so if you want to access the full resolution photographs you will have to find them in their respective greenway folder on the projects drive on GRG's network server.

By clicking the View Additional Details link on the popup menu, you will be able to access all of the bridge data in a menu on the left hand side of the page. This menu can be scrolled through. Any documents that have been attached to the asset can be accessed at the bottom of this menu. This is where you can find PDFs of project plans, specifications, shop drawings, reports, etc. for each bridge. Clicking the attachments will open them in a separate tab on your internet browser.

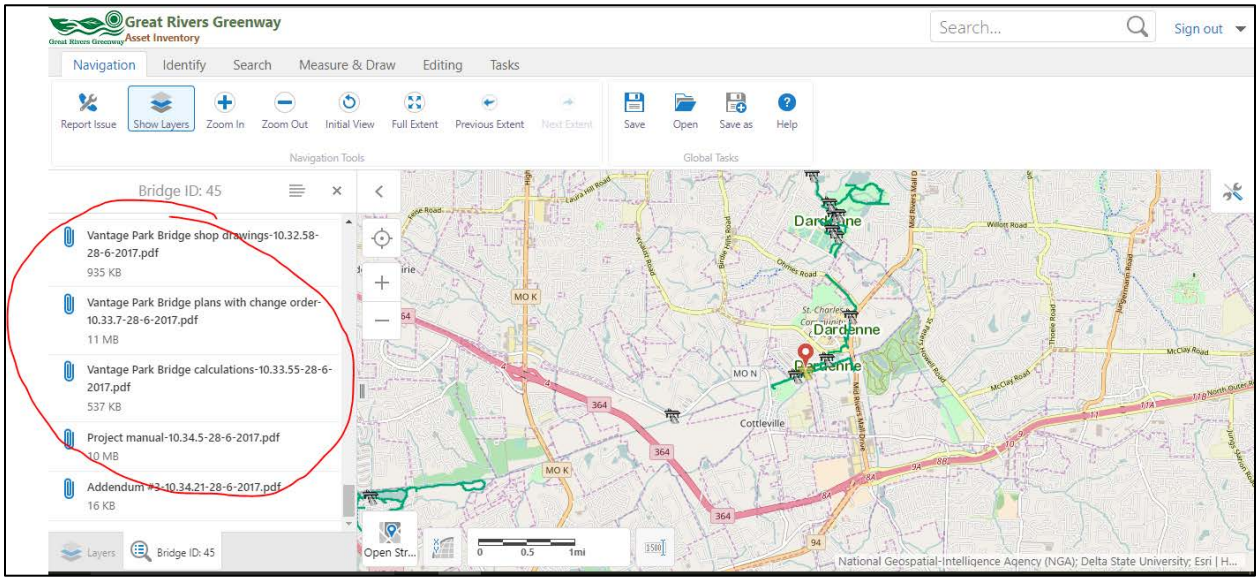


Figure 4: Some of the attachments for bridge 45.

Now the reader should be able to turn the visibility of layers on and off, and be able to access photos, attached documents, and data for a given asset on the map.

Adding and editing bridges

To add a new bridge, select the *Edit* tab on the toolbar. Click the *Create New Feature* icon on the toolbar and scroll down on the left hand menu until you see the *Bridge* layer. Click the Bridge layer.

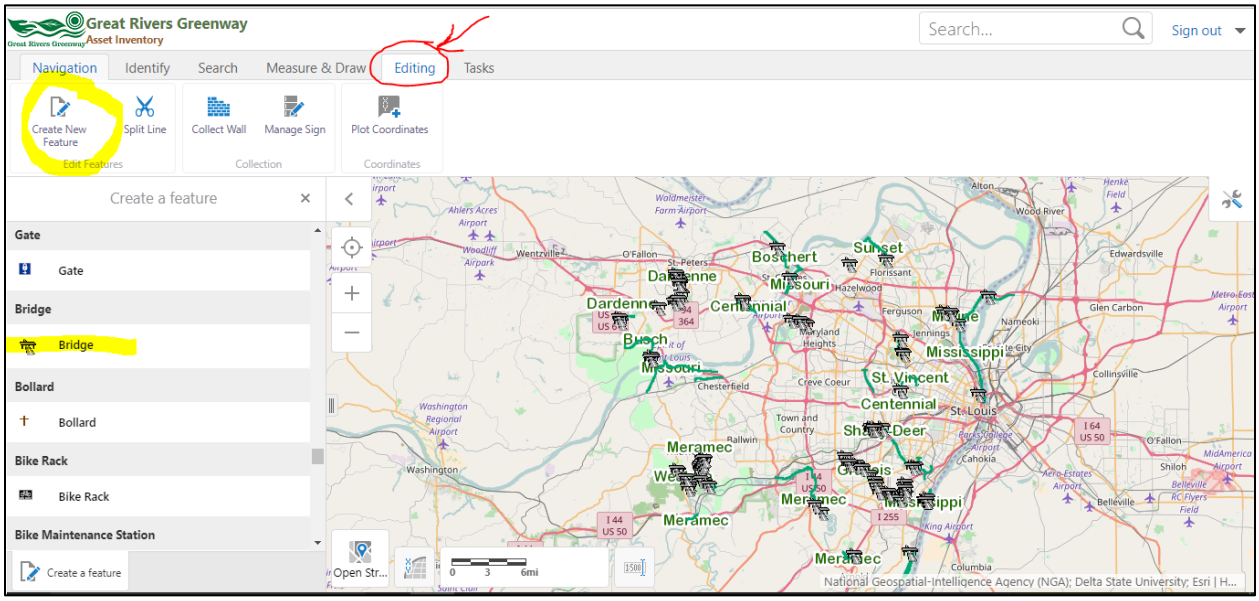


Figure 5: Create a new feature

You should now see a prompt at the bottom of your screen that says "Click or tap on the menu to add the feature". You can either click on the map where you want the bridge to be, or you can click the *Use Geolocation* icon on the toolbar if you are using a device with GPS in the field and want the bridge to be located where you are. Once a location has been selected, the left hand menu will display a list of empty fields for you to input the data.

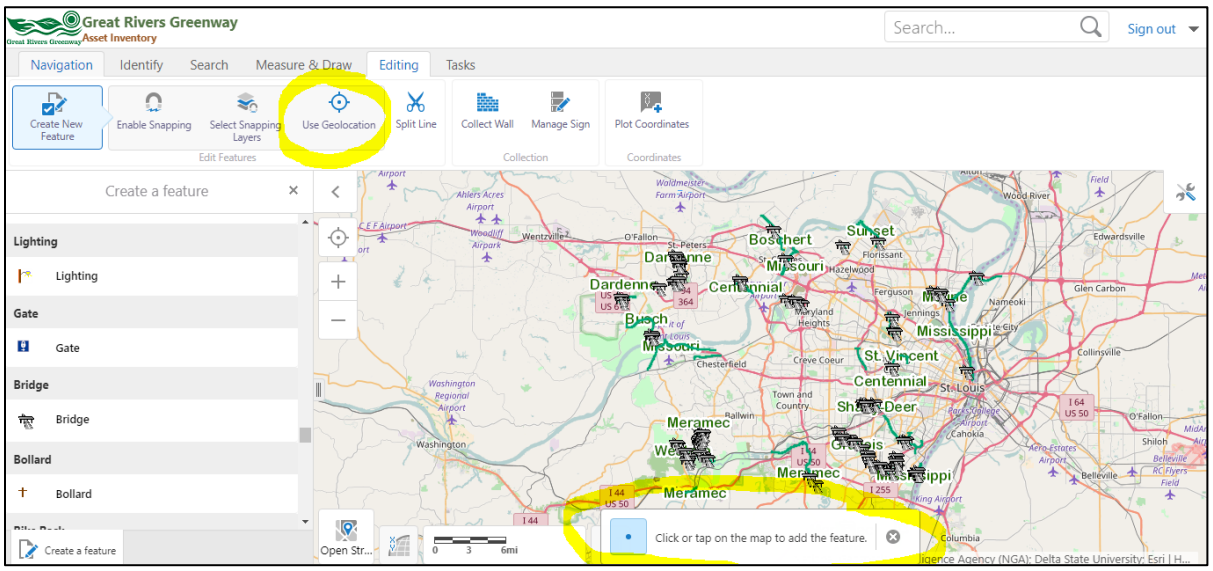


Figure 6: You can assign the location of the bridge using the *Use Geolocation* feature or by simply clicking or tapping on the location on the map

To edit an existing bridge, click on the bridge you want to edit, and in the popup menu, click the Edit Feature link. The menu on the left hand side of the page will appear and allow you to edit the data. Make sure to update the *Bridge Last Update* field and the *Bridge Editor* field before clicking *Save* at the bottom of the menu.

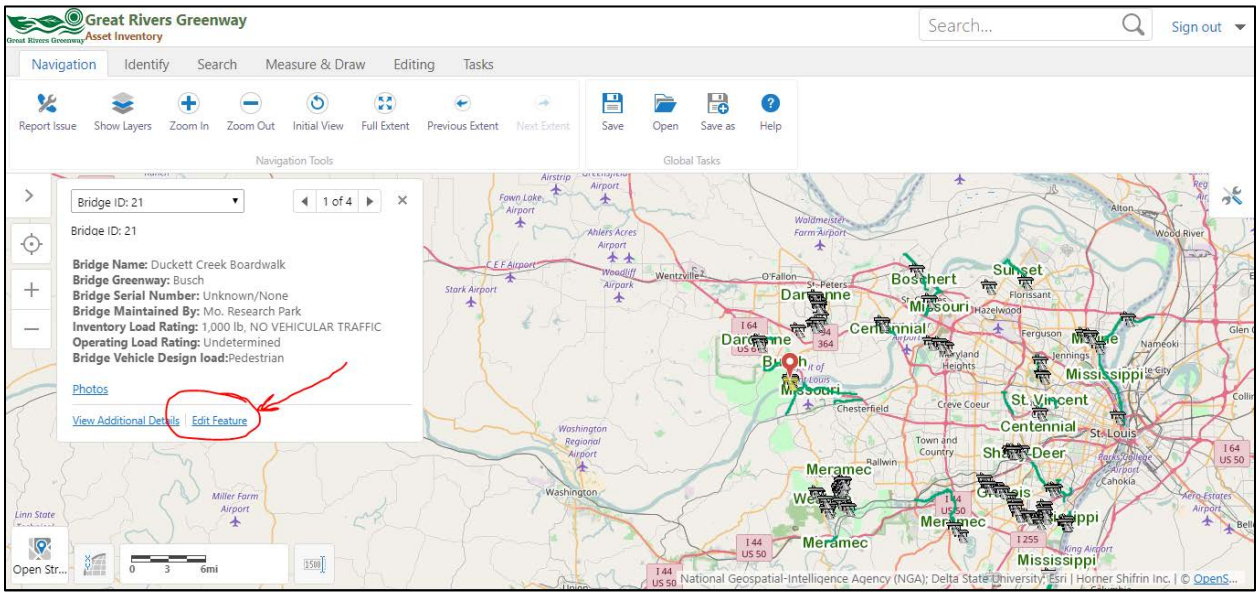


Figure 7: *Edit Feature* link in the popup menu

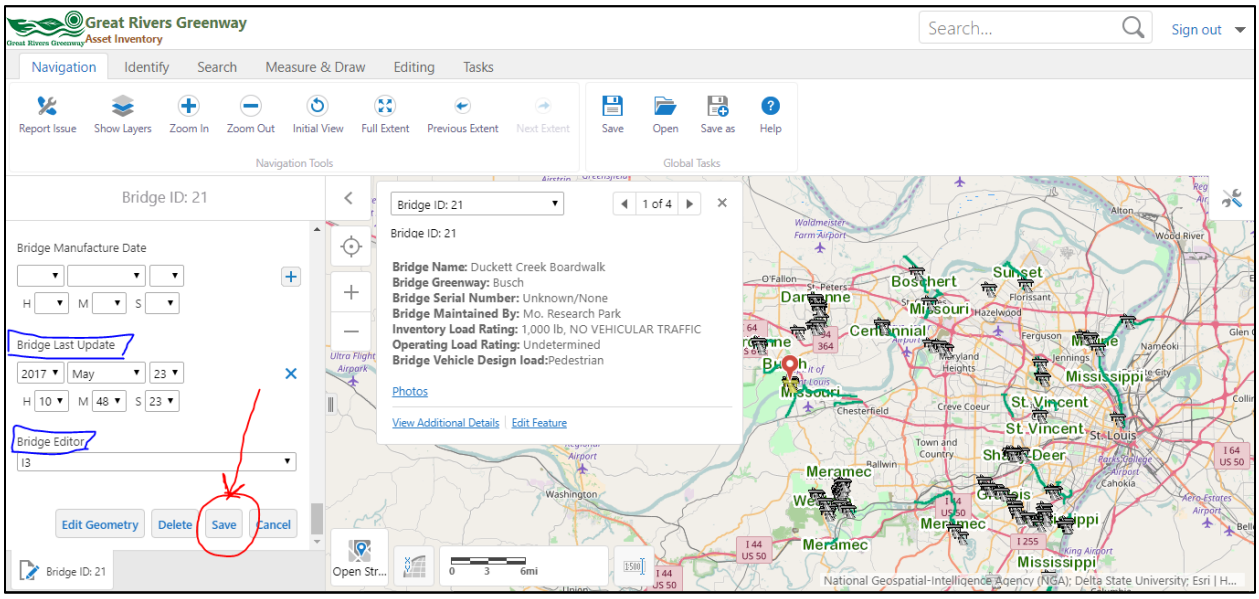


Figure 8: *Bridge Last Update* and *Bridge Editor* should be changed whenever an edit is made. Don't forget to save your edits too.

To add photos to a bridge, select the bridge you want to attach photos to and click the *Photos* link in the popup menu. You should see an icon that looks like a paperclip with a gear in front of it appear in a new popup menu. Click this icon, select the photo you would like to upload and it should give you a message confirming it has been attached to the bridge.

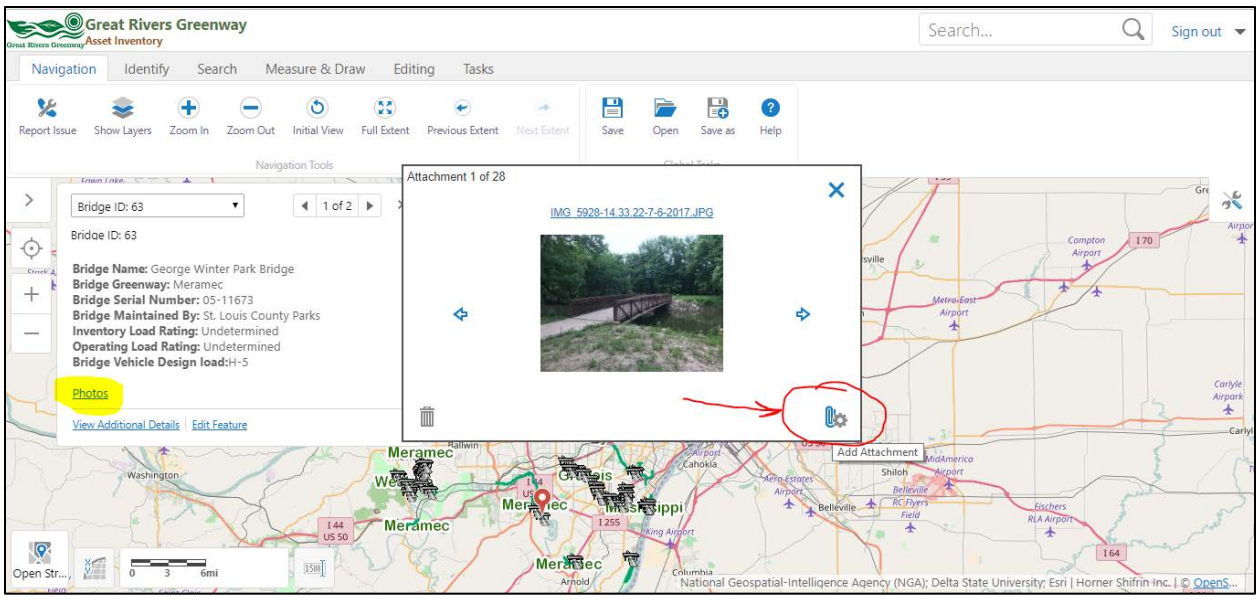


Figure 9: *Add Attachment* button on the *Photos* popup menu

Too add attachments to a bridge, select the bridge you want to attach photos to and click the View Additional Details link in the popup menu. From the menu that opens up on the left had side of the screen, click the Panel Actions Menu icon in the top right hand corner of the menu (it is shaped like four horizontal lines—see Figure 10). Clicking this will list a range of actions you can perform for the given bridge.

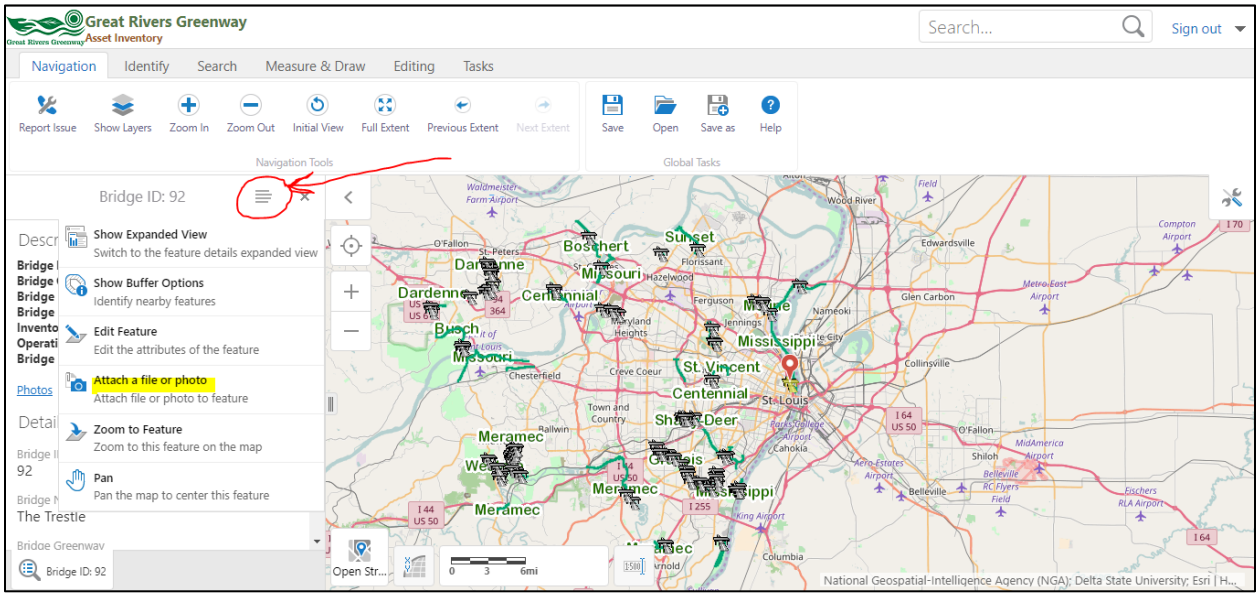


Figure 10: The *Panel Actions Menu*

Upon clicking the *Attach a file or photo* option a module will activate. Follow the steps in the module to upload the desired documents. Using this feature you can also upload photos at higher resolutions than is possible using the regular attach photos method.

Using a query to search bridges

Click the *Search* tab on the toolbar and select the *Query* icon. This will open a module on the left hand side of the screen. From this module you can specify the *Data Source* you want to search for (in this case, select *Bridge* in the dropdown menu). Below the *Data Source* box there will be a second dropdown menu that will display one of the fields for the selected layer. The default will be whichever field is first alphabetically (in the case of the *Bridge* layer, this will be *Bridge Average Daily Traffic*).

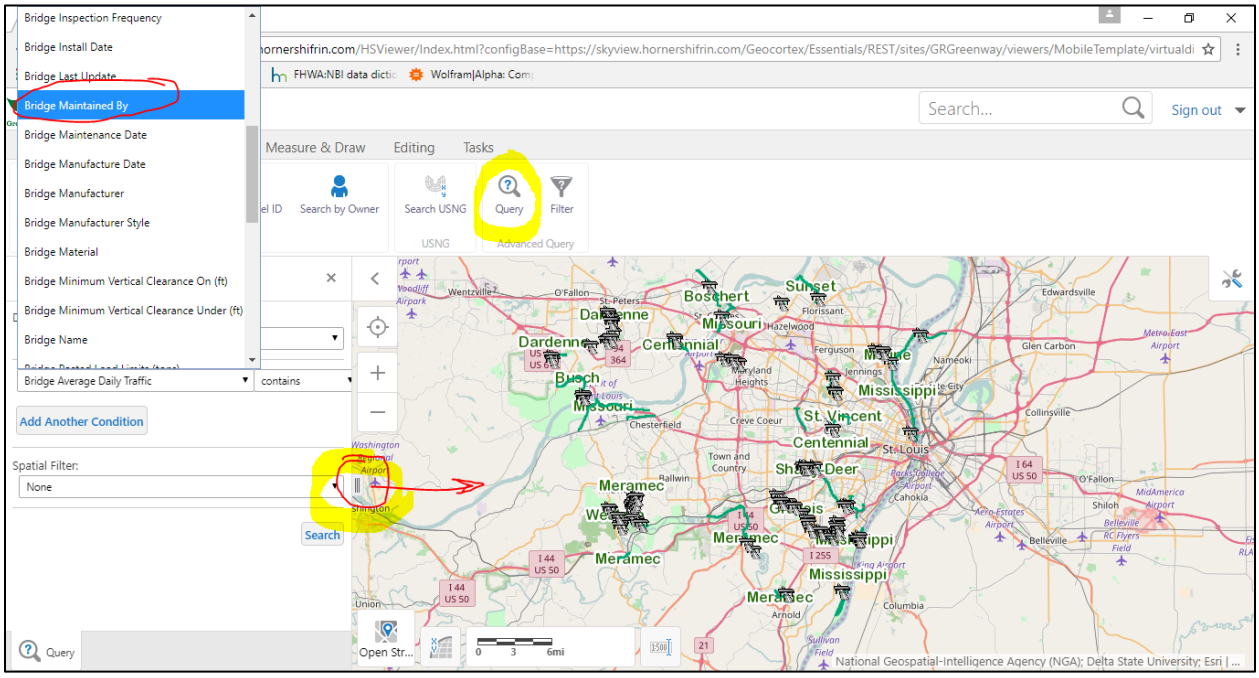


Figure 11: To see dropdown options you may need to increase the width of the menu, which you can do by clicking and dragging the little side tab with three vertical lines to the right.

In this dropdown menu the user can select the data field they wish to search by. For example, the user may want to find all bridges maintained by St. Louis County Parks. To do this, select *Bridge Maintained By* in the dropdown menu, and in the space to the right of the equals sign (which you can change to greater than, less than, not equal to, etc.) select *St. Louis County Parks*, then click *Search*. The menu on the left hand side of the screen will display a list of all the bridges maintained by St. Louis County Parks.

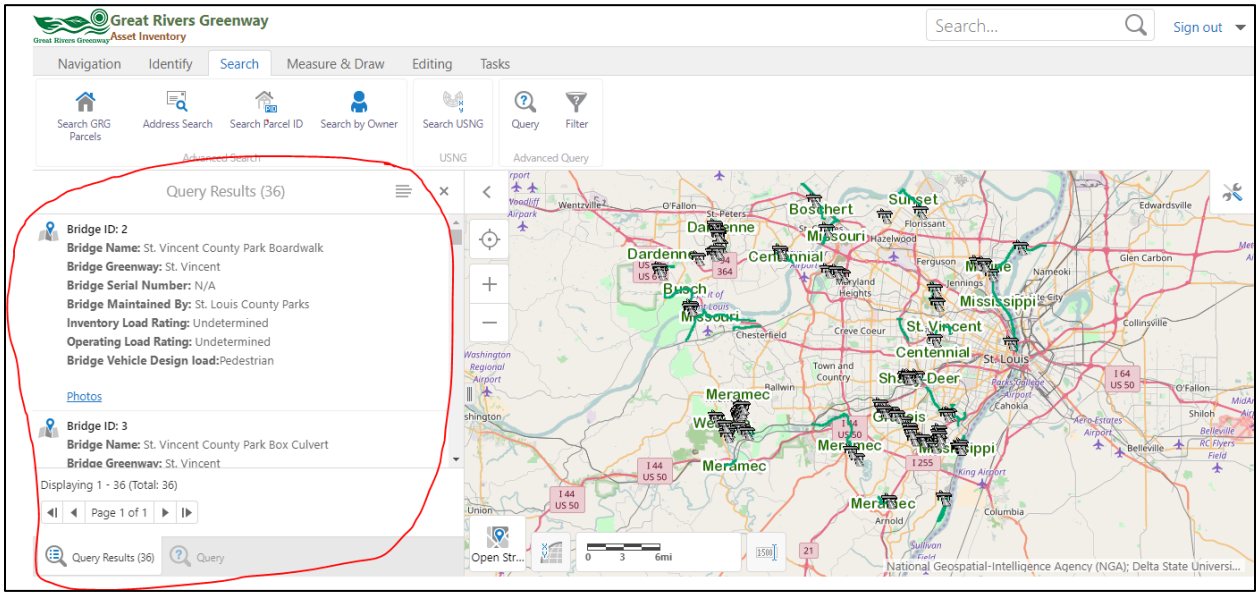


Figure 12: Results of query

Accessing tabular data for many bridges

A useful feature of the GIS is the ability to export tabular sets of data as a CSV or Excel file. To do this you must select multiple items. There are a few ways to do this. One way is to use the *Search* function. Another is to open the *Identify* tab in the toolbar. Use one of the *Identify* features to draw a shape around the assets you wish to have data for. For this tutorial, the *Rectangle* tool was used to draw a rectangle around all of the bridges on the map. Once the items have been selected, a list of the items highlighted using the Identify tool will appear on the left hand side of the screen. The selection shows 141 results (this is 107 bridges and 34 trails, because the Bridges and Trails Complete layers are turned on/visible). In the Panel Actions Menu the user is able to switch the results to a tabular format or from here the user can export all of the data for the assets highlighted to CSV or XLSX file for use in a spreadsheet program.

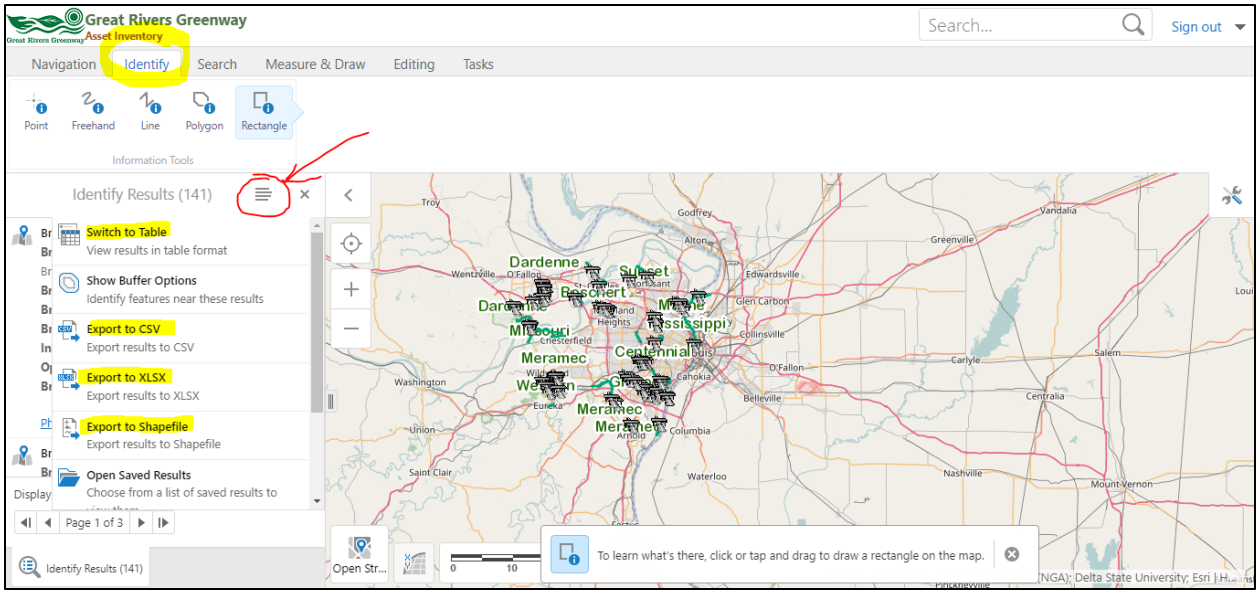


Figure 13: *Panel Actions Menu* for results generated using the *Identify* function

Section II: Bridge Data Fields Definitions

The bridge layer data fields are detailed below. Fields are listed in alphabetical order.

Key to Field Types:

 *Text*: Can input text, numbers, symbols, etc.

 *Dropdown*: Choose from a predetermined list of values

 *Date*: Select a calendar date, month, year and time

 *Numerical*: Input a decimal number

---

Bridge Average Daily Traffic 

This field gives information about the estimated daily use of the bridge based on documented trail counts. This field is a rough estimate and should not be heavily relied upon given current data (July 2017).

Bridge Comment 

This field gives any additional information that is not detailed in another field. General notes can also be taken here.

Bridge Condition 

This field gives a general idea of the condition of the bridge. The *Bridge Condition* is determined by a basic visual inspection—not an engineering inspection. For the summer 2017 GIS Bridge Inventory project, an engineer intern (disclaimer: NOT a licensed or professional engineer) rated the conditions of the bridges using the follow criteria:

A bridge has a condition of ***Good*** if it was constructed recently, has no notable damages, no major maintenance concerns, or any obvious visual blemishes.

A bridge has a condition of ***Fair*** if one or more of the following are true:

- the bridge appears to be an outdated structure or is over 50 years old and not renovated
- the bridge has some structural concerns identified by a licensed engineer (as in the case of the Old Chain of Rocks Bridge on the Mississippi Greenway and the Duckett Creek Boardwalk on the Busch Greenway)
- the bridge has obvious visual blemishes (e.g., graffiti, chipping paint, etc.)
- the bridge appears to be not well maintained

A bridge has a condition of ***Poor*** if it is over 70 years and not renovated or if there is any major deterioration.

Bridge Deck Camber

This field gives the camber of the bridge deck. This field may be important in checking ADA requirements. This data for this field is not 100% accurate and should be double-checked if any important decisions are being made with this data. This field is not applicable for box-culverts and tunnels.

- Dead Load only
- 0-1%
- 1-2%
- 2-5%
- 5-8%
- Other
- N/A

Bridge Deck Clear Width (feet)

This field gives the clear width of the bridge deck in feet. This is defined as the minimum horizontal clearance on the bridge (i.e., the maximum width that a rectangular object could have and still pass the bridge). This field is not applicable for structural culverts. For tunnels this specifies the clear width *through* the tunnel.

Bridge Deck Material

This field gives the material of the bridge decking surface. Many bridges may be a combination of multiple materials. If this is the case, the *Bridge Deck Material* will be listed as the material that makes up the useable surface (e.g., if a bridge deck consists of concrete cast-in-place onto a corrugated steel pan, then the *Bridge Deck Material* would be listed as *Concrete*).

- Concrete
- Wood or Timber
- Composite Timber
- Steel
- Aluminum
- Asphalt
- Fiber Reinforced Polymer
- Composite
- Other
- N/A

Bridge Design

This field gives additional design details about the bridge that may be important, but are not specified in another field. For example, a bridge may be a different style truss than is available in the *Bridge Type* field. If "*Other truss – Half through*" is chosen for the *Bridge Type*, then the user may specify whatever truss style they want in the *Bridge Design* field.

Bridge Designated Inspection Frequency

This field may be used to specify how often or under what conditions an asset will be inspected.

Bridge Editor 

This field specifies the last GRG user who edited the asset.

Bridge Finish 

This field specifies the type of finish on a bridge. This is mainly used for metal bridges, as they are the most likely to be easily effected by exposure to the elements.

- Weathered
- Painted
- Galvanized
- Metalized
- None
- Other
- N/A

Bridge Greenway 

This identifies the greenway where the asset is located.

Bridge Height (feet) 

For bridges, this field gives a general idea of the elevation of the bridge deck above grade. For box culverts and tunnels, this field gives the height of the opening of the asset. Some heights are estimated, and even measured heights are not precise or accurate. The general rule that was followed when taking measurements for bridges is that the asset's *Bridge Height* is the greatest distance between the top of the bridge deck to the lowest point under the bridge. This convention was not strictly followed as sometimes this height could not be measured using the means available to the data collector in the field.

Bridge ID 

This is an arbitrary numerical value assigned to the asset to help keep track of the bridge in the GIS.

Bridge Inspection Date 

This field gives the date of the last inspection of the asset.

Bridge Install Date 

This field gives the approximate date of the installation of the asset. For most assets, the year is accurate, but the month and day are often uncertain or unknown.

Bridge Last Update 

This field gives the date and time of the most recent update to the asset's information in the asset inventory.

Bridge Maintained By 

This field specifies which entity is responsible for the maintenance of the asset per O&M agreements.

Bridge Maintenance Date 

This field gives the approximate date of the most recent maintenance, repair, or rehabilitation of an asset. For most assets, the year is accurate, but the month and day are often uncertain or unknown.

Bridge Manufacture Date

This field gives the approximate date of the manufacture of a bridge. This only applies to prefabricated assets or assets with many prefabricated components. For most assets, the year is accurate, but the month and day are often uncertain or unknown.

Bridge Manufacturer

This field gives the manufacturer of a prefabricated asset or an asset with many prefabricated components.

Bridge Manufacturer Style

This field specifies the style of bridge by the manufacturer. The styles for three pedestrian bridge manufacturers that GRG commonly uses are given.

- Contech - Keystone
- Contech - Capstone
- Contech - Archway
- Contech - Gateway
- Contech - Link
- Contech - Expressway
- Contech - Pony
- Contech - Cable-Stayed
- Contech - Tied Arch
- Contech - Connector
- Wheeler - Timber Stringer
- Wheeler - Timber Panel-Lam
- Wheeler - Timber Trussed Arch
- Wheeler - Timber Pratt Truss
- Wheeler - Steel Warren Truss
- Wheeler - Steel Pratt Truss
- Wheeler - Steel Bowstring Truss
- Wheeler - Steel Modified Bow Truss
- Big R - Underhung Floor Beam
- Big R - H-Section Floor Beam
- Big R - Bowstring
- Big R - Modified Bowstring
- Big R – Box
- Other
- N/A
- Contech – CON/SPAN® Bridge Systems

Bridge Material

This field specifies the primary material used in the superstructure. Some bridges are made with a combination of materials. For these bridges, the dominant material or *Other* was specified as the *Bridge Material.*

- Aluminum/Wrought Iron/Cast Iron

- Concrete
- Masonry
- Steel
- Wood or Timber
- Composite Timber
- Fiber Reinforced Polymer
- Other

Bridge Minimum Vertical Clearance On (feet)

This field gives the minimum vertical clearance for users on a bridge or through a tunnel. This is given as the minimum distance from the deck surface to the lowest permanent obstruction overhead. This field is left blank for bridges with no overhead obstructions and for box culverts. This field mainly applies to through-truss bridges.

Bridge Minimum Vertical Clearance Under (feet)

This field gives a general idea of the minimum vertical clearance for persons and objects below the bridge. This is generally given as the minimum distance from a low point on the bridge to the grade below. This distance could not always be measured accurately using the means available to the data collector in the field, therefore this field should not be heavily relied upon. Most of the data in this field is therefore taken from shop drawings and project plans. This field is left blank for box culverts and bridges with no traffic below.

Bridge Name

This field gives the name that is commonly used to identify the asset. Nearly all of the bridges in GRG's asset inventory are technically unnamed, but many were identified by a given name during construction or in regular correspondence. The names and identifiers found in old documents (including project plans and specs) are usually the names specified as the Bridge Name in the asset inventory.

Bridge Posted Load Limit (tons)

This field gives the load limit that is physically posted on the bridges. These limits are given in tons.

Bridge Railing Height (inches)

This field gives the height of the railing on the asset. For box culverts this is given as the railing height that is on the path above the culvert.

Bridge Safety Railing 

This field specifies the type of safety railing on the asset.

- Vertical Picket
- Horizontal
- Mesh
- Chain-link fence
- Parapet wall
- Parapet with rail
- Other
- None

Bridge Serial Number 

This field indicates the serial number assigned to a bridge. This number is assigned by the manufacturer. Not all bridges have a serial number.

Bridge Span Lengths 

This field gives the length of each span in a multi-span bridge. The format used in specifying the span lengths of a bridge with "*n*" spans is as follows: *n* spans @ (first span length')(second span length')(third span length')...(n^{th} span length'). For example, the *Bridge Span Lengths* of a bridge with four spans at distances of 14 feet, 13 feet, 12 feet, and 20 feet will be "4 spans @ (14')(13')(12')(20')".

Bridge Span Type 

This field gives the type of bridge span.

- Simple
- Continuous
- Cantilever
- Cantilever (with suspended span)
- Simple and Continuous
- Other combination

Bridge Span Width (feet) 

This field gives a general idea of the width of the asset. For bridges this is usually taken as the lateral out-to-out distance of the superstructure or the width to the centerlines of truss chords. For box culverts and tunnels this is taken as the width of the opening.

Bridge Total Length (feet) 

This field gives the total length of the asset. For bridges, this is usually taken as the length from abutment-to-abutment. For tunnels and culverts, this is taken as the length from opening-to-opening.

Bridge Traffic On

This field specifies the type of traffic on the asset. For box culverts and tunnels this is given as what traffic passes above the location of the structure.

- Pedestrian
- Pedestrian-bicycle
- Bicycle
- Equestrian
- Vehicle
- Pedestrian-bicycle-equestrian
- Other

Bridge Traffic Under

This field specifies the type of traffic underneath the asset. For box culverts and tunnels this is given as what passes through the asset.

- Highway
- Road
- Railway
- Pedestrian/bicycle
- Creek or Stream
- River
- Overbank/Floodplain
- Highway-railroad
- Combination
- Other

Bridge Type

This field specifies the type of bridge or structure. Many options are given for bridge types, with the most common pedestrian bridge types being broken down into more specific categories such as half-through, through, and deck varieties of various truss types. There is also an option to identify an asset as a culvert, tunnel, or boardwalk.

- Pratt truss – Half through
- Pratt truss – Through
- Pratt truss – Deck
- Bowstring truss – Half through
- Bowstring Truss – Through
- Modified bowstring truss – Half through
- Modified bowstring truss – Through
- Warren truss – Half through
- Warren truss – Through
- Warren truss – Deck
- Vierendeel truss – Half through
- Vierendeel truss – Box
- Other Truss – Half-through

- Other Truss – Through
- Other Truss – Deck
- Other Truss – Box
- Slab
- Stringer/Multi-beam or girder
- Girder and floor beam system
- Tee beam
- Box beam or box girder
- Suspension/Tied arch
- Cable-stayed
- Boardwalk
- Tunnel
- Box Culvert
- Double box culvert
- Triple box culvert
- Quad+ box culvert
- Other culvert
- Mixed types
- Other

Bridge Vegetation Condition 

This field gives the general condition of the bridge with respect to surrounding vegetation (i.e., how much vegetation is growing over the asset, how likely it is for a large tree to fall over the asset, etc.). For the summer 2017 GIS Bridge Inventory project, an engineer intern rated the *Vegetation Condition* of the bridges using the follow criteria:

A bridge's *Vegetation Condition* is ***None*** if there is no vegetation near the bridge members or if the surrounding vegetation is negligible.

A bridge's *Vegetation Condition* is ***Light*** for bridges with just low brush or vegetation, or with vegetation in the proximity but that is not yet a considerable issue.

A bridge's *Vegetation Condition* is ***Moderate*** if vegetation only grows heavily at the abutments, there are some trees nearby that overgrow the bridge from time-to-time, or if any trees are nearby that could grow in a way as to stress the bridge structure.

A bridge's *Vegetation Condition* is ***Heavy*** for bridges which are easily and often overgrown all-around, or when trees permanently grow over the bridge deck, or if the bridge is particularly vulnerable to damage from surrounding vegetation (e.g., old wooden bridges, dated steel structures, etc.).

Inventory Load Rating 

Inventory rating, as defined by the 2011 AASHTO Manual for Bridge Evaluation, is the load that can safely utilize the bridge for an indefinite period of time. It is equivalent to the design level of stress. A bridge that is not subjected to more than this stress level can be expected to safely function for the intended life of the bridge. This is left blank for nearly all of the bridges in the GRG asset inventory, as a detailed engineering analysis is needed to determine the load rating.

Miscellaneous Design Loads

This field gives any design loads specified in the plans, specifications, or drawings for an asset that are not detailed in any other fields for the Bridge layer.

Operating Load Rating

Operating rating, as defined by the 2011 AASHTO Manual for Bridge Evaluation, is the maximum permissible live load stress level to which a structure may be subjected. Using a bridge at its operating load may shorten the life of the bridge. This field is left blank for nearly all of the bridges in the GRG asset inventory, as a detailed engineering analysis is needed to determine the load rating.

Pedestrian Design Load

This field gives the design pedestrian live load or the general live load for the structure. This is often given in pounds per square foot (psf).

Vehicle Design Load

This field gives the vehicle used to design the asset. This is often an AASHTO truck, though sometimes GRG's assets may only have been designed for a railway load, pedestrian load, etc.

- H-5
- H-10
- H-15
- H 15-44
- HS-15
- H-20
- H 20-44
- HS-20
- HS 20-44
- HS-20+Mod
- HS-25
- HL-93
- Pedestrian
- Railroad
- HS-10
- HS-15-44
- H-25
- Personal vehicle of specified weight
- Other
- Unknown

Appendix D: Bridge document availability

Bridge ID	Bridge Name	Image	Plans	Specs	Drawings	Structural Calcs	Inspection/ Report	Other
1	Forest Park Pkwy Pedestrian Bridge to Washington University Campus		◉					
2	St. Vincent County Park Boardwalk		◉		◉			
3	St. Vincent County Park Box Culvert		◉		◉			
4	UMSL Campus Pedestrian Tunnel		◉	◉	◉			
5	Grant's Trail Bridge over I-44		◉		◉			◉
6	Gravois Creek 1952 RR Bridge		◉					◉
7	Grant's Farm Unknown Culvert							
8	Grant's Trail 1920 Box Culvert							
9	Grant's Trail Old Short-span RR Bridge							
10	Clydesdale Park Bridge South				◉			
11	Clydesdale Park Bridge North				◉			
12	Grant's Trail Old Medium-span RR Bridge East							
13	Grant's Trail Old Medium-span RR Bridge West							
14	Grant's Trail 1923 Double Box Culvert							
15	Grant's Trail 1919 Box Culvert							
16	Grant's Trail 1944 Double Box Cuvlert							
17	Riverfront Trail Maline Creek Crossing							
18	Old Chain of Rocks Bridge		◉		◉	◉	◉	
19	River Des Peres Bridge		◉	◉	◉			
20	River Des Peres Tributary Bridge		◉	◉	◉			
21	Duckett Creek Boardwalk		◉		◉		◉	◉
22	Busch 70' Bowstring Bridge		◉		◉	◉		
23	Busch 28' Bowstring Bridge		◉		◉	◉		
24	Dillman Bridge							
25	Lower Meramec Park Long Span Slab Bridge							
26	Deer Creek Park Pedestrian Bridge		◉	◉	◉			
27	Grant's Trail 1945 Box Culvert North							
28	East Sherman Beach Park Bridge							
29	Rock Hollow Trail Bridge #1		◉	◉				◉
30	Rock Hollow Trail Bridge #2		◉	◉				◉

Bridge ID	Bridge Name	Image	Plans	Specs	Drawings	Structural Calcs	Inspection/ Report	Other
31	Rock Hollow Trail Bridge #3		◉	◉				◉
32	Rock Hollow Trail Bridge #4		◉	◉				◉
33	Rock Hollow Trail Bridge #5		◉	◉				◉
34	Al Foster Memorial Trail Bridge Span #1		◉	◉	◉			◉
35	Al Foster Memorial Trail Bridge Span #2		◉	◉	◉			◉
36	West Sherman Beach Park Bridge							
37	Rock Hollow Trail Bridge #6		◉	◉				◉
38	Rock Hollow Trail Bridge #7		◉	◉				◉
39	Rock Hollow Trail Bridge #8		◉	◉				◉
40	Rock Hollow Trail Bridge #9		◉	◉				◉
41	Rock Hollow Trail Bridge #10		◉	◉				◉
42	Rock Hollow Trail Bridge #11		◉	◉				◉
43	Rock Hollow Trail Bridge #12		◉	◉				◉
44	Rock Hollow Trail Bridge #13		◉	◉				◉
45	Vantage Park Pedestrian Bridge		◉	◉	◉	◉		
46	Legacy Park to Vantage Park Bridge		◉	◉	◉			◉
47	St. Charles Community College Bridge		◉	◉	◉	◉		◉
48	Rabbit Run Park Dardenne Creek Bridge		◉	◉	◉	◉		
49	Bridge to Rabbit Run Prairie Overlook		◉	◉				◉
50	Rabbit Run Culvert C-2		◉	◉				◉
51	BaratHaven Long Bridge		◉	◉	◉			
52	Rabbit Run Cuvlert C-5		◉	◉				◉
53	BaratHaven Short Bridge		◉	◉	◉			
54	Rabbit Run Culvert C-4		◉	◉				◉
55	McKelvey Woods Trail Concrete Bridge		◉	◉	◉			
56	McKelvey Woods Trail Long Span Pedestrian Bridge		◉	◉	◉			
57	McKelvey Woods Trail Short Span Pedestrian Bridge		◉	◉	◉			
58	Fox Hill Park Trail Bridge							
59	Cold Water Creek Pedestrian Bridge				◉			
60	Riverwoods Trail Pedestrian Bridge		◉	◉	◉			
61	Al Foster Memorial Trail Stone Box Culvert		◉					

Bridge ID	Bridge Name	Image	Plans	Specs	Drawings	Structural Calcs	Inspection/ Report	Other
62	Al Foster Memorial Trail Stone Arch Cuvlert		◉	◉	◉	◉	◉	◉
63	George Winter Park Bridge		◉	◉	◉			◉
64	Meramec Double Pratt Truss Pedestrian Bridge							
65	Louisville Creek Double Box Culvert		◉		◉			
66	Fee Fee Creek Bridge		◉	◉				
71	Ramp to Forest Park Pkwy Pedestrian Bridge to Washington University Campus		◉		◉			
72	Truman Park Pedestrian Bridge							
73	Highway 94 Pedestrian Crossing		◉					
74	Highway 364 Pedestrian Crossing		◉					
76	Hamilton Carr Pedestrian Tunnel under Old State Road		◉					
77	Hamilton Carr Trail Wooden Bridge							
78	Hamilton Carr Pedestrian Tunnel under 109		◉					
79	Grant's Trail 1923 Single Box Culvert							
80	Grant's Trail 1945 Box Culvert South							
81	Jefferson Barracks Pedestrian Bridge Span #1		◉	◉				
82	Jefferson Barracks Pedestrian Bridge Span #2		◉	◉				
83	Jefferson Barracks Pedestrian Bridge Span #3		◉	◉				
84	Jefferson Barracks Pedestrian Bridge Span #4		◉	◉				
85	Jefferson Barracks Pedestrian Bridge Span #5		◉	◉				
86	Jefferson Barracks Pedestrian Bridge Span #6		◉	◉				
87	Jefferson Barracks Pedestrian Bridge Span #7		◉	◉				
88	Jefferson Barracks Pedestrian Bridge Span #8		◉	◉				
89	Jefferson Barracks Pedestrian Bridge Span #9		◉	◉				
90	Jefferson Barracks Pedestrian Bridge Span #10		◉	◉				
91	Jefferson Barracks MSD Lagoons Pedestrian Bridge		◉	◉				
92	The Trestle		◉		◉		◉	◉
93	Grant's Trail 1917 Box Culvert							
94	Sappington Road Masonry Sewer Cuvlert/Tunnel							
95	Grant's Trail Large CMP							
99	Rabbit Run Culvert A-2		◉	◉				◉
100	Rabbit Run Culvert A-3		◉	◉				◉

Bridge ID	Bridge Name	Image	Plans	Specs	Drawings	Structural Calcs	Inspection/ Report	Other
101	Vantage Park Dock Bridge		◉	◉	◉			
102	Hwy N double box culvert		◉	◉	◉			
110	Bella Fontaine Park Bridge #1		◉					
111	Bella Fontaine Park Bridge #2		◉					
112	Bella Fontaine Park Bridge #3		◉					
120	Cliff Cave Short Pedestrian Bridge		◉		◉			
121	Pedestrian Bridge over Cliff Cave Road		◉		◉			
134	Sherman Beach Park Masonry Arch Culvert							
135	Lower Meramec Park Short Span Slab Bridge							
140	Lorraine Davis Park Pedestrian Bridge		◉					
141	Lorraine Davis Park Boardwalk #1		◉					
142	Lorraine Davis Park Boardwalk #2		◉					
143	Lorraine Davis Park Boardwalk #3		◉					
144	Lorraine Davis Park Boardwalk #4		◉					
145	Glen Road South Storm Sewer Inlet Bridge		◉					

Appendix E: Bridge catalogue

Bridge 1 - Forest Park Pkwy Pedestrian Bridge to Washington University Campus

General Info and Condition	
Install Date	2004
Greenway	Centennial
Maintained By	Washington Univ.
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Stringer/Multi-beam or Girder
Material	Prestressed concrete
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	169
Span Lengths (ft)	2 spans @ (80')(89')
Span Width (ft)	14.5
Deck Clear Width (ft)	10.5
Height (ft)	30
Railing Height (ft)	Fully enclosed

Load and Traffic Information	
Average Daily Traffic	1141 users
Traffic On	Pedestrian-bicycle
Traffic Under	Roadway & MetroLink
Minimum Vertical Clearance On (ft)	7.5
Minimum Vertical Clearance Under (ft)	20
Posted Load Limits (tons)	None
Vehicle Design Load	Pedestrian
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Design is three longitudinal prestressed concrete girders 3.25′ deep support structure. Bridge is planned to be removed and replaced. During summer 2016 the section of the bridge over Throop Dr (span 1 and cantilever) was closed and is being removed and replaced. The section over Forest Park Pkwy will be removed and replaced at a later date. Decorative granite face and stone face on side of bridge deck and piers on precast panels. Has black painted steel wire mesh canopy that completely surrounds walking/biking area. Bridge spans four lane roadway and two-way MetroLink track. Some paint chipping in canopy structure, especially at connections to deck. Maximum clearance of canopy is 12.5 ft. Minimum clearance of canopy is 7.5′. Long ramp and stairwell offer access to bridge. Grass/weeds grow at expansion joint at north end of bridge.

Great Rivers Greenway

Bridge 2 - St. Vincent County Boardwalk

General Info and Condition	
Install Date	2006
Greenway	St. Vincent
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Boardwalk
Material	Wood or Timber
Deck Material	Composite Timber
Manufacturer	N/A
Total Length (ft)	162
Span Lengths (ft)	22 spans @ (8')(6.83')(6.83')(6.83')(6.83')(6.83')(6.83')(6.83')(6.83')(6.83')(6.83')(6.83')(7')(7')(7')(7')(7')(7')(7')(7')(7')(7')(8.86')
Span Width (ft)	12
Deck Clear Width (ft)	11.75
Height (ft)	4.5
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	160 users
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Pedestrian
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Boardwalk design consists of composite timber deck on 2x8 wood stringers on 2x12 wood floor beams. 6x6 wood columns on concrete footings. Main boardwalk length is 162 ft. Length is about 192 ft. if overhanging deck is included. 1 to 2 inch settlement at the abutments. Asphalt patches lay between the abutment and the deck in fair condition. Overhanging deck is four spans at 7 foot spacing. Seventh column from the south abutment of the bridge is just 2 feet from the edge of a small cutbank of the creek. Other piers are about 3 to 7 feet from the bank. Small storm water culvert drains underneath bridge near northern end of bridge. There is a fair amount of vegetation that grows around, under, and over boardwalk.

Bridge 3 - St. Vincent County Park Box Culvert

General Info and Condition	
Install Date	2008
Greenway	St. Vincent
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	McCann Concrete Products, Inc.
Total Length (ft)	12
Span Lengths (ft)	N/A
Span Width (ft)	12
Deck Clear Width (ft)	10.66
Height (ft)	3
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	160 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	HS-10
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Pre-cast concrete box culvert with wingwall and cast-in-field toewall. 2″ of concrete cover. The culvert has significant sediment buildup on the left side downstream of flow. There are asphalt patches at the corners of the bridge at the edge of the path leading to the bridge; these patches are in fair condition. Designed by Kozeny Wagner - Job No. 08-016.

Great Rivers Greenway

Bridge 4 - UMSL Campus Pedestrian Tunnel

General Info and Condition	
Install Date	2012
Greenway	St. Vincent
Maintained By	UMSL
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Tunnel
Material	Concrete
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	65
Span Lengths (ft)	N/A
Span Width (ft)	20
Deck Clear Width (ft)	20
Height (ft)	10
Railing Height (ft)	N/A

Load and Traffic Information	
Average Daily Traffic	
Traffic On	Vehicle
Traffic Under	Pedestrian/Bicycle
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	9
Posted Load Limits (tons)	None
Vehicle Design Load	HS-20-44
Pedestrian Design Load	None
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Design is a 10 feet tall by 20 feet wide Contech precast concrete structure (CON/SPAN® Bridge Systems) underneath Arnold B Grobman Drive on the UMSL campus. The tunnel has four ceiling LED lights and two LED street lamps just outside each entrance. Tunnel seems to be in very good condition and the interior walls are painted. The clearance at the centerline of the tunnel is 9′10″, and the clearance at the edges of the tunnel are about 9′. Tunnel installed in summer 2012. Nine tunnel precast sections are spaced at(6.21′)(6.21′)(8′)(8′)(8′)(8′)(8′)(6.21′)(6.21′).

Bridge 5 - Grant's Trail Bridge over I-44

General Info and Condition	
Install Date	1968
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Stringer/Multi-beam or Girder
Material	Steel
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	278.5
Span Lengths (ft)	4 spans @ (40')(82')(94')(57')
Span Width (ft)	20
Deck Clear Width (ft)	16.75
Height (ft)	20
Railing Height (ft)	5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Highway
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	15.7
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge design is a multi-span half-through plate girder. Some rusting and delamination of concrete and steel below bridge. Some efflorescence on pier. Originally designed using the American Railway Engineering Association (AREA) specification that was current as of the time of its design (1967). There was a 2009 bridge painting project which included sand blasting, a 3-coat paint system with a graphic top coat, and cut aluminum lettering mounted on the coated bridge. Bridge spans 10 lanes of highway traffic on I-44. Originally a railway bridge built in the late 60's or early 70's.

Bridge 6 - Gravois Creek 1952 RR Bridge

General Info and Condition	
Install Date	1952
Greenway	Gravois
Maintained By	Great Rivers Greenway
General Condition	Fair
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Box Beam or Box Girder
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	90
Span Lengths (ft)	5 spans @ 18'
Span Width (ft)	15
Deck Clear Width (ft)	11.42
Height (ft)	20
Railing Height (ft)	5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Two concrete box beams supported by four bents consisting of approximately 20 foot tall three-legged hexagonal concrete columns. Short wingwall at each abutment. Stamp in concrete abutment indicates structure was erected in 1952. Originally part of Union Pacific Railway's Kirkwood Industrial Lead. Trees and vegetation grow underneath bridge and at sides of bridge. Bridge is aged in appearance. Some concrete deterioration at abutment. Efflorescence common at bents and abutments. Graffiti underneath. Bridge deck is asphalt on original ballast. Composite plastic parapet lines edge of deck on top of original timber. Vertical picket railing is anchored to composite parapet. There are two transverse cracks in the asphalt deck (6/20/2017). More pictures of bridge are available in the "projects" folder.

Bridge 7 - Grant's Farm Unknown Culvert

General Info and Condition	
Install Date	
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	N/A
Manufacturer	Unknown
Total Length (ft)	50
Span Lengths (ft)	N/A
Span Width (ft)	4
Deck Clear Width (ft)	N/A
Height (ft)	4
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Trail pavement passes over two culverts here, one CMP culvert and one concrete box-culvert. Both are in poor condition. The openings were overgrown with thick vegetation. The concrete was greatly deteriorated on the inside of the culvert. Lots of rebar was exposed along the bottom, sides, and ceiling of the culvert. Generally deteriorated throughout its length. The CMP culvert is estimated to be about 4 feet in diameter as well. Install date unknown.

Great Rivers Greenway

Bridge 8 - Grant's Trail 1920 Box Culvert

General Info and Condition	
Install Date	1920
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Fair
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	25
Span Lengths (ft)	N/A
Span Width (ft)	4
Deck Clear Width (ft)	N/A
Height (ft)	3
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	3
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Lots of medium-sized rocks, gravel, some trash, brush, and leaves inside. Trail surface is estimated to be about 2 feet above the ceiling of culvert (though the thickness of the culvert is unknown). Culvert in fair condition for its age. No serious deterioration. Some efflorescence at east side opening.

Great Rivers Greenway

Bridge 9 - Grant's Trail Old Short-span RR Bridge

General Info and Condition	
Install Date	Unknown
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Girder and Floorbeam System
Material	Wood or Timber
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	12
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	5
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1489 users Source: Annual Estimates All Trails 2007-2016
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge design is asphalt pavement on corrugated metal decking resting on transverse timber beams on eight longitudinal steel railway tracks. Abutments are timber sills and gabions. Bridge is clearly an old re-purposed bridge. Unknown install date or loading information. Vegetation and sediment buildup below bridge. Wood is slightly rotten in some places. Railing warped.

Great Rivers Greenway

Bridge 10 - Clydesdale Park Bridge South

General Info and Condition	
Install Date	2005
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	122.25
Span Lengths (ft)	Single span
Span Width (ft)	13
Deck Clear Width (ft)	12
Height (ft)	17.5
Railing Height (ft)	5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Heavy vegetation growing up against, under, and over bridge. Concrete deck is 6 inches thick. Bottom of deck is 19 inches above the bottom of the bottom chord of the truss.

Great Rivers Greenway

Bridge 11 - Clydesdale Park Bridge North

General Info and Condition	
Install Date	2005
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	193
Span Lengths (ft)	Single span
Span Width (ft)	13
Deck Clear Width (ft)	12
Height (ft)	14.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Vegetation from nearby trees grows up against bridge. Heavy vegetation at sides of bridge and at abutments. Four prefab pieces field spliced.

Great Rivers Greenway

Bridge 12 - Grant's Trail Old Medium-span RR Bridge East

General Info and Condition	
Install Date	Unknown
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Girder and Floorbeam System
Material	Wood or Timber
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	20
Span Lengths (ft)	2 spans @ 10'
Span Width (ft)	12
Deck Clear Width (ft)	11.25
Height (ft)	6
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Wooden beams and piers with steel girders. Wooden beams and piers with steel girders. Asphalt pavement on corrugated metal decking resting on transverse timber beams on longitudinal steel railway tracks. Abutments are timber sills and gabions. Timber substructure members rotting. Lots of heavy vegetation.

Great Rivers Greenway

Bridge 13 - Grant's Trail Old Medium-span RR Bridge West

General Info and Condition	
Install Date	Unknown
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Girder and Floorbeam System
Material	Wood or Timber
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	21
Span Lengths (ft)	2 spans @ 10.5'
Span Width (ft)	12
Deck Clear Width (ft)	11.25
Height (ft)	10
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Wooden beams and piers with steel girders. Asphalt pavement on corrugated metal decking resting on transverse timber beams on longitudinal steel railway tracks. Abutments are timber sills and gabions. 9ft clearance below bridge. Heavy vegetation and timber substructure members rotting.

Great Rivers Greenway

Bridge 14 - Grant's Trail 1923 Double Box Culvert

General Info and Condition	
Install Date	1923
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Double Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	25
Span Lengths (ft)	N/A
Span Width (ft)	6
Deck Clear Width (ft)	N/A
Height (ft)	6
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Very poor condition. Wing wall broken off on south side. Lots of exposed rebar. Lots of graffiti. Toe wall at south end severely deteriorated.

Great Rivers Greenway

Bridge 15 – Grant's Trail 1919 Box Culvert

General Info and Condition	
Install Date	1919
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	35
Span Lengths (ft)	N/A
Span Width (ft)	4
Deck Clear Width (ft)	N/A
Height (ft)	3
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Exposed rebar, lots of large cracks. Large tree is growing on top of opening at west end. East end soil is eroded from underneath the culvert.

Great Rivers Greenway

Bridge 16 - Grant's Trail 1944 Double Box Culvert

General Info and Condition	
Install Date	1944
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Fair
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Double Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	30
Span Lengths (ft)	N/A
Span Width (ft)	5
Deck Clear Width (ft)	N/A
Height (ft)	4
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Quite a bit of vegetation growing around openings. Water pools inside. The pooled water is a milky-orange color. Large brush piled in front of opening. Some deterioration inside.

Great Rivers Greenway

Bridge 17 - Riverfront Trail Maline Creek Crossing

General Info and Condition	
Install Date	Unknown
Greenway	Mississippi
Maintained By	St. Louis City Parks
General Condition	Good
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Slab
Material	Concrete
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	135
Span Lengths (ft)	3 spans @ (45')(45')(45')
Span Width (ft)	21
Deck Clear Width (ft)	20
Height (ft)	26.3
Railing Height (ft)	6

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge slab is about 7.5′ thick. Water pools at west end of bridge and at third section of bridge. Bridge spans Maline Creek. Has sloped concrete abutments. Vegetation grows at abutments and next to bridge. Some minor longitudinal and transverse cracking of deck. Unable to easily access under bridge. Yellow solid centerline faded. Three spans at roughly 45 ft spacing. Bridge deck surface about 26.3 ft above bottom of channel below.

Great Rivers Greenway

Bridge 18 - Old Chain of Rocks Bridge

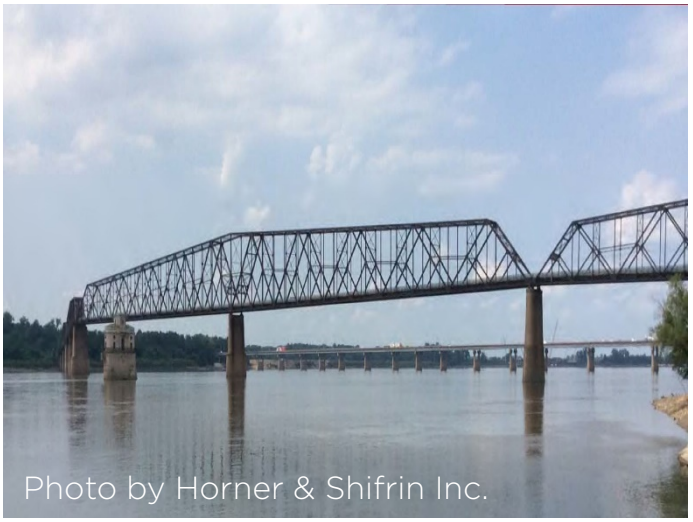


Photo by Horner & Shifrin Inc.

General Info and Condition	
Install Date	1929
Greenway	Mississippi
Maintained By	Great Rivers Greenway
General Condition	Fair
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Through Truss
Material	Steel
Deck Material	Concrete
Manufacturer	Kingshighway Bridge Co.
Total Length (ft)	5350
Span Lengths (ft)	16 spans @ (150')(200')(200')(350'-350')(350'-350')(700'-700')(350'-350')(350'-350')(200')(200')(200')
Span Width (ft)	22
Deck Clear Width (ft)	20
Height (ft)	90
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	River
Minimum Vertical Clearance On (ft)	14
Minimum Vertical Clearance Under (ft)	60
Posted Load Limits (tons)	None
Vehicle Design Load	Personal vehicle of specified weight
Pedestrian Design Load	50 psf LIMITED TO 300 PERSONS
Inventory Load Rating	VEHICULAR LOAD LIMITED to 7500 lb personal vehicle at 15 mph; 0.07 using HS20
Operating Load Rating	0.12 using HS20; 0.24 using H20; 0.24 using H10; 0.24 using 3S2; 0.59 using pedestrian

Notes

Bridge height and vertical clearance under were estimated. Concrete deck on transverse slab stringers on three longitudinal stringers that frame into the floor beams with double angle connections. Floor beams sit on lower chord of truss and are connected with gusset plates. Chords/verticals/diagonals are riveted builtup steel shapes & plates connected by gusset plates. Bridge span type is simple and continuous. There is a lot of information on this bridge in the many reports by Horner & Shifrin. These reports are attached to the bridge in GRG's GIS.

Great Rivers Greenway

Bridge 19 - River Des Peres Bridge

General Info and Condition	
Install Date	2005
Greenway	River des Peres
Maintained By	St. Louis City Parks
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Bowstring Truss - Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	250
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	21
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	River
Minimum Vertical Clearance On (ft)	8
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	5
Vehicle Design Load	H-5
Pedestrian Design Load	65 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Prefab in 8 pieces. Lighting fixtures on overhead truss in poor condition. Duct banks run below the deck in poor condition. The anchor bolts are bent significantly; this likely occurred during the setting of the bridge and is likely not a structural concern.

Great Rivers Greenway

Bridge 20 - River Des Peres Tributary Bridge

General Info and Condition	
Install Date	2005
Greenway	River des Peres
Maintained By	St. Louis City Parks
General Condition	Fair
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	128
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	22
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits (tons)	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Small tree growing under bridge near midspan. Steel plate welded to both ends of bridge at abutments to cover the space between trail and bridge deck. Paint peeling in many places, leaving exposed steel. Some graffiti under bridge. Birds and insects nest underneath bridge. Two piece prefab. Deck surface about 22 ft above water surface elevation in channel on 5/1/2017.

Great Rivers Greenway

Bridge 21 - Duckett Creek Boardwalk

General Info and Condition	
Install Date	2007
Greenway	Busch
Maintained By	Mo. Research Park
General Condition	Fair
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Boardwalk
Material	Wood or Timber
Deck Material	Composite Timber
Manufacturer	N/A
Total Length (ft)	228
Span Lengths (ft)	19 spans @ 12′
Span Width (ft)	11.166
Deck Clear Width (ft)	10.66
Height (ft)	6
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	280 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	1,000 lb, NO VEHICULAR TRAFFIC
Vehicle Design Load	Pedestrian
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

The deck is supported by 2x10 timber joists, which are supported by bents made up of 6x12 timber header beams and two 6x6 timber posts. Each post bears on an 8′ long, 18″ diameter concrete pier. Brush builds up at piers. Some tall, large diameter trees are near the bridge. Lichen grows on bridge. The railing is warped. On August 11, 2016, an ambulance of unknown weight (12,000 lbs according to EMT on the scene) attempted to cross the boardwalk. The boardwalk failed under the load in the vicinity of Spans 3 & 4. Some repairs were made; as a result, some of the deck and railing is regular wood.

Bridge 22 - Busch 70’ Bowstring Bridge

General Info and Condition	
Install Date	2007
Greenway	Busch
Maintained By	Mo. Research Park
General Condition	Good
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Big R
Total Length (ft)	70
Span Lengths (ft)	Single span
Span Width (ft)	11.5
Deck Clear Width (ft)	10
Height (ft)	7.75
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	280 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Very tall large diameter tree one foot away from bridge. Thick vegetation grows on sides of bridge and at supports and small vegetation grows under. Nesting insects and birds below bridge. Fair amount of paint wear on members under the deck. Lichen grows on bridge truss and railing. Approaches repaired 2016.

Great Rivers Greenway

Bridge 23 - Busch 28' Bowstring Bridge

General Info and Condition	
Install Date	2007
Greenway	Busch
Maintained By	Mo. Research Park
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Big R
Total Length (ft)	28
Span Lengths (ft)	Single span
Span Width (ft)	11
Deck Clear Width (ft)	10
Height (ft)	5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	280 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Railing damaged at northeast end. Lichen grows on bridge and railing. Asphalt patches where abutment meets path in good condition. New concrete wing wall added to abutments on both ends of bridge. Light vegetation grows at wingwall.

Great Rivers Greenway

Bridge 24 - Dillman Bridge

General Info and Condition	
Install Date	Unknown
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Girder and Floorbeam System
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Unknown
Total Length (ft)	50
Span Lengths (ft)	4 spans @ 12.5'
Span Width (ft)	12
Deck Clear Width (ft)	11.25
Height (ft)	12
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Wooden beams and piers with steel girders. Asphalt pavement on corrugated metal decking resting on transverse timber beams on longitudinal steel railway tracks. Abutments are timber sills and gabions. Wooden decking appears to be relatively new. Clearance under bridge is about 10 ft.

Great Rivers Greenway

Bridge 25 - Lower Meramec Park Long Span Slab Bridge

General Info and Condition	
Install Date	Unknown
Greenway	Meramec
Maintained By	St. Louis County Parks
General Condition	Fair
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Slab
Material	Concrete
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	73
Span Lengths (ft)	3 spans @ (23')(27')(23')
Span Width (ft)	18
Deck Clear Width (ft)	16
Height (ft)	8.5
Railing Height (ft)	2.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Continuous three span concrete slab with integral parapet and curb. Slab built integrally on two bents supported by three round columns. Three rectangular openings are on each side of the bridge through the curbs. These openings are about 64 inches wide and 5 inches tall. The concrete curb on the bridge is about 9.5 inches tall. The concrete railing is an additional 20 inches taller than the curb. In plan view the bridge is shaped like a parallelogram. Bridge appears to be an old vehicular traffic bridge. Some reinforcement is exposed on parapet walls and on side of bents near where it meets the deck.

Bridge 26 - Deer Creek Park Pedestrian Bridge

General Info and Condition	
Install Date	2008
Greenway	Shady-Deer
Maintained By	Great Rivers Greenway
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	114
Span Lengths (ft)	Single span
Span Width (ft)	11
Deck Clear Width (ft)	10
Height (ft)	20
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	225 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Foam expansion joint at each abutment. Vegetation at supports and side of bridge. Asphalt patches where bridge deck meets path are not flush with deck. About 1 inch lip on west end. Lichen grows on bottom of railing and near end of bridges. Water surface was about 17 ft below deck on 5/25/17. The O&M agreements do not specify which city is responsible for the maintenance of this bridge.

Great Rivers Greenway

Bridge 27 - Grant's Trail 1945 Box Culvert North

General Info and Condition	
Install Date	1945
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	24
Span Lengths (ft)	N/A
Span Width (ft)	5
Deck Clear Width (ft)	N/A
Height (ft)	4
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Significant deterioration inside culvert. Lots of exposed reinforcement. Overgrown at openings.

Great Rivers Greenway

Bridge 28 - East Sherman Beach Park Bridge

General Info and Condition	
Install Date	Unknown
Greenway	Meramec
Maintained By	DNR
General Condition	Good
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Contech?/Unknown
Total Length (ft)	20
Span Lengths (ft)	N/A
Span Width (ft)	25
Deck Clear Width (ft)	N/A
Height (ft)	18
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	347 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Appears to be a CON/SPAN® Bridge Systems style structure. Wooden railing. Area heavily wooded. Lots of vegetation growing over railing, on structure, etc.

Great Rivers Greenway

Bridge 29 - Rock Hollow Trail Bridge #1

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	10
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	4
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Girders 12 inches deep, 2.5 inches wide. Deck 3.5 inches thick. 2.5 feet from the bottom of the girder to the top of the deck. Small crack on outside of girder. Some buildup of sediment, brush, leaves, etc. at supports and area under deck.

Great Rivers Greenway

Bridge 30 - Rock Hollow Trail Bridge #2

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	10
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	10
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Exterior brace cracked significantly. Supports and area under deck subject to significant buildup of sediment, brush, leaves, etc. Bridge is emergency locator B for the trail.

Great Rivers Greenway

Bridge 31 - Rock Hollow Trail Bridge #3

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	10
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	4
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Supports and area under deck subject to significant buildup of sediment, brush, leaves, etc. Some vegetation at sides

Great Rivers Greenway

Bridge 32 - Rock Hollow Trail Bridge #4

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	10
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	3
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Some buildup of sediment, brush, leaves, etc. at supports and area under deck. Some vegetation under bridge and at sides.

Great Rivers Greenway

Bridge 33 - Rock Hollow Trail Bridge #5

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	35
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	6.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. 17 inches from top of girder to top of 4 in deck. Cambered to 1.5 times the dead load deflection plus 1%. Bridge is emergency locator C for the trail. There is an asphalt patch at the side of the approach on the north side of the bridge that is in good condition. Some trees nearby.

Great Rivers Greenway

Bridge 34 - Al Foster Memorial Trail Bridge Span #1

General Info and Condition	
Install Date	2011
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	151
Span Lengths (ft)	Span 1 of 2.
Span Width (ft)	13
Deck Clear Width (ft)	12
Height (ft)	28
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	347 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	20
Vehicle Design Load	H-20
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge anchored to abutment at north end, south end is anchored into a pier that is shared with the adjacent bridge. Bridge spans Hamilton-Carr Creek. Ivy, brush, and vegetation growing at sides of bridge, on abutment. Vegetation and small trees grow near bottom of pier. Some large trees nearby. Bridge is two prefab pieces spliced in field. 0.67% slope. Residual camber is 3 5/8". Height above water estimated to be about 28 feet.

Bridge 35 - Al Foster Memorial Trail Bridge Span #2

General Info and Condition	
Install Date	2011
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	42
Span Lengths (ft)	Span 2 of 2.
Span Width (ft)	12.5
Deck Clear Width (ft)	12
Height (ft)	15
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	347 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	20
Vehicle Design Load	H-20
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Minor vegetation below bridge. Young tree growing under bridge near abutment. Another small tree growing nearly against bridge at at southwest edge of bridge near abutment. Some vegetation and small trees growing near pier. Bridge anchored to abutment at south end. North end of bridge is anchored to pier shared with adjacent bridge. Height estimated to be 15 feet. 0.67% slope. Residual camber is 1/2".

Great Rivers Greenway

Bridge 36 - West Sherman Beach Park Bridge

General Info and Condition	
Install Date	Unknown
Greenway	Meramec
Maintained By	DNR
General Condition	Good
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Contech?/Unknown
Total Length (ft)	19
Span Lengths (ft)	N/A
Span Width (ft)	28
Deck Clear Width (ft)	N/A
Height (ft)	8
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	347 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Design is CON/SPAN® Bridge Systems style structure. Lots of vegetation and overgrowth. Significant sediment/rock buildup underneath. Vertical clearance underneath is a minimum of 6′ where the sediment is most accumulated.

Great Rivers Greenway

Bridge 37 - Rock Hollow Trail Bridge #6

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	30
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	7.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Cambered to 1.5 times the dead load deflection plus 1%. Vegetation at sides and under bridge.

Great Rivers Greenway

Bridge 38 - Rock Hollow Trail Bridge #7

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	30
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	4.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Cambered to 1.5 times the dead load deflection plus 1%.

Great Rivers Greenway

Bridge 39 - Rock Hollow Trail Bridge #8

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	20
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	3
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Large tree near bridge. Some large brush caught under bridge.

Great Rivers Greenway

Bridge 40 - Rock Hollow Trail Bridge #9

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	25
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	4.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket.

Great Rivers Greenway

Bridge 41 - Rock Hollow Trail Bridge #10

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	30
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	4.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Cambered to 1.5 times the dead load deflection plus 1%. Some vegetation at supports and under bridge.

Great Rivers Greenway

Bridge 42 - Rock Hollow Trail Bridge #11

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	20
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	4
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Some buildup of sediment, brush, leaves, etc. at supports and area under deck.

Great Rivers Greenway

Bridge 43 - Rock Hollow Trail Bridge #12

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	20
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	3
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Some buildup of sediment, brush, leaves, etc. at supports and area under deck.

Great Rivers Greenway

Bridge 44 - Rock Hollow Trail Bridge #13

General Info and Condition	
Install Date	2010
Greenway	Meramec
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	60
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	6.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	176 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Multi-leaf Pratt truss design with lateral stability provided by external knee bracing. Bridge abutments consist of timber sill on gabion basket. Some vegetation at side of bridge. A few trees nearby. Bridge is emergency locator G for the trail.

Great Rivers Greenway

Bridge 45 - Vantage Park Pedestrian Bridge

General Info and Condition	
Install Date	2013
Greenway	Dardenne
Maintained By	Cottleville
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	64
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	9.66
Height (ft)	6
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	315 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	25
Vehicle Design Load	H-25
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

The supports at the ends of the bridge were covered or submerged in sediment and brush during site visit. Bridge adjacent to Vantage Park lake. Spans overflow channel for the lake. Some light vegetation near bridge and under bridge.

Great Rivers Greenway

Bridge 46 - Legacy Park to Vantage Park Bridge

General Info and Condition	
Install Date	2009
Greenway	Dardenne
Maintained By	Cottleville
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	132
Span Lengths (ft)	Single span
Span Width (ft)	10.33
Deck Clear Width (ft)	10
Height (ft)	20
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	315 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge is about 19 to 21 feet above water surface. Some vegetation grows under and at the sides of the bridge. Foam expansion joint at abutments.

Great Rivers Greenway

Bridge 47 - St. Charles Community College Bridge

General Info and Condition	
Install Date	2013
Greenway	Dardenne
Maintained By	St. Charles Comm. College
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	50
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	9.66
Height (ft)	8
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	315 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

This area is decorated with large stones and landscaping. Vegetation grows near bridge but is not growing on or over bridge currently.

Great Rivers Greenway

Bridge 48 - Rabbit Run Park Dardenne Creek Bridge

General Info and Condition	
Install Date	2008
Greenway	Dardenne
Maintained By	St. Peters
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Big R
Total Length (ft)	186
Span Lengths (ft)	Single span
Span Width (ft)	11
Deck Clear Width (ft)	10.5
Height (ft)	30
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	168 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge deck was approximately 30 feet above the water surface of the creek on 5/17/17. Where the bridge deck meets the abutment, there is relatively new concrete on both sides of the bridge. On the west side of the bridge there is some exposed steel reinforcement (see pictures). There is vegetation growing at both ends of the bridge and some underneath (though the vegetation underneath is not close to the bridge).

Great Rivers Greenway

Bridge 49 - Bridge to Rabbit Run Prairie Overlook

General Info and Condition	
Install Date	2008
Greenway	Dardenne
Maintained By	St. Peters
General Condition	Good
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Boardwalk
Material	Wood or Timber
Deck Material	Composite Timber
Manufacturer	Unknown
Total Length (ft)	23.33
Span Lengths (ft)	2 spans @ 11.66'
Span Width (ft)	8
Deck Clear Width (ft)	7.5
Height (ft)	3
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Pedestrian
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Two spans on concrete abutment at west end, 2 wood columns on concrete footings at the mid-section of the bridge, and second span runs into an elevated wooden pavilion that is supported by four wooden columns on concrete footings at its corners. Short bridge boardwalk leads to wooden overlook structure with two benches. Vegetation grows around and underneath bridge and bridge is likely to be effected by flooding.

Bridge 50 - Rabbit Run Culvert C-2

General Info and Condition	
Install Date	2008
Greenway	Dardenne
Maintained By	St. Peters
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	N/A
Manufacturer	Unknown
Total Length (ft)	90
Span Lengths (ft)	N/A
Span Width (ft)	10
Deck Clear Width (ft)	N/A
Height (ft)	10
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	168 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Wood railing in fair condition. An estimated 10 missing decorative masonry stones along side retaining walls. About three very minor laterally cracks (less than an eighth of an inch thick) cracks that run from one side of the bridge to the other. Numerous small scarps are visible near the downstream from the bridge. (Pictures show up and downstream conditions). Cannot legibly read it, but something like "CMCC 7-89?-08-0784-00-64??" is on the face of each opening.

Great Rivers Greenway

Bridge 51 - BaratHaven Long Bridge

General Info and Condition	
Install Date	2006
Greenway	Dardenne
Maintained By	Dardenne Prarie
General Condition	Good
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	75
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	18
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	65 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Winged retaining wall at each end of bridge. Leaves, dirt, and other debris builds up at supports. Soil erosion at east abutment. Concrete shows some signs of weathering and staining due to weathered finish of truss structure.

Great Rivers Greenway

Bridge 52 - Rabbit Run Culvert C-5

General Info and Condition	
Install Date	2008
Greenway	Dardenne
Maintained By	St. Peters
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	25
Span Lengths (ft)	N/A
Span Width (ft)	3
Deck Clear Width (ft)	N/A
Height (ft)	3
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	168 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Not fully legible, but something like "CMCC 8-4-08 C78 254" is carved on the face at each opening. Some light vegetation nearby.

Great Rivers Greenway

Bridge 53 - BaratHaven Short Bridge

General Info and Condition	
Install Date	2006
Greenway	Dardenne
Maintained By	Dardenne Prarie
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	21
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	5.33
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Vegetation grows under bridge and at supports. Bridge spans floodplain/ephemeral stream?.

Great Rivers Greenway

Bridge 54 - Rabbit Run Culvert C-4

General Info and Condition	
Install Date	2008
Greenway	Dardenne
Maintained By	St. Peters
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	N/A
Manufacturer	Unknown
Total Length (ft)	25
Span Lengths (ft)	N/A
Span Width (ft)	7
Deck Clear Width (ft)	N/A
Height (ft)	4
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	168 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Vegetation grows against railing on both sides of bridge. This box culvert is adjacent to retaining pond for nearby neighborhood.

Great Rivers Greenway

Bridge 55 - McKelvey Woods Trail Concrete Bridge

General Info and Condition	
Install Date	2013
Greenway	Fee Fee
Maintained By	Maryland Heights
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Slab
Material	Concrete
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	122
Span Lengths (ft)	3 spans @ 40'
Span Width (ft)	12
Deck Clear Width (ft)	10.66
Height (ft)	9.5
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Thick low vegetation grows under bridge. Bridge slope 4.87%. Large diameter rock/riprap below bridge as well. Bridge serves as support for adjacent truss bridge.

Great Rivers Greenway

Bridge 56 - McKelvey Woods Trail Long Span Pedestrian Bridge

General Info and Condition	
Install Date	2013
Greenway	Fee Fee
Maintained By	Maryland Heights
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	130
Span Lengths (ft)	Single span
Span Width (ft)	10.5
Deck Clear Width (ft)	10
Height (ft)	23
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Abutment on south end is flush with an embankment retaining structure that the trail travels along underneath the overpass above. Abutment on north end of bridge is concrete pier that supports this truss bridge and the adjacent concrete bridge. Bridge slope is 1.73%. Thin vegetation grows near bridge. Geocache located on bridge. One small tree grows slightly over bridge.

Bridge 57 – McKelvey Woods Trail Short Span Pedestrian Bridge

General Info and Condition	
Install Date	2013
Greenway	Fee Fee
Maintained By	Maryland Heights
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	40
Span Lengths (ft)	Single span
Span Width (ft)	11
Deck Clear Width (ft)	10
Height (ft)	8.5
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Vegetation under and sides. Some rust on underside of galvanized steel deck pan. 2.92% slope on bridge.

Great Rivers Greenway

Bridge 58 - Fox Hill Park Trail Bridge

General Info and Condition	
Install Date	Unknown/Pre-2008
Greenway	Boschert
Maintained By	St. Charles
General Condition	Fair
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Stringer/Multi-beam or Girder
Material	Steel and Wood
Deck Material	Wood or Timber
Manufacturer	Unknown
Total Length (ft)	21.33
Span Lengths (ft)	Single span
Span Width (ft)	7.25
Deck Clear Width (ft)	7.15
Height (ft)	8
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	174 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Wooden deck supported by a combination of steel and wood girders. Bridge deck surface is 8 ft from bottom of creek at center of span. Distance from decking surface to bottom of steel girders is 15 inches. Bridge is supported by concrete abutments poured on a retaining structure made of recycled concrete blocks. Steel to steel connections are welded. Wood to steel connections are bolted. Steel railing is meshed at the lower half and open at the upper half (see pictures). Insects and birds nest underneath the bridge on the flanges of the I beams and among the girders. Also beneath the bridge, some reinforcing wire is exposed on the recycled concrete blocks that form the face of the abutments. The clear span between the two supports is just over 15 feet. Thick, fairly mature vegetation grows along creek and banks, against, under, and over bridge.

Great Rivers Greenway

Bridge 59 - Cold Water Creek Pedestrian Bridge

General Info and Condition	
Install Date	2005
Greenway	Sunset
Maintained By	Florissant
General Condition	Fair
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Single span
Span Width (ft)	13
Deck Clear Width (ft)	11.5
Height (ft)	18
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	232 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Quite a bit of graffiti and vandalism. Load posting vandalized at west end of bridge. Lichen growing at NW end of bridge. Thick vegetation grows at sides of bridge near abutment. Sloped concrete wall at each abutment slopes down to Cold Water Creek below.

Great Rivers Greenway

Bridge 60 - Riverwoods Trail Pedestrian Bridge

General Info and Condition	
Install Date	2006
Greenway	Missouri
Maintained By	Bridgeton
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	100
Span Lengths (ft)	Single span
Span Width (ft)	12.33
Deck Clear Width (ft)	12
Height (ft)	13.5
Railing Height (ft)	3.66

Load and Traffic Information	
Average Daily Traffic	258 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	20
Vehicle Design Load	HS-20
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Observations from 5/23/17: Bridge highly effected by current flooding. Sediment, brush, and driftwood built up around bridge and on bridge. Paint on vertical picket railing chipped in many places. Unable to get under bridge to see anything below because of flooding. Water surface just above lower chord of truss. Water submerges supports. Water surface elevation of river at USGS station 06935965 nearby was about 439.25 ft above sea level. Observations from 05/31/2017: Heavy sediment buildup at all supports. Water surface elevation at nearby USGS gage is about 436.2 ft above sea level. Still unable to get underneath bridge. Some erosion of banks nearby. Deck is cambered at 1.25%. Bridge height is the average distance between the bottom chord of the truss and the water surface elevation at USGS station 06935965 for the past five years of gage data (06/02/2012-06/01/2017). This is consistent with what is show on the construction drawings which shows a minimum height above the water surface of 12.3 ft.

Bridge 61 - Al Foster Memorial Trail Stone Box Culvert

General Info and Condition	
Install Date	Unknown/Mid-Late 1800's
Greenway	Meramec
Maintained By	Wildwood
General Condition	Poor
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Box Culvert
Material	Masonry
Deck Material	Asphalt
Manufacturer	N/A
Total Length (ft)	30
Span Lengths (ft)	N/A
Span Width (ft)	2.5
Deck Clear Width (ft)	N/A
Height (ft)	3.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	347 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Existing stone box culvert. Approximately 3.5 feet tall by 2.5 feet wide. Estimated to be 30 feet long. Probably constructed in the mid-to-late 1800's for the railway. Unknown actual date. Interior is in poor condition.

Great Rivers Greenway

Bridge 62 - Al Foster Memorial Trail Stone Arch Culvert

General Info and Condition	
Install Date	Mid-Late1800s— Rehabilitated 2011
Greenway	Meramec
Maintained By	DNR
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Other Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Contech
Total Length (ft)	70
Span Lengths (ft)	N/A
Span Width (ft)	8.6
Deck Clear Width (ft)	7.25
Height (ft)	10
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	347 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	7.25
Posted Load Limits	None
Vehicle Design Load	HS-20
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Stone arch culvert with retrofit concrete box culvert with slip line steel lining. The existing stone arch culvert was likely constructed in the mid-1800s along with the original embankment for the railroad. Trail is about 20 ft above the top of the tunnel. There is minor sediment buildup in the culvert. 2009 report by Access Engineering, LLC. outlines details regarding in-situ conditions and rehabilitation options. Culvert was considered unsafe to cross before the 2011 structural rehabilitation.

Great Rivers Greenway

Bridge 63 - George Winter Park Bridge

General Info and Condition	
Install Date	2005
Greenway	Meramec
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	95
Span Lengths (ft)	Single span
Span Width (ft)	13
Deck Clear Width (ft)	12
Height (ft)	12
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge was installed in Fall 2005 on shallow spread type footing. A storm event in 2008 resulted in the erosion of the bank material under the northern footing. The resulting erosion under the footing caused the bridge and footing to side into the creek. The footings and abutments were replaced and repairs were made in 2011. Bridge deck about 8 ft above water surface on 6/7/2017.

Great Rivers Greenway

Bridge 64 - Meramec Double Pratt Truss Pedestrian Bridge

General Info and Condition	
Install Date	Unknown
Greenway	Meramec
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Other Truss - Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	89
Span Lengths (ft)	4 spans @ (16')(40')(17')(16')
Span Width (ft)	6
Deck Clear Width (ft)	6
Height (ft)	16
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Half through double Pratt truss design. Similar to the Link® style truss by Contech. No load posting. Bridge deck surface measured to be 16'2" above water surface on 6/21/2017. Bridge spans outlet of creek to Meramec River. Riprap lines the area around bridge.

Great Rivers Greenway

Bridge 65 - Louisville Creek Double Box Culvert

General Info and Condition	
Install Date	2017
Greenway	Fee Fee
Maintained By	Maryland Heights
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Double Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	24.33
Span Lengths (ft)	N/A
Span Width (ft)	9
Deck Clear Width (ft)	9
Height (ft)	8
Railing Height (ft)	

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Great Rivers Greenway

Bridge 66 - Fee Fee Creek Bridge

General Info and Condition	
Install Date	2017
Greenway	Fee Fee
Maintained By	Maryland Heights
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	78.8125
Span Lengths (ft)	Single span
Span Width (ft)	11
Deck Clear Width (ft)	10
Height (ft)	13
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Great Rivers Greenway

Bridge 71 - Ramp to Forest Park Pkwy Pedestrian Bridge to Washington University Campus

General Info and Condition	
Install Date	2004
Greenway	Centennial
Maintained By	Washington Univ.
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Slab
Material	Concrete
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	201.5
Span Lengths (ft)	6 spans @ (32')(32')(35')(35')(35')(32.5')
Span Width (ft)	9.5
Deck Clear Width (ft)	9.33
Height (ft)	24.5
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1141 users Source: Annual Estimates All Trails 2007-2016
Traffic On	Pedestrian-bicycle
Traffic Under	Pedestrian/Bicycle
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Pedestrian
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Ramp is planned to be removed and replaced along with adjacent bridge over Forest Park Pkwy. About 210 ft from bottom of north abutment to bottom of southernmost pier (shared with adjacent bridge. Many tall moderate diameter trees within ten feet of bridge. Bridge ramp about 291 ft long diagonal. Ramp max height about 24.5 ft.

Great Rivers Greenway

Bridge 72 - Truman Park Pedestrian Bridge

General Info and Condition	
Install Date	2005
Greenway	Missouri
Maintained By	Hazelwood
General Condition	Fair
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	68.5
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	10.33
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Lichen grows on bridge, bridge overgrown with some low vegetation. Lips at bridge are not flush with bridge deck. Some vandalism including de-facing of load posting. Bridge appears to be weathered and not well maintained.

Great Rivers Greenway

Bridge 73 - Highway 94 Pedestrian Crossing

General Info and Condition	
Install Date	
Greenway	Centennial
Maintained By	St. Charles
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	280
Span Lengths (ft)	2 spans @ 140'
Span Width (ft)	11
Deck Clear Width (ft)	10
Height (ft)	32
Railing Height (ft)	6

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Highway
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	17.5
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction. Will consist of two prefabricated spans, each with a different serial number.

Great Rivers Greenway

Bridge 74 - Highway 364 Pedestrian Bridge

General Info and Condition	
Install Date	
Greenway	Centennial
Maintained By	St. Charles
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	217
Span Lengths (ft)	2 spans @ (121')(96')
Span Width (ft)	11
Deck Clear Width (ft)	10
Height (ft)	26
Railing Height (ft)	6

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Highway
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	17.5
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	85 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction. Will consist of two prefabricated spans, each with a different serial number.

Great Rivers Greenway

Bridge 76 - Hamilton Carr Pedestrian Tunnel under Old State Road

General Info and Condition	
Install Date	2008
Greenway	Western
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Tunnel
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	62
Span Lengths (ft)	N/A
Span Width (ft)	10
Deck Clear Width (ft)	10
Height (ft)	8
Railing Height (ft)	0

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Vehicle
Traffic Under	Pedestrian/Bicycle
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	7.66
Posted Load Limits	None
Vehicle Design Load	HS-20
Pedestrian Design Load	None
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Combination of pre-cast concrete segments for the barrel of the underpass and cast-in-place concrete headwalls at each end. The wing walls consist of four modular block retaining walls, one at each corner of the structure The barrel of the underpass has a 10′ wide by 8′ tall opening and consists of twelve box sections, each one being 5′ long for a total length of approximately 60′. The side walls of each box section are 9″ thick, the top slab is 11″ thick and the floor slab is 10″ thick.. The cast-in-place headwalls are constructed of 12″ thick reinforced concrete.. Trench drains are at each end of the underpass to provide for drainage.. A perforated draintile also runs the entire length of each side of the underpass. These drainage items drain to daylight in the drainage ditch to the southwest of the underpass structure. The trail leading to the underpass is constructed of 6″ thick asphalt on top of 4″ of compacted base rock. There is a layer of asphalt on the floor of the underpass structure approximately 1.5″ thick to provide for a smooth riding surface. Rusted bolted plates on ceiling.

Great Rivers Greenway

Bridge 77 - Hamilton Carr Trail Wooden Bridge

General Info and Condition	
Install Date	Unknown
Greenway	Western
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Stringer/Multi-beam or Girder
Material	Wood or Timber
Deck Material	Wood or Timber
Manufacturer	Wheeler
Total Length (ft)	42
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.75
Height (ft)	11
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Girders 28″ deep, 5 1/8″ wide. Four longitudinal girders. Geocache under bridge. Birds and insects nest below. Tree growing underneath. Vegetation at sides of bridge. Many bolted connections at abutments in good condition. Railing is warped slightly.

Great Rivers Greenway

Bridge 78 - Hamilton Carr Pedestrian Tunnel Under 109

General Info and Condition	
Install Date	2010 or 2011
Greenway	Western
Maintained By	Wildwood
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Tunnel
Material	Concrete
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	62
Span Lengths (ft)	N/A
Span Width (ft)	12
Deck Clear Width (ft)	12
Height (ft)	8
Railing Height (ft)	0

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Vehicle
Traffic Under	Pedestrian/Bicycle
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	7.91
Posted Load Limits	None
Vehicle Design Load	HS-20+Mod
Pedestrian Design Load	None
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Tunnel in pre-cast concrete tunnel sections. The chamfered corners of the cross sectional opening are 1 foot by 1 foot (see picture). The clearance of the tunnel is about 7 ft 11 inches. There are 18 inches between the top of the concrete tunnel and to the ceiling of the tunnel. There is efflorescence throughout the tunnel on the ceiling, mainly near the joints.

Great Rivers Greenway

Bridge 79 - Grant's Trail 1923 Single Box Culvert

General Info and Condition	
Install Date	1923
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	30
Span Lengths (ft)	N/A
Span Width (ft)	6
Deck Clear Width (ft)	N/A
Height (ft)	4
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

There is a lot of brush, debris, and rocks in the interior of the culvert, but the inside is in fair condition; no obvious excessive deterioration or exposed reinforcement.

Great Rivers Greenway

Bridge 80 - Grant's Trail 1945 Box Culvert South

General Info and Condition	
Install Date	1945
Greenway	Gravois
Maintained By	St. Louis County Parks
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	28
Span Lengths (ft)	N/A
Span Width (ft)	8
Deck Clear Width (ft)	N/A
Height (ft)	6
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Wingwall falling out on one side. Interior in fair condition. No major deterioration, though the bottom surface shows signs of age and minor deterioration.

Great Rivers Greenway

Bridge 81 - Jefferson Barracks Pedestrian Bridge Span #1

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Span 1 of 10
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	19
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Other
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 1 of 10. 2.5% slope. On project plans, 454.76 ft elevation at west end. 453.01 elevation at east end. Trees grow near bridge. Vegetation and lots of leaves and debris accumulated at supports at west end of bridge.

Great Rivers Greenway

Bridge 82 - Jefferson Barracks Pedestrian Bridge Span #2

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Span 2 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	22
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Other
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 2 of 10. 2.5% slope. Project plans show 453.01 ft elevation at west end. 451.25 ft elevation at east end. Vegetation grows far underneath bridge and at bents.

Great Rivers Greenway

Bridge 83 - Jefferson Barracks Pedestrian Bridge Span #3

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Span 3 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	23
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Other
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 3 of 10. 2.5% slope. Project plans show 451.25 ft elevation at west end. 449.50 ft elevation at east end. Trees grow near bridge. Vegetation grows far underneath bridge.

Great Rivers Greenway

Bridge 84 - Jefferson Barracks Pedestrian Bridge Span #4

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	184
Span Lengths (ft)	Span 4 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	28
Railing Height (ft)	10

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Railway
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	23.33
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 4 of 10. Project plans shows 449.50 ft elevation at west end. Trees grow near bridge. Some vegetation grows far underneath bridge. There are overhead utilities (powerlines) running over the bridge at the west end. The bridge spans over two Union Pacific Railway lines.

Great Rivers Greenway

Bridge 85 - Jefferson Barracks Pedestrian Bridge Span #5

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	57
Span Lengths (ft)	Span 5 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	34
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 5 of 10. Vegetation grows far underneath bridge and at bents.

Great Rivers Greenway

Bridge 86 - Jefferson Barracks Pedestrian Bridge Span #6

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Span 6 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	34
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 6 of 10. Vegetation grows far underneath bridge and at bents. Trees grow relatively near bridge.

Great Rivers Greenway

Bridge 87 - Jefferson Barracks Pedestrian Bridge Span #7

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Span 7 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	30
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 7 of 10. Vegetation grows far underneath bridge and at bents. Trees near bridge, growing over bridge.

Great Rivers Greenway

Bridge 88 - Jefferson Barracks Pedestrian Bridge Span #8

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Span 8 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	28
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 8 of 10. Vegetation grows far underneath bridge and at bents. Trees near bridge, growing over bridge.

Great Rivers Greenway

Bridge 89 - Jefferson Barracks Pedestrian Bridge Span #9

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Span 9 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	22
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 9 of 10. Vegetation grows far underneath bridge and at bents. Trees near bridge, growing over bridge.

Great Rivers Greenway

Bridge 90 - Jefferson Barracks Pedestrian Bridge Span #10

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Span 10 of 10.
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	13
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Span 10 of 10. Vegetation grows underneath bridge and at bents. Some trees near bridge. Some vegetation and leaves/debris at east end of bridge at supports.

Great Rivers Greenway

Bridge 91 - Jefferson Barracks MSD Lagoons Pedestrian Bridge

General Info and Condition	
Install Date	2011
Greenway	Mississippi
Maintained By	St. Louis City Parks
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Wheeler
Total Length (ft)	70
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	13
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	190 users
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	100 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Area under bridge is underlain by natural gas pipeline system at an unknown depth. Very minor vegetation under bridge. Bridge has no slope (0%).

Great Rivers Greenway

Bridge 92 - TheTrestle

Photo by Paul Sableman, Flickr

General Info and Condition	
Install Date	1930
Greenway	Confluence
Maintained By	Great Rivers Greenway
General Condition	Fair
Vegetation Condition	Varies

Bridge Design and Dimensions	
Type	Mixed Types
Material	Steel
Deck Material	Concrete
Manufacturer	McClintic- Marshall Construction Co.
Total Length (ft)	4450
Span Lengths (ft)	Multi-span
Span Width (ft)	25
Deck Clear Width (ft)	N/A
Height (ft)	30
Railing Height (ft)	Varies

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Closed to traffic
Traffic Under	Roads, highway, MetroLink, +
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	15.5
Posted Load Limits	None
Vehicle Design Load	Railroad
Pedestrian Design Load	None
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Deck plate girder; The Trestle's structural system consists of two general types of construction, steel support bents (piers) with built-up steel plate girder superstructure, and concrete support piers with rolled steel girders. The Trestle is currently closed to all traffic and is planned to be renovated for greenway use in the future.

Great Rivers Greenway

Bridge 93 - Grant's Trail 1917 Box Culvert

General Info and Condition	
Install Date	1917
Greenway	Gravois
Maintained By	Great Rivers Greenway
General Condition	Poor
Vegetation Condition	Heavy

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	N/A
Manufacturer	Unknown
Total Length (ft)	100
Span Lengths (ft)	N/A
Span Width (ft)	3
Deck Clear Width (ft)	N/A
Height (ft)	3.5
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Railroad
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Box culvert in three sections: 1917 concrete box culvert section leading to what appears to be a section made of stone masonry, then a third section that appears to be a much newer concrete cast-in-place box culvert section. Total length is estimated to be 100 feet. The 1917 section and the masonry section are in terrible condition; heavily deteriorated. Entrance to 1917 section is obstructed by heavy debris. The other end of the culvert is near an industrial building nearby. It drains to a stormwater channel/creek.

Great Rivers Greenway

Bridge 94 - Sappington Road Masonry Sewer Cuvlert/Tunnel

General Info and Condition	
Install Date	Unknown
Greenway	Gravois
Maintained By	Great Rivers Greenway
General Condition	Poor
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Other Culvert
Material	Masonry
Deck Material	N/A
Manufacturer	Unknown
Total Length (ft)	65
Span Lengths (ft)	N/A
Span Width (ft)	3
Deck Clear Width (ft)	N/A
Height (ft)	5.75
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

This is an old masonry tunnel or culvert that is rectangular in shape and large enough to maneuver through. It passes beneath Grant's Trail near Sappington Road. It is an estimated 65 feet long and connects to a circular concrete sewer culvert on the south end of it. There is a brick-lined manhole at the south end and it appears as though the manhole cover is covered by concrete. From the north entrance, the tunnel bears at about 200 degrees from north. The tunnel is in poor condition.

Great Rivers Greenway

Bridge 95 - Grant's Trail Large CMP

General Info and Condition	
Install Date	Unknown
Greenway	Gravois
Maintained By	Great Rivers Greenway
General Condition	Fair
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Corrugated Metal Pipe
Material	Steel
Deck Material	Asphalt
Manufacturer	Contech
Total Length (ft)	90
Span Lengths (ft)	N/A
Span Width (ft)	12.5
Deck Clear Width (ft)	N/A
Height (ft)	8
Railing Height (ft)	5

Load and Traffic Information	
Average Daily Traffic	1489 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Contech MULTI-PLATE®. The elliptical CMP is steel plate corrugated with a concrete lined bottom. The CMP is caved-in slightly/bent at the center of the tunnel. The ceiling is lower at one end than the other, and water pools heavily inside on the downstream end. Culvert is an estimated 90 feet long. Graffiti throughout.

Great Rivers Greenway

Bridge 99 - Rabbit Run Culvert A-2

General Info and Condition	
Install Date	2008
Greenway	Dardenne
Maintained By	St. Peters
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	30
Span Lengths (ft)	N/A
Span Width (ft)	8
Deck Clear Width (ft)	N/A
Height (ft)	10
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	168 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Precast box culvert sections in good condition. Railing above culvert in fair condition. Not fully legible but something like "CMCC 7-31-08C 789?1259?" is carved in the faces at both openings of the culvert.

Great Rivers Greenway

Bridge 100 - Rabbit Run Culvert A-3

General Info and Condition	
Install Date	2008
Greenway	Dardenne
Maintained By	St. Peters
General Condition	Good
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Box Culvert
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	28
Span Lengths (ft)	N/A
Span Width (ft)	4
Deck Clear Width (ft)	N/A
Height (ft)	3
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	168 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Not fully legible, but something like "CMCC 8-13-08 C850 MO73?" is carved at the top outside face of each opening. Significant brush buildup at one opening. Vegetation grows all around.

Great Rivers Greenway

Bridge 101 - Vantage Park Dock Bridge

General Info and Condition	
Install Date	2013
Greenway	Dardenne
Maintained By	Cottleville
General Condition	Good
Vegetation Condition	None

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Composite Timber
Manufacturer	Tiger Docks
Total Length (ft)	30
Span Lengths (ft)	3 spans @ (4.5')(3.75')(21.75')
Span Width (ft)	5
Deck Clear Width (ft)	4.5
Height (ft)	4
Railing Height (ft)	3.5

Load and Traffic Information	
Average Daily Traffic	315 users
Traffic On	Pedestrian
Traffic Under	Other
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Pedestrian
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge is galvanized steel floating half-through Pratt truss by Tiger Docks® to a floating dock in the lake. Intermediate support is steel frame bridge floater. Bridge raises and lowers with changes in water surface elevation. East end of bridge is supported by elevated wooden pavilion structure.

Great Rivers Greenway

Bridge 102 – Hwy N Double Box Culvert

General Info and Condition	
Install Date	2017
Greenway	Dardenne
Maintained By	Cottleville
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Double Box Culvert
Material	Concrete
Deck Material	N/A
Manufacturer	N/A
Total Length (ft)	163
Span Lengths (ft)	N/A
Span Width (ft)	12
Deck Clear Width (ft)	N/A
Height (ft)	10
Railing Height (ft)	

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Vehicle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	HL-93
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction. Built by MODoT for vehicular traffic over Hwy N. Box culvert will pass underneath Dardenne Greenway at this section when it is built.

Great Rivers Greenway

Bridge 110 - Bella Fontaine Park Bridge #1

General Info and Condition	
Install Date	
Greenway	Maline
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Modified bowstring truss - Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	130
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	12
Height (ft)	15
Railing Height (ft)	

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Great Rivers Greenway

Bridge 111 - Bella Fontaine Park Bridge #2

General Info and Condition	
Install Date	
Greenway	Maline
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Modified bowstring truss - Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	115
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	12
Height (ft)	22
Railing Height (ft)	

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Great Rivers Greenway

Bridge 112 - Bella Fontaine Park Bridge #3

General Info and Condition	
Install Date	
Greenway	Maline
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Modified bowstring truss - Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	100
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	12
Height (ft)	19
Railing Height (ft)	

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	10
Vehicle Design Load	H-10
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Great Rivers Greenway

Bridge 120 - Cliff Cave Short Pedestrian Bridge

General Info and Condition	
Install Date	2017
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	70
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	13
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Great Rivers Greenway

Bridge 121 - Pedestrian Bridge over Cliff Cave Road

General Info and Condition	
Install Date	2017
Greenway	Mississippi
Maintained By	St. Louis County Parks
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Pratt Truss - Half through
Material	Steel
Deck Material	Concrete
Manufacturer	Contech
Total Length (ft)	210
Span Lengths (ft)	Single span
Span Width (ft)	12
Deck Clear Width (ft)	11.5
Height (ft)	40
Railing Height (ft)	4

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Road
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	18.33
Posted Load Limits	5
Vehicle Design Load	H-5
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Great Rivers Greenway

Bridge 134 - Sherman Beach Park Masonry Arch Culvert

General Info and Condition	
Install Date	Unknown/Mid-Late 1800s
Greenway	Meramec
Maintained By	DNR
General Condition	Poor
Vegetation Condition	Moderate

Bridge Design and Dimensions	
Type	Arch Culvert
Material	Masonry
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	50
Span Lengths (ft)	N/A
Span Width (ft)	8
Deck Clear Width (ft)	N/A
Height (ft)	7
Railing Height (ft)	

Load and Traffic Information	
Average Daily Traffic	347 users
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Old masonry arch culvert that was probably constructed in the mid-to-late 1800's. A similar structure on the newer section of the Al Foster Memorial Trail was determined to be unsafe and in 2011 was lined with a concrete box and a corrugated steel liner.

Great Rivers Greenway

Bridge 135 - Lower Meramec Park Short Span Slab Bridge

General Info and Condition	
Install Date	Unknown
Greenway	Meramec
Maintained By	St. Louis County Parks
General Condition	Fair
Vegetation Condition	Light

Bridge Design and Dimensions	
Type	Slab
Material	Concrete
Deck Material	Asphalt
Manufacturer	Unknown
Total Length (ft)	15.5
Span Lengths (ft)	Single span
Span Width (ft)	11
Deck Clear Width (ft)	N/A
Height (ft)	3.75
Railing Height (ft)	0

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	None
Vehicle Design Load	Unknown
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Bridge is 18" concrete slab with 7" asphalt overlay. No information is available on substructure. Structure is probably repurposed vehicular bridge. Bridge has NO RAILING.

Great Rivers Greenway

Bridge 140 - Lorraine Davis Park Pedestrian Bridge

General Info and Condition	
Install Date	
Greenway	Shady-Deer
Maintained By	Webster Groves
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Bowstring Truss- Half Through
Material	Steel
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	140
Span Lengths (ft)	Single span
Span Width (ft)	10
Deck Clear Width (ft)	9.66
Height (ft)	20
Railing Height (ft)	4.5

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Creek or Stream
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	
Vehicle Design Load	
Pedestrian Design Load	
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Great Rivers Greenway

Bridge 141 - Lorraine Davis Park Boardwalk #1

General Info and Condition	
Install Date	
Greenway	Shady-Deer
Maintained By	Webster Groves
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Boardwalk
Material	Concrete
Deck Material	Concrete
Manufacturer	PermaTrak
Total Length (ft)	26
Span Lengths (ft)	3 spans @ 8.66'
Span Width (ft)	11.25
Deck Clear Width (ft)	10.33
Height (ft)	2.5
Railing Height (ft)	0.67

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	
Vehicle Design Load	H-5
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Design to be PermaTrak® Concrete Boardwalk System

Great Rivers Greenway

Bridge 142 - Lorraine Davis Park Boardwalk #2

General Info and Condition	
Install Date	
Greenway	Shady-Deer
Maintained By	Webster Groves
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Boardwalk
Material	Concrete
Deck Material	Concrete
Manufacturer	PermaTrak
Total Length (ft)	33
Span Lengths (ft)	4 spans @ (10.27')(6.23')(6.23')(10.27')
Span Width (ft)	11.25
Deck Clear Width (ft)	10.33
Height (ft)	2.5
Railing Height (ft)	0.67

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	
Vehicle Design Load	H-5
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Design to be PermaTrak® Concrete Boardwalk System

Great Rivers Greenway

Bridge 143 - Lorraine Davis Park Boardwalk #3

General Info and Condition	
Install Date	
Greenway	Shady-Deer
Maintained By	Webster Groves
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Boardwalk
Material	Concrete
Deck Material	Concrete
Manufacturer	PermaTrak
Total Length (ft)	44
Span Lengths (ft)	5 spans @ (9.1')(8.5')(8.8')(8.5')(9.1')
Span Width (ft)	11.25
Deck Clear Width (ft)	10.33
Height (ft)	2.5
Railing Height (ft)	0.67

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	
Vehicle Design Load	H-5
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Design to be PermaTrak® Concrete Boardwalk System

Great Rivers Greenway

Bridge 144 - Lorraine Davis Park Boardwalk #4

General Info and Condition	
Install Date	
Greenway	Shady-Deer
Maintained By	Webster Groves
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Boardwalk
Material	Concrete
Deck Material	Concrete
Manufacturer	PermaTrak
Total Length (ft)	80
Span Lengths (ft)	8 spans @ 10'
Span Width (ft)	11.25
Deck Clear Width (ft)	10
Height (ft)	7
Railing Height (ft)	

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Overbank/Floodplain
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	N/A
Posted Load Limits	
Vehicle Design Load	H-5
Pedestrian Design Load	90 psf
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Design to be PermaTrak® Concrete Boardwalk System

Great Rivers Greenway

Bridge 145 - Glen Road South Storm Sewer Inlet Bridge

General Info and Condition	
Install Date	
Greenway	Shady-Deer
Maintained By	Webster Groves
General Condition	Good
Vegetation Condition	

Bridge Design and Dimensions	
Type	Slab
Material	Concrete
Deck Material	Concrete
Manufacturer	Unknown
Total Length (ft)	9
Span Lengths (ft)	2 spans @ 4.5′
Span Width (ft)	6.67
Deck Clear Width (ft)	N/A
Height (ft)	0.83
Railing Height (ft)	0

Load and Traffic Information	
Average Daily Traffic	Unknown
Traffic On	Pedestrian-bicycle
Traffic Under	Other
Minimum Vertical Clearance On (ft)	N/A
Minimum Vertical Clearance Under (ft)	0.5
Posted Load Limits	None
Vehicle Design Load	Pedestrian
Pedestrian Design Load	Unknown
Inventory Load Rating	Undetermined
Operating Load Rating	Undetermined

Notes

Under construction.

Custom 4″ thick concrete bridge panel with rebar reinforcement Stormwater runoff flows under bridge from street.

Not exactly a “bridge” but is designed as a pedestrian crossing and is indicated on the project plans as a bridge.

Great Rivers Greenway

Appendix F: Slides from 7/21/17 presentation

Great Rivers Greenway
GIS Bridge Inventory
Summer 2017

Great Rivers Greenway

AIM OF THE BRIDGE INVENTORY:

the first step toward better stewardship of the bridges and other structures on our greenways to ensure a lasting legacy

THE PATH HERE:
BRIDGE INVENTORY PROJECT

- Performed field visits
- Recorded observations, measurements, and took photos
- Gathered and uploaded data, photos, and documents to GIS
- Modified bridge layer in GIS
- Will submit report to summarize findings

Great Rivers Greenway

AT A GLANCE

73 BRIDGES

24 STRUCTURAL CULVERTS

7 BOARDWALKS

3 TUNNELS

3.2 MILES OF BRIDGES

GIS Bridge Layer Data

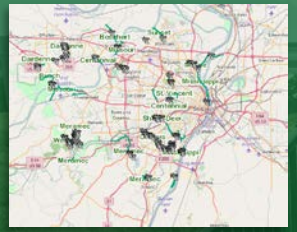
Great Rivers Greenway

KEY

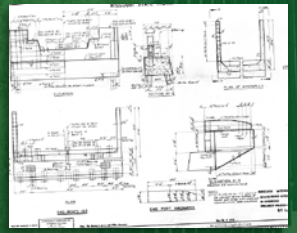
- Nominal Identification
- Design
- Spatial Characteristics
- Traffic Information
- Load Information
- Condition
- Maintenance

GIS DEMO

LIMITATIONS OF BRIDGE INVENTORY



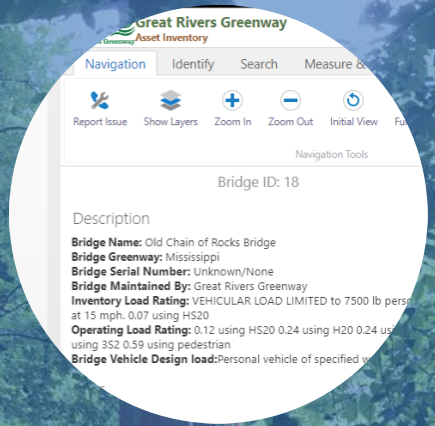
Possibility of missing bridges



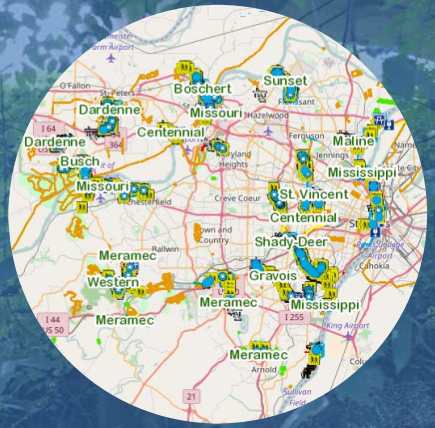
Information & documents sparse for many bridges

Measurements are approximate or estimated

CREATE INVENTORY OF CULVERTS



KEEP BRIDGE DATA UP-TO-DATE



TAKE ADVANTAGE OF THE GIS

QUESTIONS?