JOSH LINE

CASE STUDY

Uber ATG MapExplorer for Triage

Overview

Background

Uber ATG triage specialists are the last line between a self-driving vehicle and an accident. These triage specialists support the creation of high quality maps that are then used to train self-driving vehicles and provide a safe and legal driving experience. Events, missing or new features detected during a mission, are reviewed by triage specialists to verify whether an event is an issue or if something looks amiss enough to escalate to the correct development group (autonomy, simulation, or machine learning).

The Problem

The triage team is a small team - four people (three triage specialists and a manager). The business wants to scale the triage team and add more specialists, but it is limited by the way in which the team works. That is, the triage team follows an eighteen-step manual process to do their work. These triage specialists spend the majority of their time copying and pasting URLs and commands into many different applications, when they just want to verify whether an event is an issue.

Uber ATG tasked me with talking to the triage team and examine how they work, specifically looking at their specialist workflow for areas of improvement (including identifying inefficiencies), in order to design an application that prioritizes the needs of the triage specialist and provides the means to scale up the size of the team.

Problem Statement

Triage specialists need one place to do all of their work so that they can feel more focused on their work.

Design Question

How might we help triage specialists feel less frustrated with their workflow?

My Role and Responsibilities

User research & consolidation: I performed contextual inquiry with the triage specialists, interviewed map creation specialists and developers, and performed usability testing on the concepts. Based on the data I gathered, analyzed, and synthesized, I created personas and empathy maps to identify known and unknown pain points and opportunities.

Design execution & validation: For this project, I designed three rounds of concepts, some wireframes and high-fidelity designs, as well as testing prototypes.

Leadership: I partnered with many areas of the business including the product, development and map creation teams. I led discussions and structured ideation sessions, as well as negotiated a semi-reasonable timeframe for delivery.

# Timeline

September 2019 - October 2019

Tools

Figma

Google Docs

Solution

I reduced an ~eighteen-step manual process to a two-step process (an 89% reduction). I redesigned a familiar experience, MapExplorer, so that the system will automatically pull events for triage specialists to work on and automate any manual steps to eliminate any extraneous copy-and-paste tasks.

Through this work, I introduced many usability enhancements to align with how triage specialists work, their software familiarity, and to help engender a sense of trust for the automated tasks being performed for them.
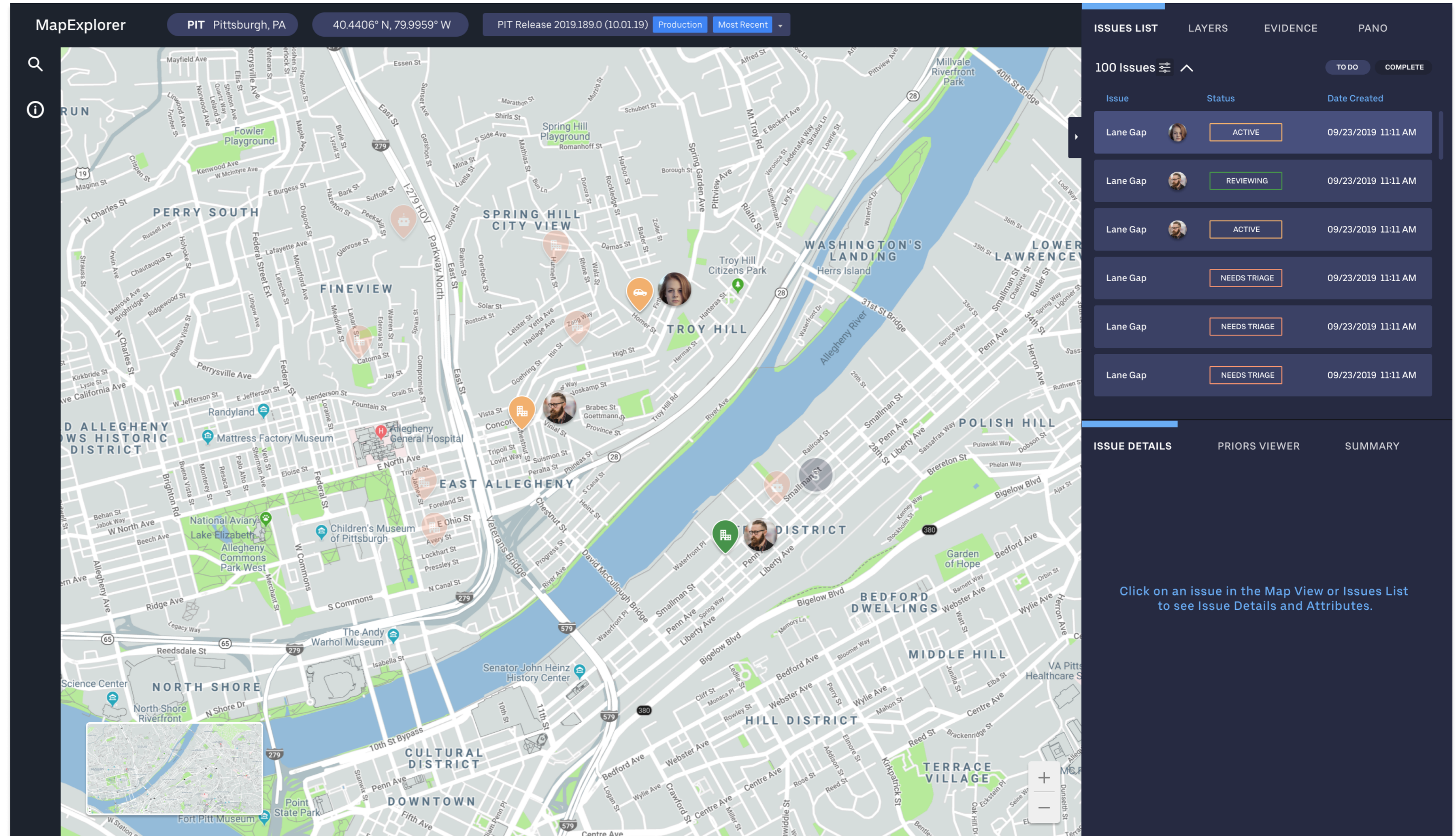
My Design Process

My design process for the Uber ATG
MapExplorer for Triage project follows
roughly the EDIPT process: Empathize,
Define, Ideate, Prototype, Test, with
iteration as needed across the phases.
This wasn't necessarily by design, but I
had to understand the user, their context
of work, and the problem before hopping
into wireframes or Figma.

Empathize　　　**Define**　　　**Ideate**　　　**Prototype**　　　**Test**

Iterate Always
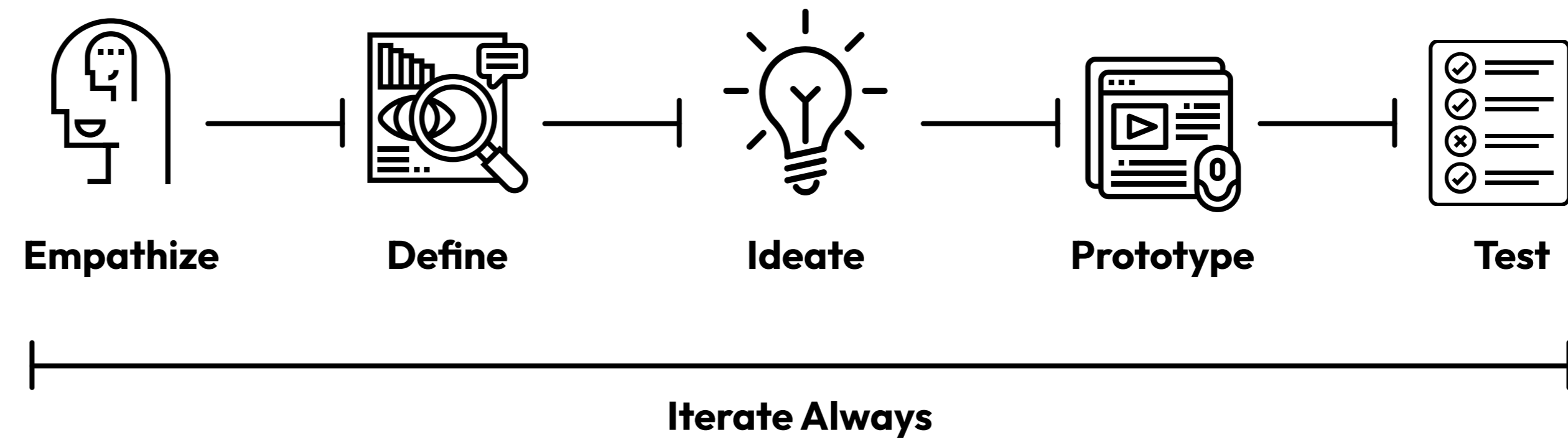
Empathize

Process: Contextual Inquiry / Big Picture - AV Maps

Contextual Inquiry

During the first three days of the project, I spent roughly five hours with each of the triage specialists to see how they do their work (what works, what doesn't, what's frustrating, what's surprising). I also interviewed the QA manager and other QA specialists (map specialists, for example) to get a better picture of the type of work they do and to make further sense of the context of the project and their relationship to it.

3 Triage Specialists   QA Manager   Field QA   Office QA

The Big Picture - AV Maps

In order to further understand the context of the problem, I sought to map out how an AV Map is produced within the Uber ATG ecosystem.

As you can see, there are many stakeholders and constituent parts to this process. Maps Triage is a small but necessary portion of the greater whole. Without this work, AV maps would not be updated and simulation, machine learning, and automation would not take place - making the entire self-driving experience highly unsafe and potentially dangerous.
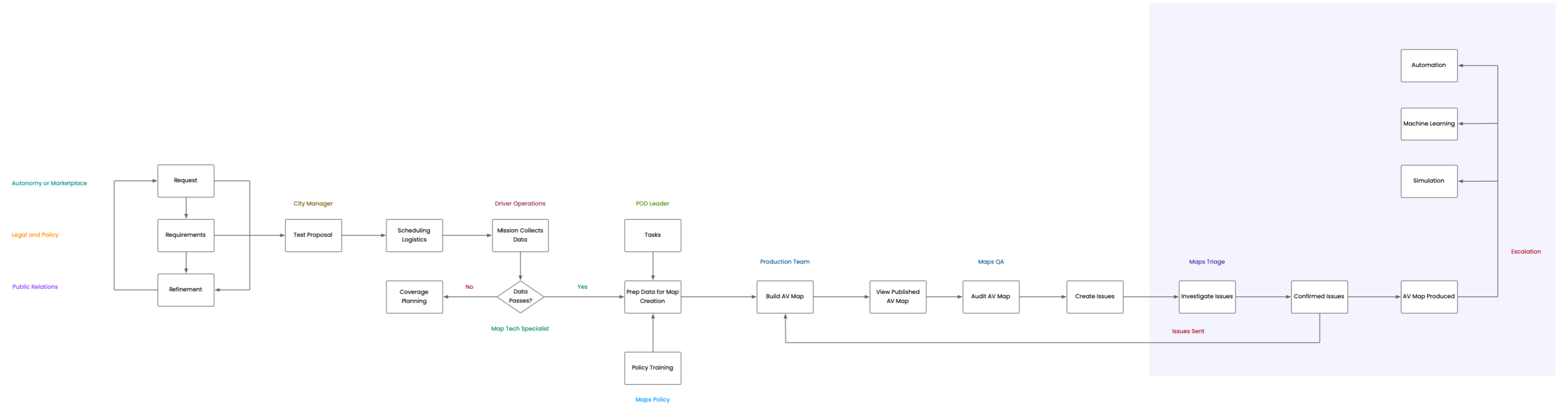
Insight: The Maps Triage team is pivotal for safety and automation.

Related Document

Big Picture – AV Maps APPENDIX

Empathize

Process: Empathy Maps / Personas

Empathy Maps

After doing a bit of discovery work, I put together empathy maps to enhance the team's understanding and empathize with each persona's unique perspective.

Daryll

THE SKEPTIC

SAYS

• Process is held together by duct tape
• The business has created this process so it's a monster of their own making
• GIS graduate
• Was making maps elsewhere
• Other Triage people come from Geology
• Started at the bottom of Uber
• Proud of the work he does
• No children
• Lives alone
• Originally from North Carolina.

THINKS

• Lightning isn't for me
• It looks nice but it doesn't play well with other apps I use
• How can I get stuff done so I can help the rest of my team?
• I know MapExplorer can do all of this if they'd just build us a way to use it
• How can I get this stuff done so I can hang out with the QA team?
• I don't like working through this many steps. How'd it come to this?
• The goal of this is to make maps so our cars won't hit people/things.

DOES

• Searches for events to triage
• Looks at evidence through 10 applications
• Confirms/declines event is an issue
• Exports issues to Sirius
• Escalate issues via JIRA
• Escalates non-production issues via Slack or JIRA
• Works in multiple windows
• Using very large screens to perform work
• Communicates with other Triage specialists by prairiedogging
• Attends meetings on policy or map changes
• Work is largely copy-and-paste through many apps.

FEELS

• Not happy with having to do so much to triage an issue
• Upset because was never consulted on what would work for Triage
• Concerned about the goal - safety
• Unsure if this engagement will work.

PAINS

• Multi-application workflow
• Too many things to keep track of
• Frustrated with Lightning
• Wants to have a say in the product
• Status of triage work w/ other specialists.
• Loss of control.

GAINS

• Wants to work in one space
• Wants to eventually manage
• Wants to help maintain safety of the fleet
• Wants to feel in control.

GOAL

• Decrease number of false positives in work.
• Work with one system that does a few things.
• Increase overall safety for self-driving vehicles.
• Work on Office QA when triage work is scarce.

Related Document

Empathy Maps **APPENDIX**

Personas

As we were short on time, I distilled each of the empathy maps into personas to provide a view into the goals and frustrations of each type of user. This presentation was better received by the Uber product team. The empathy maps were helpful but they were a little overwhelming for the product people to digest.

Daryll
The Skeptic

Triage Specialist

Goals

• Decrease number of false positives in his work.
• Increase overall safety for self-driving vehicles.
• Work with one system that does a few things.
• Work on Office QA events when triage work is scarce.

Frustrations

• Exasperated with multiple application workflow.
• Too many things to keep track of in marking one issue.
• Work with one system that does a few things.
• Can't see what other QA Triage staff are working on.

STRESSED   OVERWHELMED   SKEPTICAL

Related Document

Personas   APPENDIX

Ideate

Process: Experience Principles / Current Workflow / Unpacking Triage Work / Future Workflow / Sketches

Experience Principles

After initial discovery and definition, I captured three experience design principles to guide our work throughout the project. This project was reducable to three principles: Reduce, Reuse, and Realign.

Reduce

Simplify manual workflows to a single workflow to increase efficiency in identifying issues

Be gone manual processes

Workflow/task analysis

Heuristic analysis

Contextual inquiry

Reuse

Reuse existing technology to accommodate a singular, centralized process

Play well with others

Concept exploration

Prototyping

Software integrations/APIs

Realign

Proposed technology should stretch and extend to fit the needs of specialists

Tailor for trust & applicability

Usability testing

Iterative changes to concept

IDEATE

Current Workflow

I mapped out how triage specialists currently experience their work world in order to empathize with the triage specialists and look for any inefficiencies within their process. What I discovered was that the Uber ATG triage specialists work with a cobbled-together manual process - jumping in and out of Excel, SIRIUS, JIRA, Slack, and various other disparate systems, in order to perform their duties.

Current Workflow - Triage Specialists
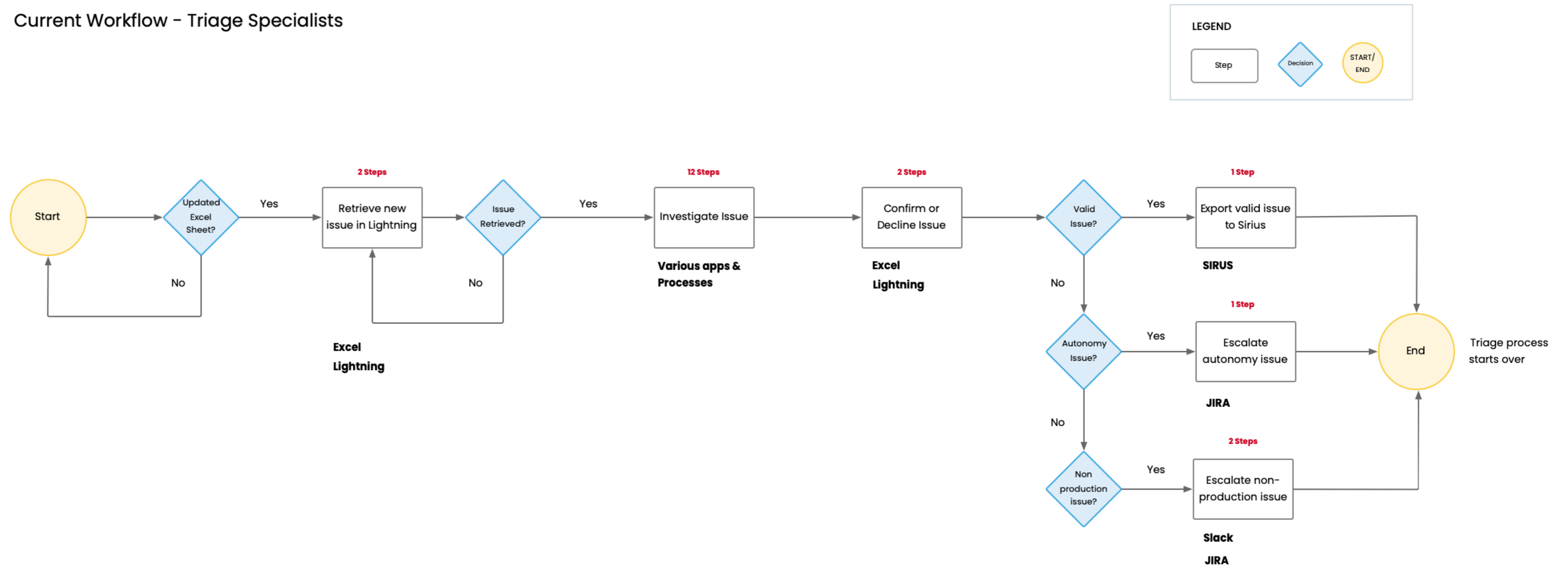
Related Document

Current Workflow `APPENDIX`

Events to Issues
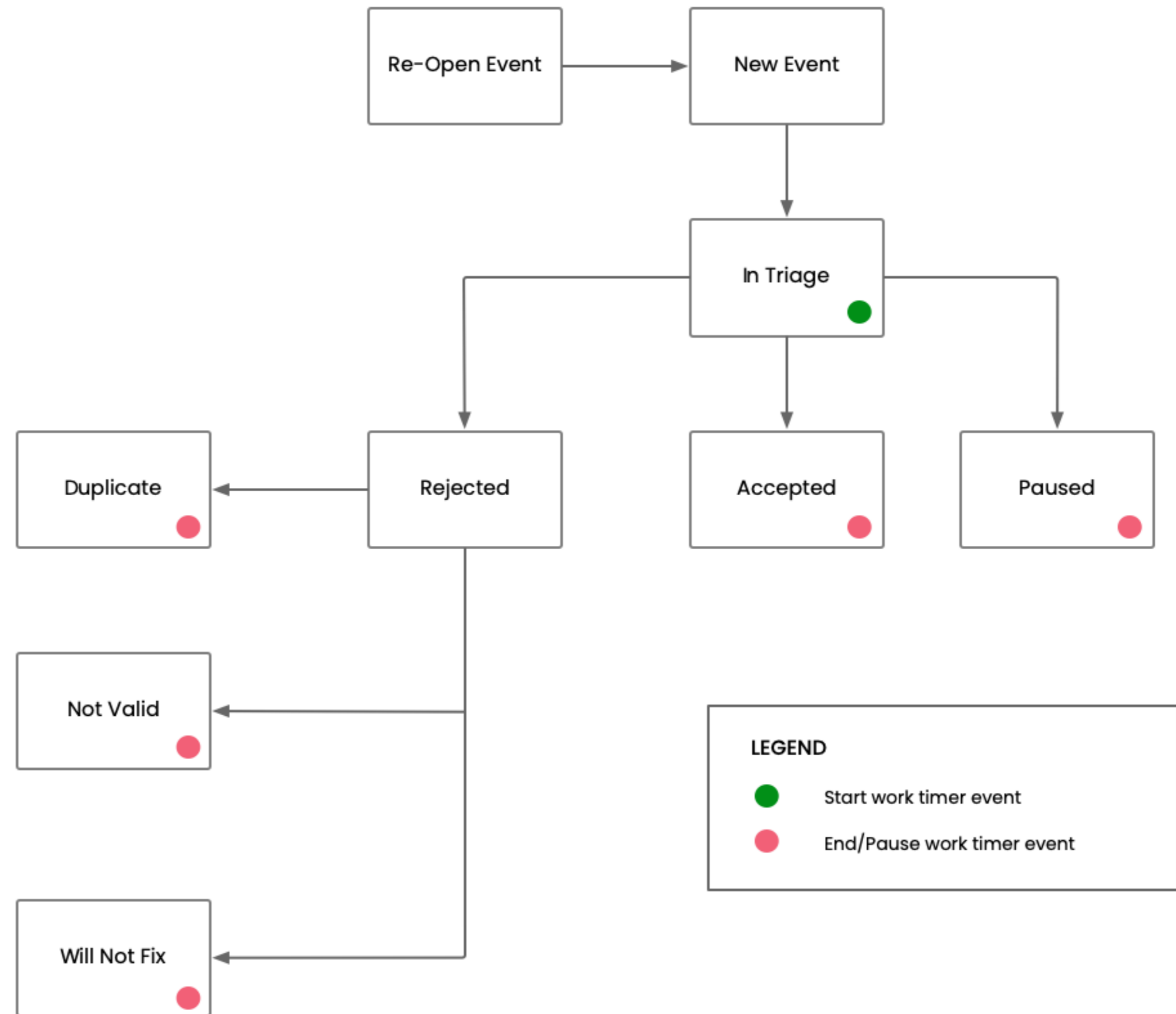
Unpacking Triage Work

This was one part of the specialist's work, however. In poring over the documentation, I mapped out how events become issues in order to understand when work begins and when it ends within the workflow.

In opening an event for triage, the triage specialist will investigate whether the event is a real issue or reject it as a duplicate, not valid, or will not fix. Further, the triage specialist may re-open an issue for inspection or pause an event in triage.

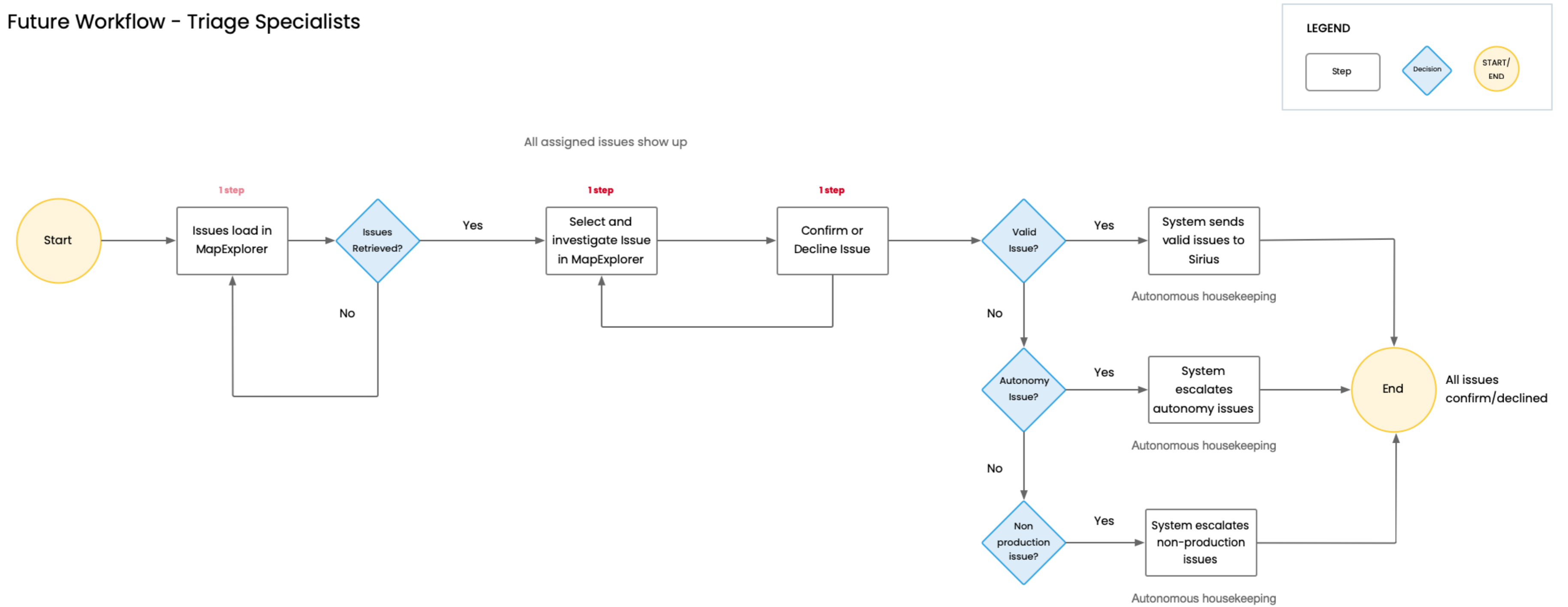**Related Document**

Unpacking Triage Work **APPENDIX**

IDEATE

Future Workflow

I mapped out the future workflow to secure buy-in from the product and development teams and give them a view of what could be. The product manager in charge of the project was largely receptive to these changes and was excited to see some concepts.

By working in one space with all triage tools available to the triage specialist, the number of steps in the process goes from ~18 to ~2 steps.

Future Workflow - Triage Specialists

Related Document

Future Workflow **APPENDIX**

Sketches

I began sketching what the experience would be for the specialist to work with an "Lightning-in-MapExplorer" interface.

These early sketches quickly sped along the design process as I was able to secure buy-in from my internal team (account manager and project manager) to move the designs to a higher fidelity in Figma.
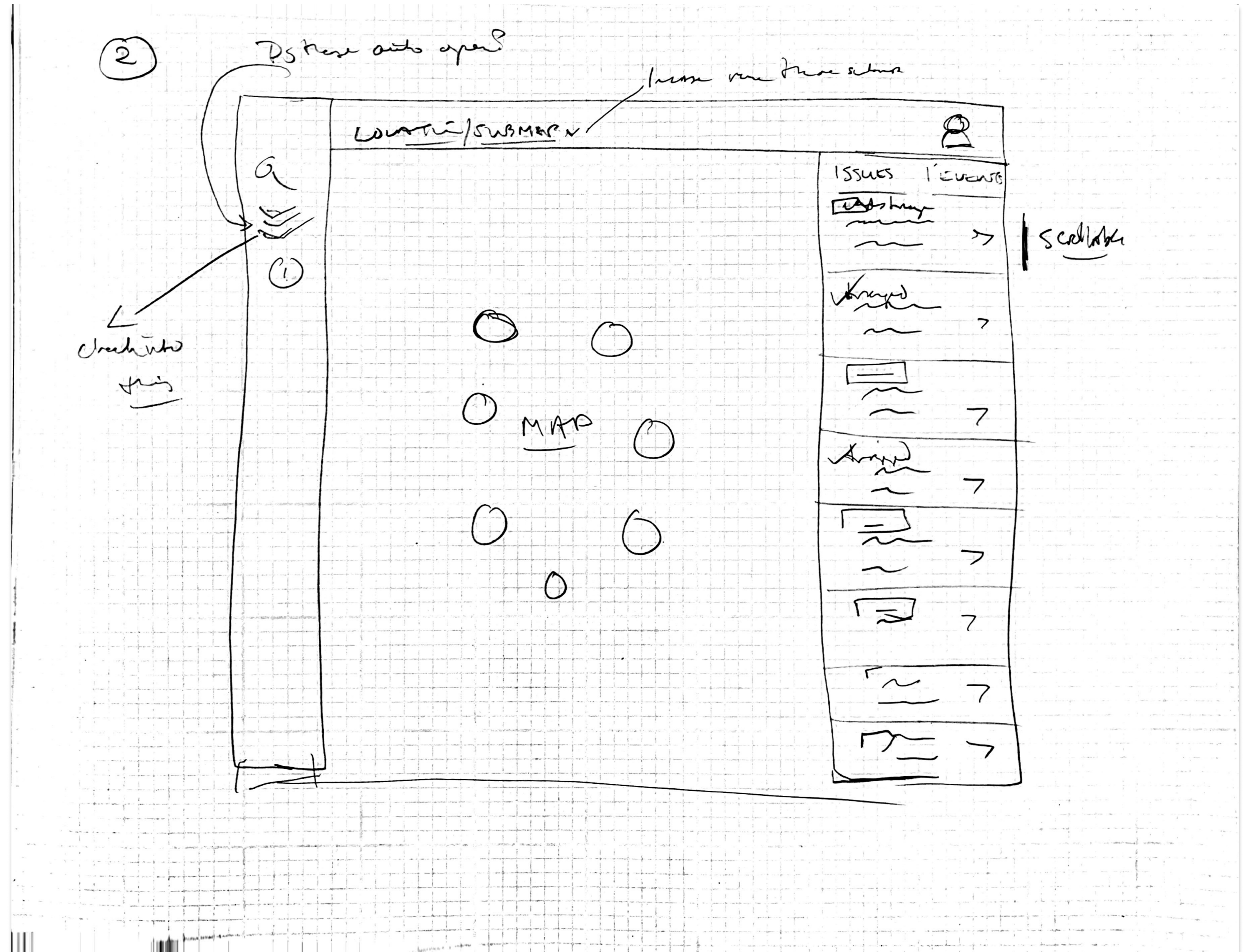
Related Document

Prototype & Test

Process: Round 1 Concept & Test / Round 2 Concept & Test / Final Concept & Test

# Round One Concept "Lightning-in-MapExplorer"

I tested out early designs/lo-fis based on the Lighting system with the triage team to gather a baseline for future design and get their thoughts on a "Lightning-in-MapExplorer" system. The results of this testing showed that each of the triage team members were well-familiar with the Lightning system and how it worked but were almost too willing to try something different. On top of this feedback, the product manager (and sponsor) expressed a stated need for maintaining the visual language of MapExplorer for round 2 concepts.

Related Documents

Lightning Concept Deck **APPENDIX**

Usability Test Scenarios **APPENDIX**

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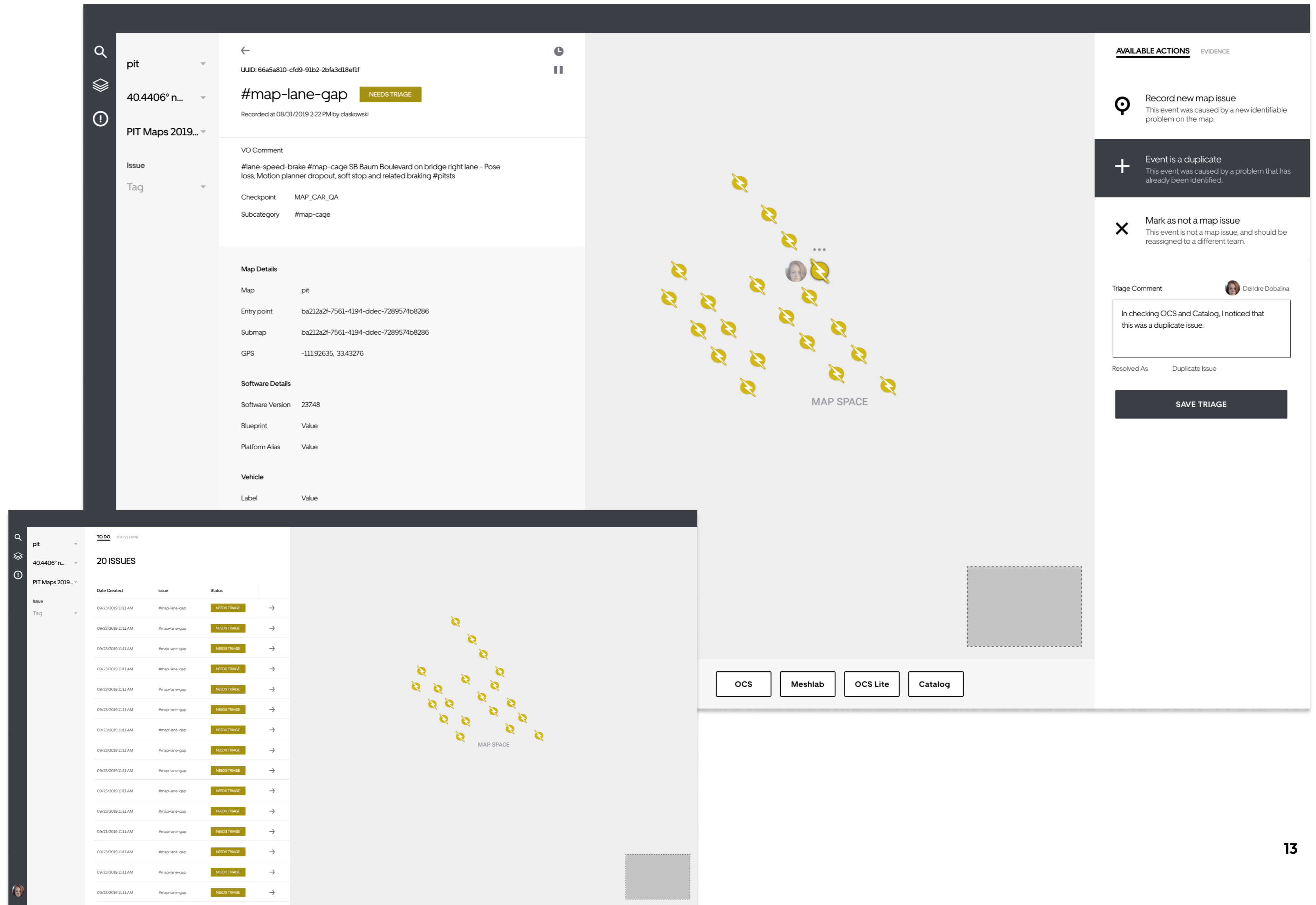
Round Two Concept
"Keep it True to the Old"

As part of the round two design, I sought to introduce some updates to the design language while keeping the tab structure and look-and-feel roughly the same as earlier iterations of MapExplorer. The results of this testing were pretty poor, as many of the triage specialists felt the in-map panels obscured the viewing field, which wasn't particularly helpful for their work. The triage specialists also had some problems making out the tabs due to the subdued look-and-feel.
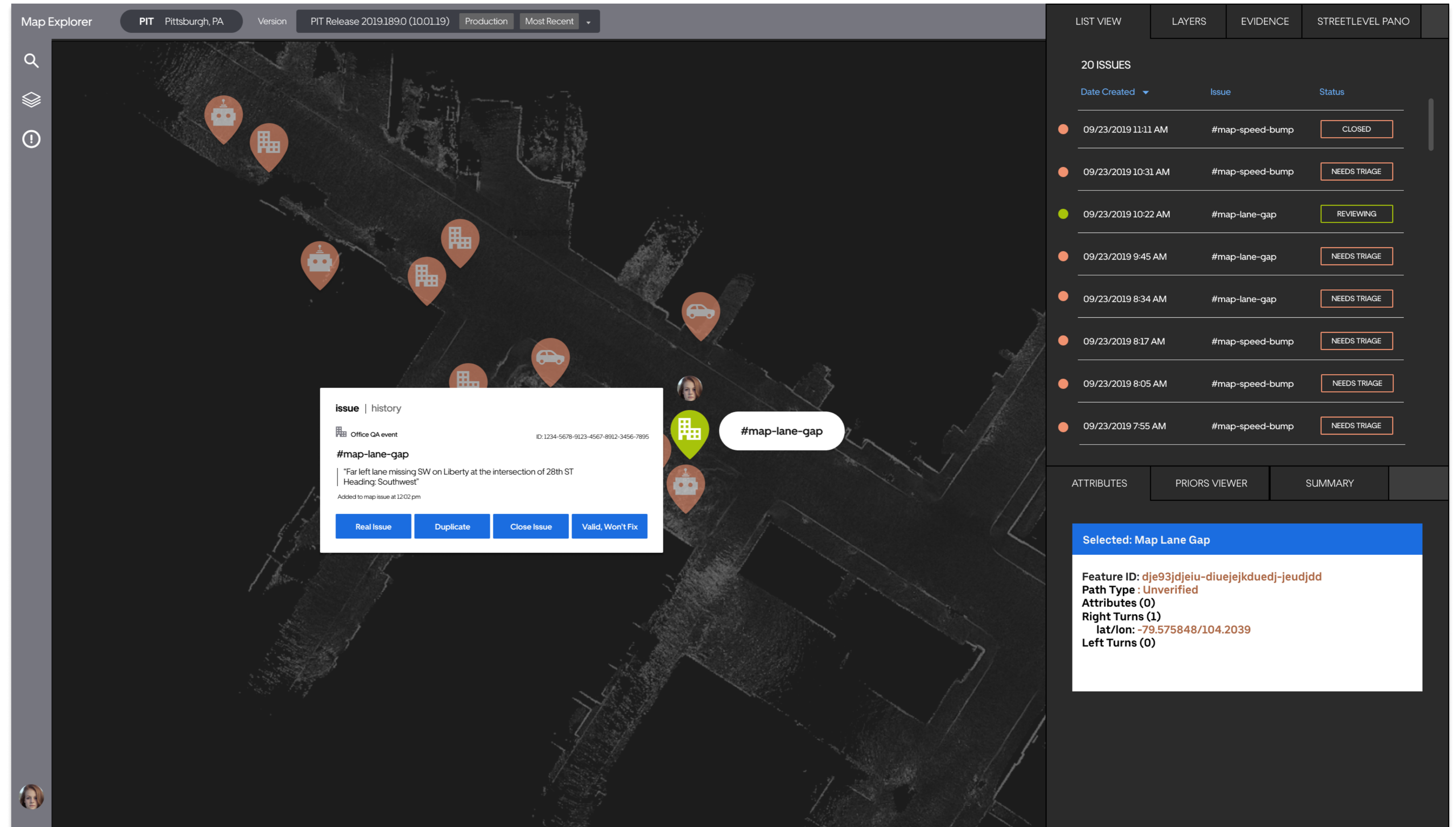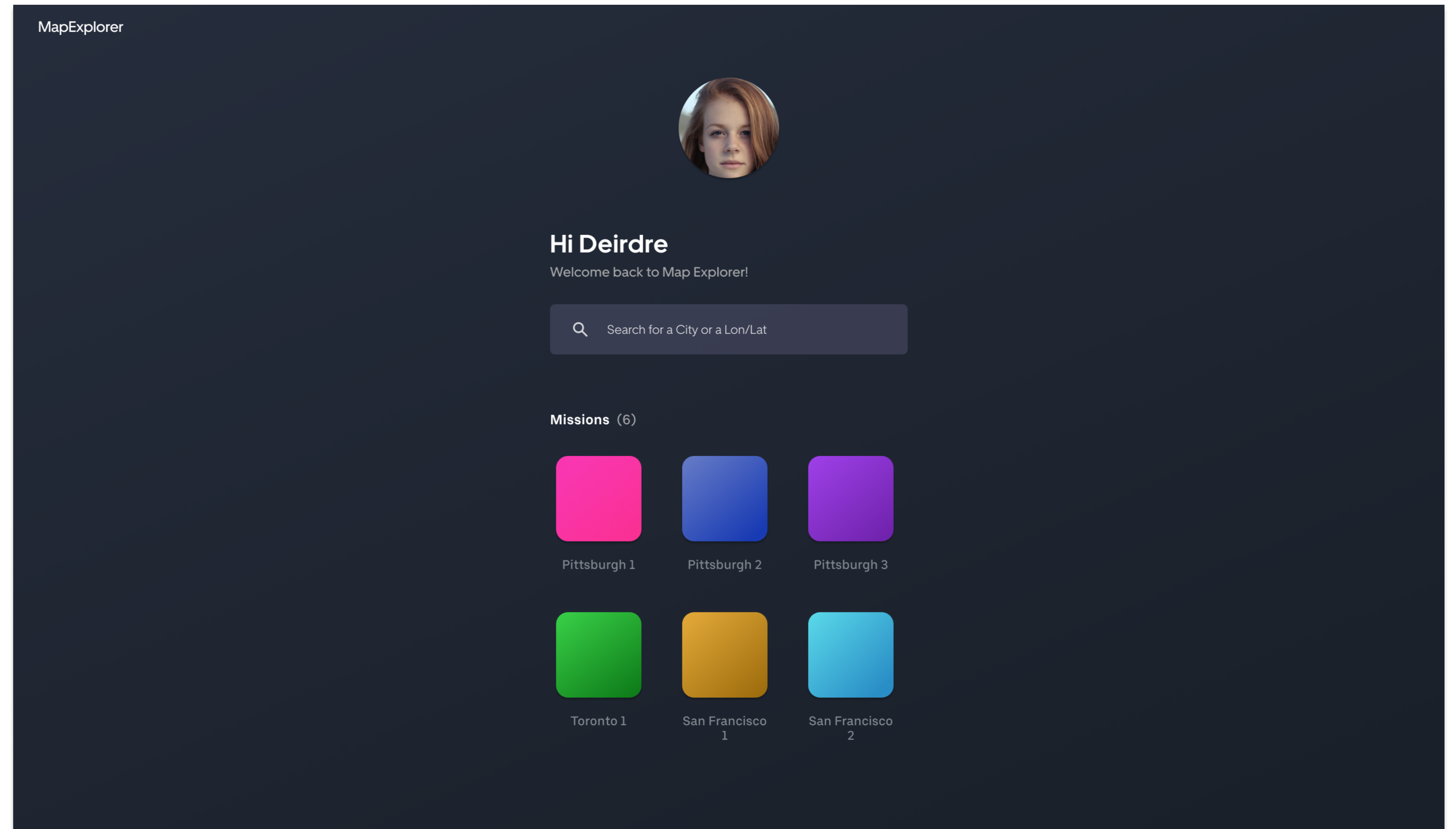
PROTOTYPE & TEST

Final Concept
Welcome Screen

As part of the final concept design, I sought to update much of the visual language as well as make a number of usability enhancements.

MapExplorer has no concept of a launch screen. The old experience loads with a default map in view but there is nothing related to missions you have worked on in the past. I delivered this concept to the product team and they saw the value right away of a dedicated place where the triage specialist can begin to search for a city, longitude/latitude, or jump right into a past mission.

Related Document

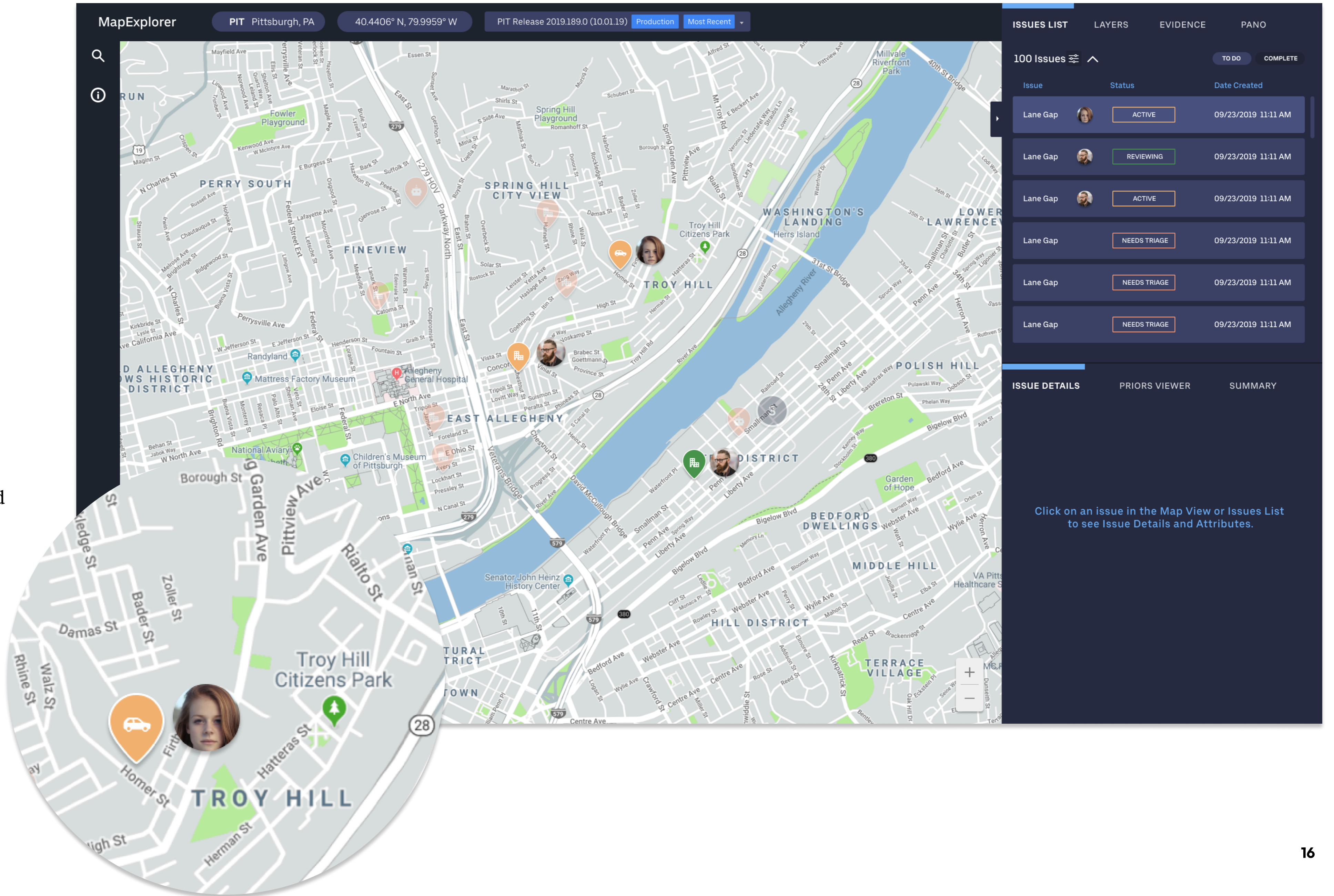Final Concept Deck   APPENDIX

MapExplorer

Hi Deirdre
Welcome back to Map Explorer!

🔍 Search for a City or a Lon/Lat

Missions (6)

Pittsburgh 1	Pittsburgh 2	Pittsburgh 3
Toronto 1	San Francisco 1	San Francisco 2

Final Concept
Issue Source and Review

In the final concept, I added specialist avatar/images and issue source icons. At present, Lightning or MapExplorer doesn't make use of avatars or issue source for indicators. As many specialists will be working in the same mission space, this was a highly desired feature that came up within the contextual inquiry sessions.

Testing for this concept resulted in higher completion rates for the scenarios and the triage specialists responded to the look and feel with more trust and confidence than with the "Lightning-in-MapExplorer" and "Keep it True to the Old" designs.
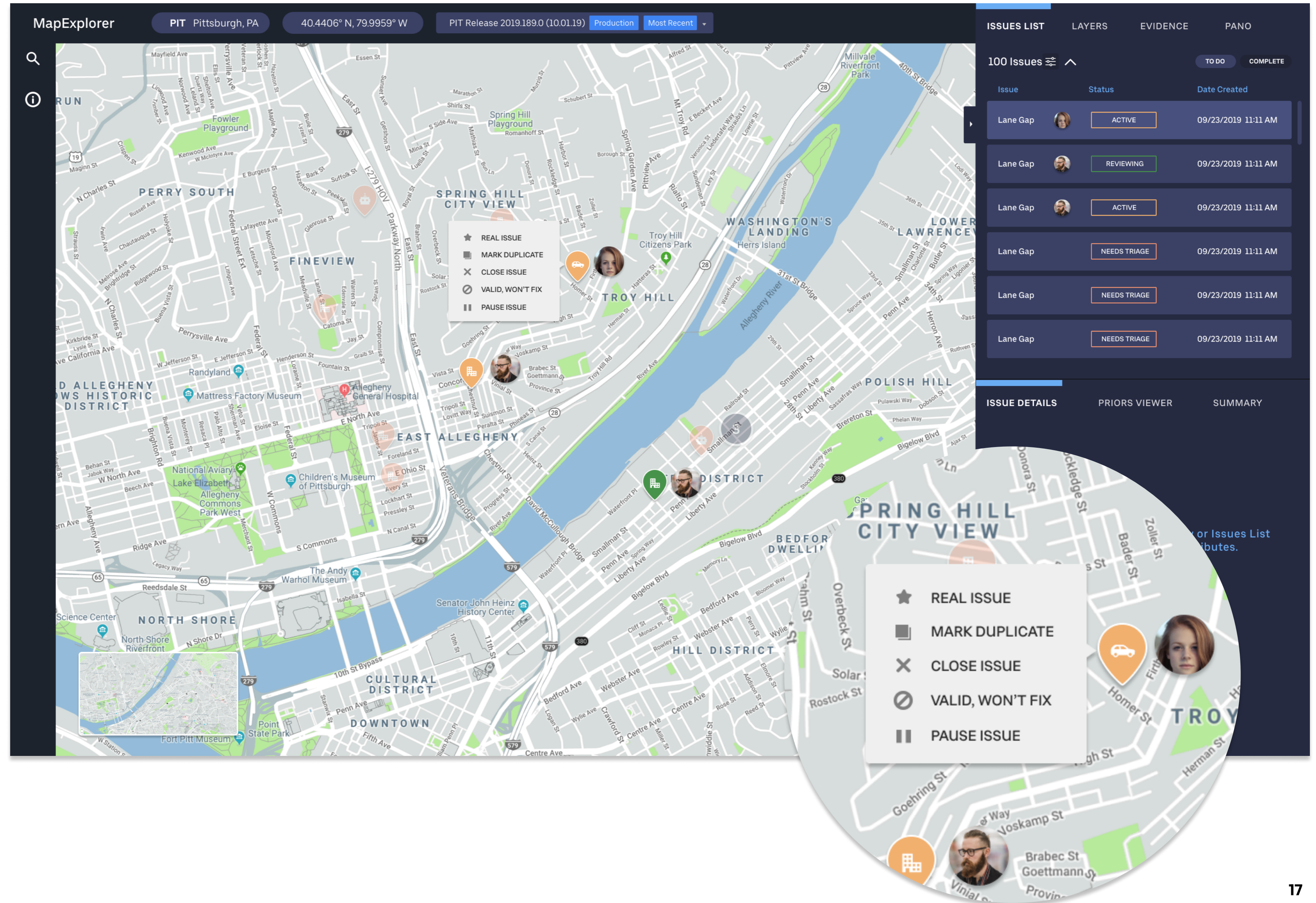
Related Document

Final Concept Deck   APPENDIX

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PROTOTYPE & TEST

Final Concept
Mark Issue w/ Right Click

A right-click menu was added out of a need to increase efficiency within the MapExplorer interface. This right-click feature really resonated with the triage specialists during testing and they stated that this feature would add value to their day-to-day work.

Related Document

Final Concept Deck **APPENDIX**

PROTOTYPE & TEST

Final Concept
Review Status - Display

Many triage specialists will be working in the system at the same time, therefore it is important to show a review status - avatar plus color coding - so that other triage specialists will know an issue is currently being reviewed and eliminate any duplicate work or overlap.
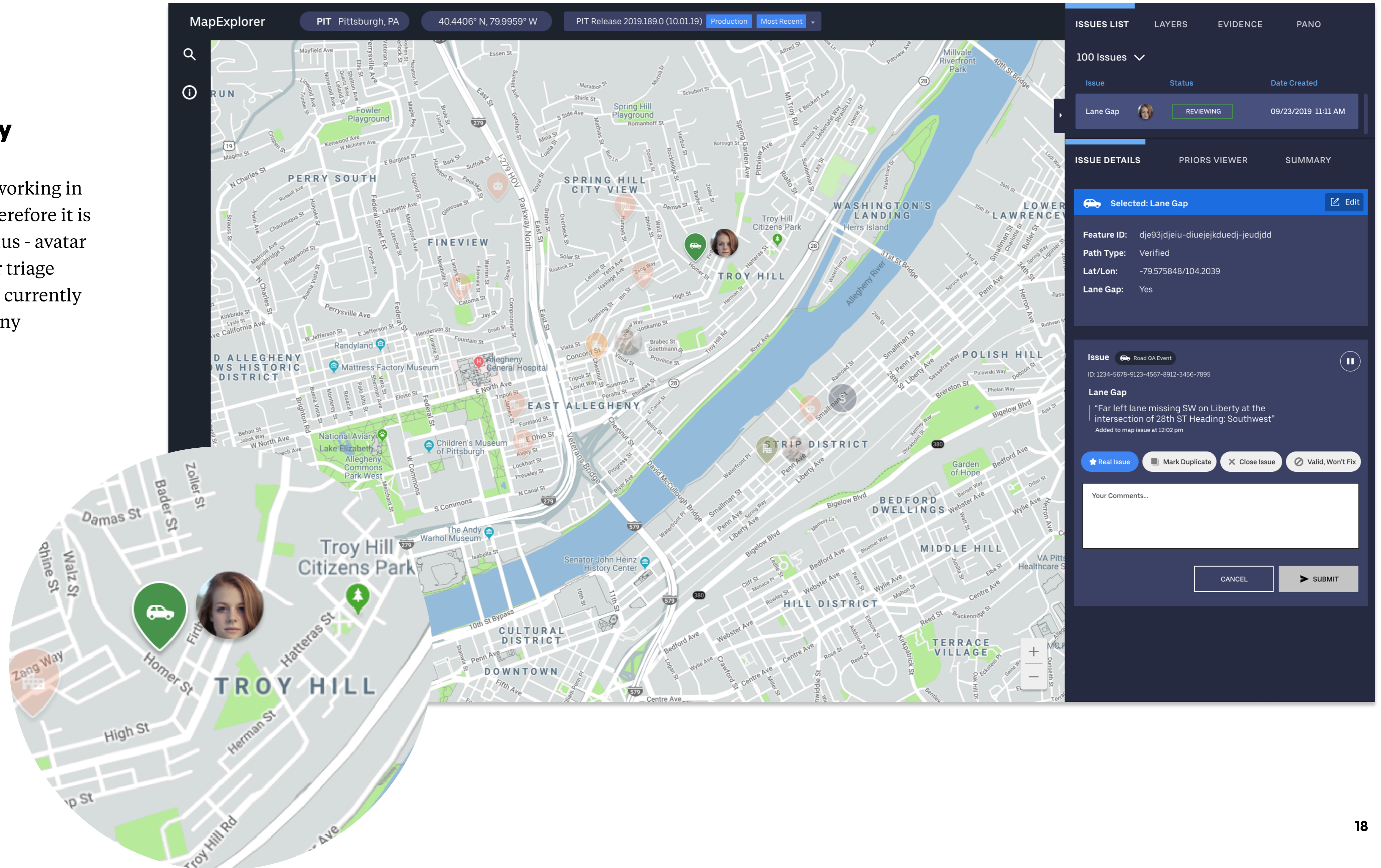
Related Document

Final Concept Deck   `APPENDIX`

PROTOTYPE & TEST

Final Concept
Parent-Child Relationships

A need that came out of the user research was the concept of a parent-child relationship. When there are a number of issues being reported at the same coordinates, the triage specialist needs a way to assign a source for traceability - AI, the driver/road QA, or the office QA.

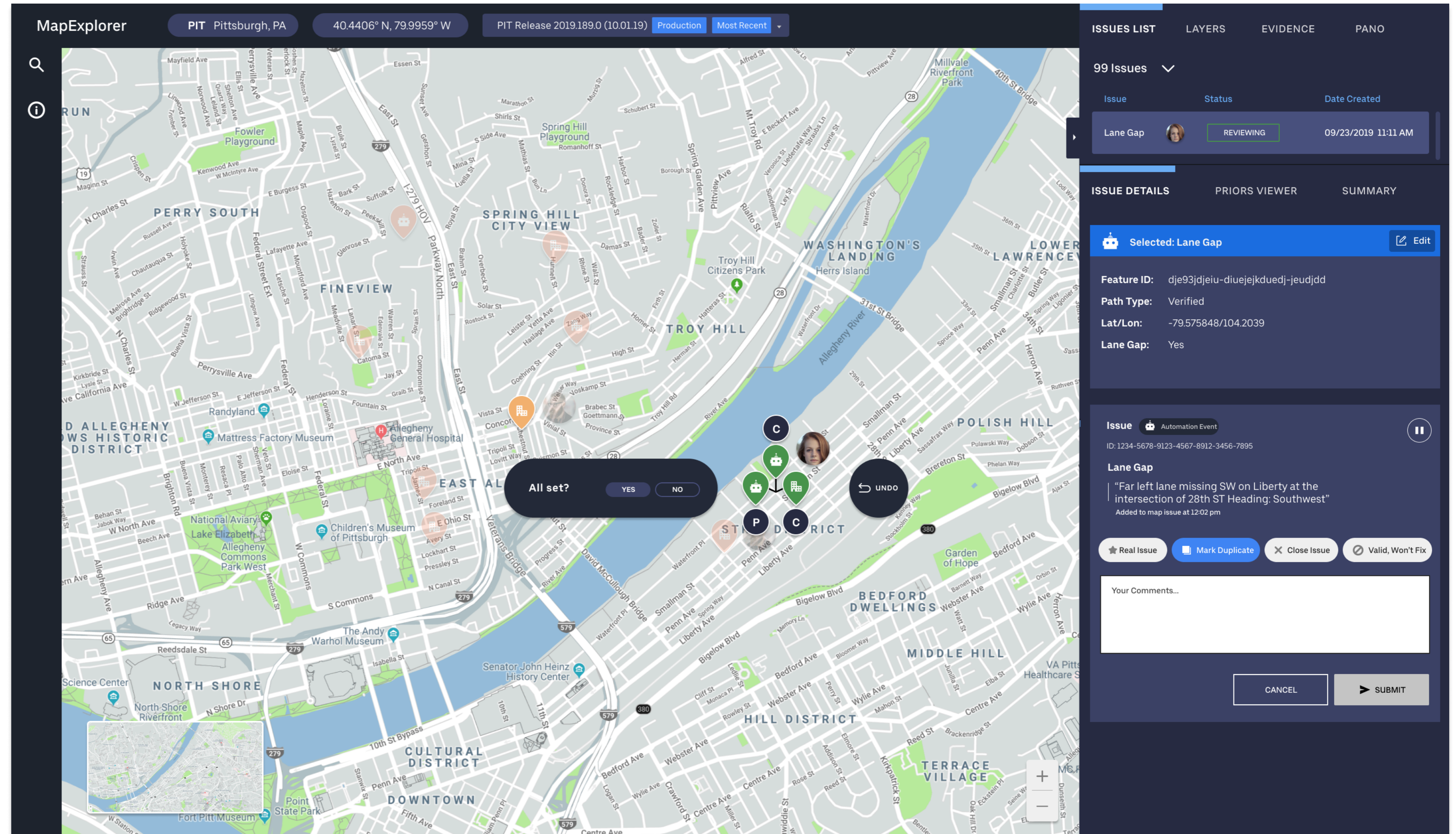**Related Document**

Final Concept Deck **APPENDIX**

PROTOTYPE & TEST

Final Concept
Pause - Resume

A lot of the work that a triage specialist performs is first-come, first-served, so there is a need to design and implement a pause button for those specialists who need to step away from their desks for lunch or a meeting with the team. Having the ability to pause and resume a review is pivotal for the operation of the triage specialist workflow within MapExplorer.
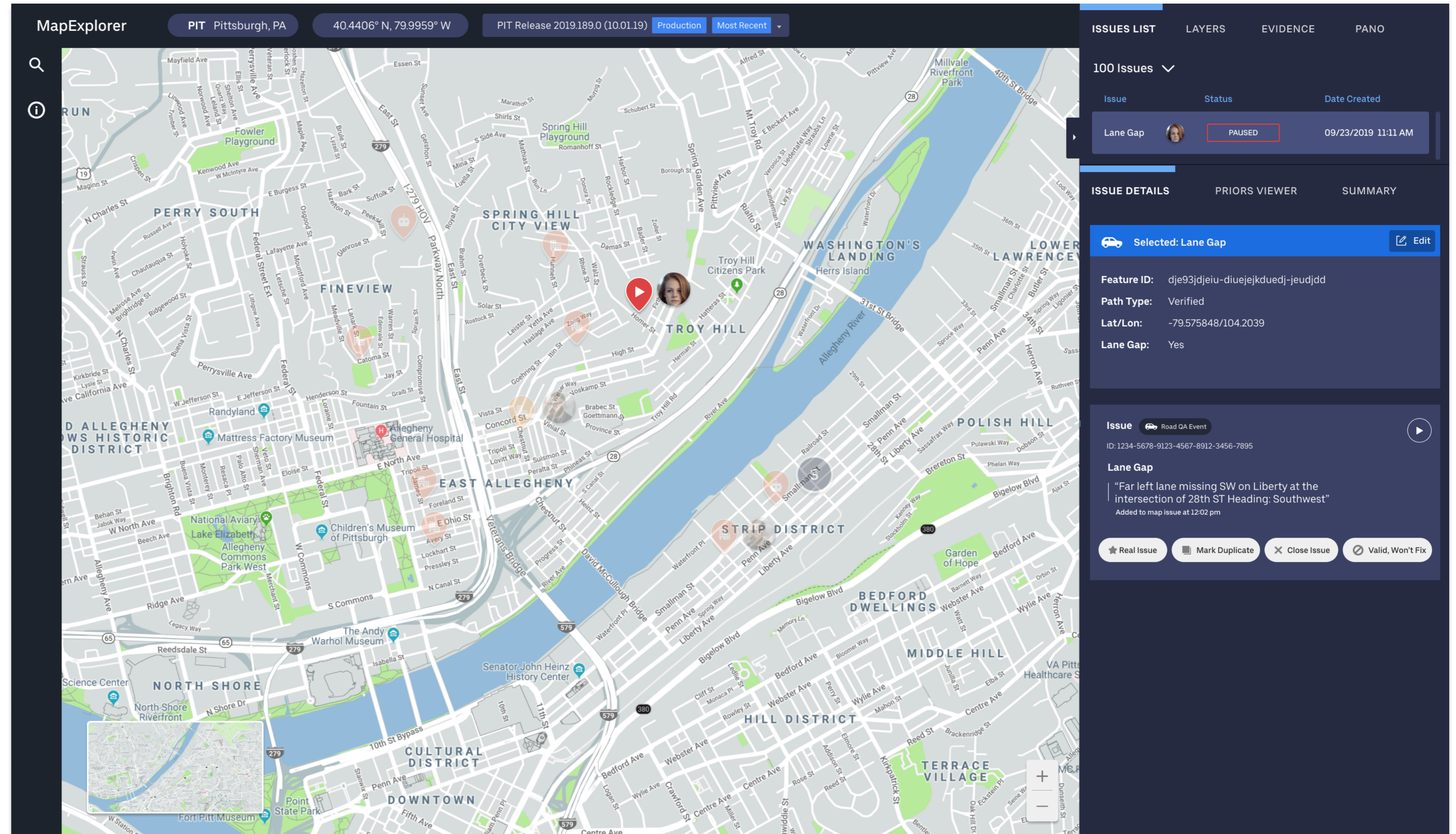
Related Document

Final Concept Deck   **APPENDIX**

Final Concept Filters

MapExplorer to date has no concept of filters. I heard this need expressed many times within the user research sessions. I designed out a flyout panel so that triage specialists can quickly sort issues by Issue A - Z, Status A - Z, or Date Created. The triage specialist can also filter by status and click on "Apply" to view the results of the sort/filter. This will help the triage specialist quickly drill into those issues that require resolving or referencing.

The product manager was very excited about adding filters to MapExplorer for the purpose of triage and had the development team get started on this capability.

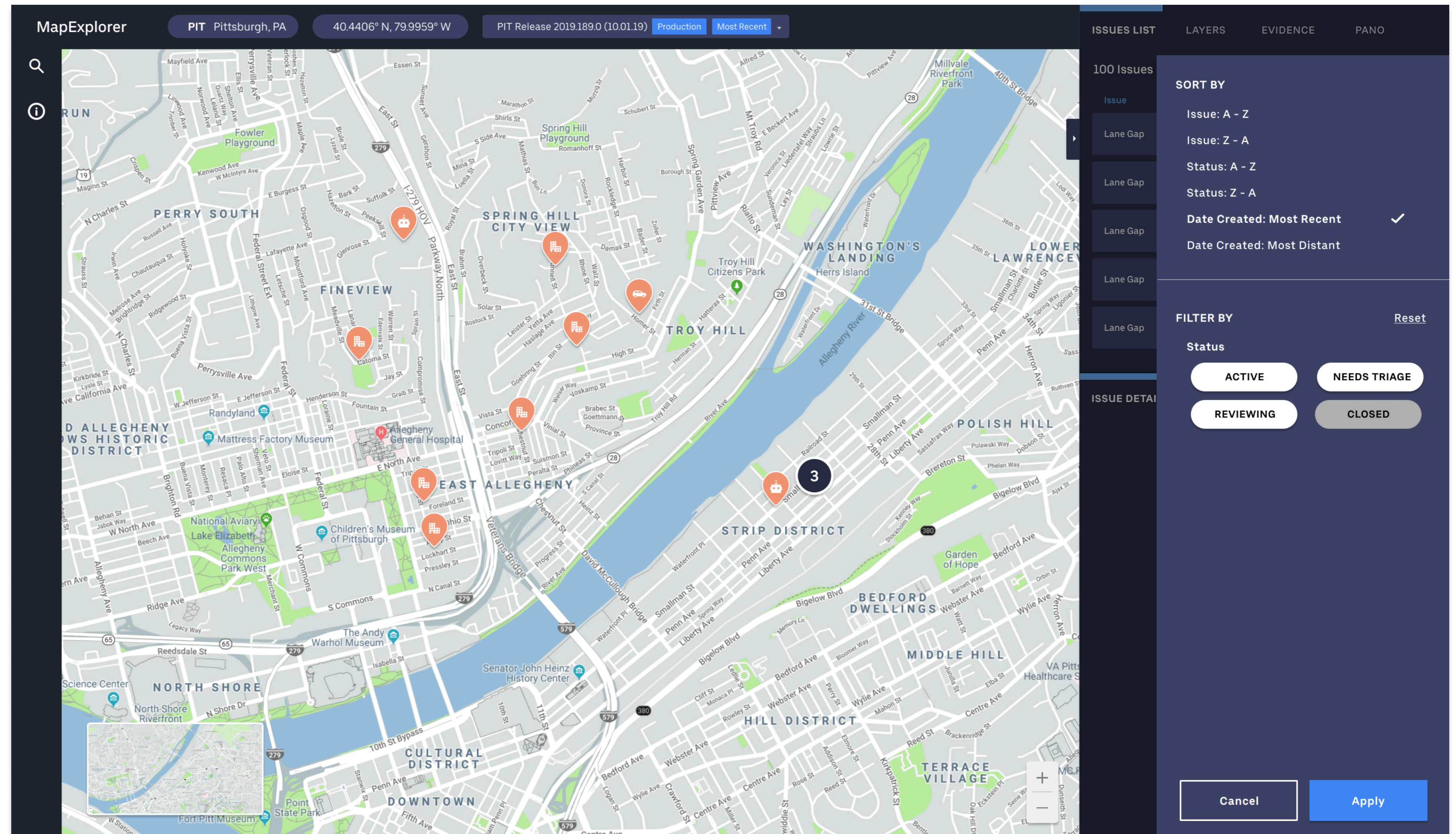**Related Document**

Final Concept Deck **APPENDIX**

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Final Concept
Full Screen Map

In talking with the triage specialists, there was a marked interest in not having to work in a small sub-section of the screen. These specialists work on very large screens and have a strong preference toward working visually in the map and then moving on to the evidence panels when needed.

The triage specialists were very excited to see this feature in place during the final round of usability testing.
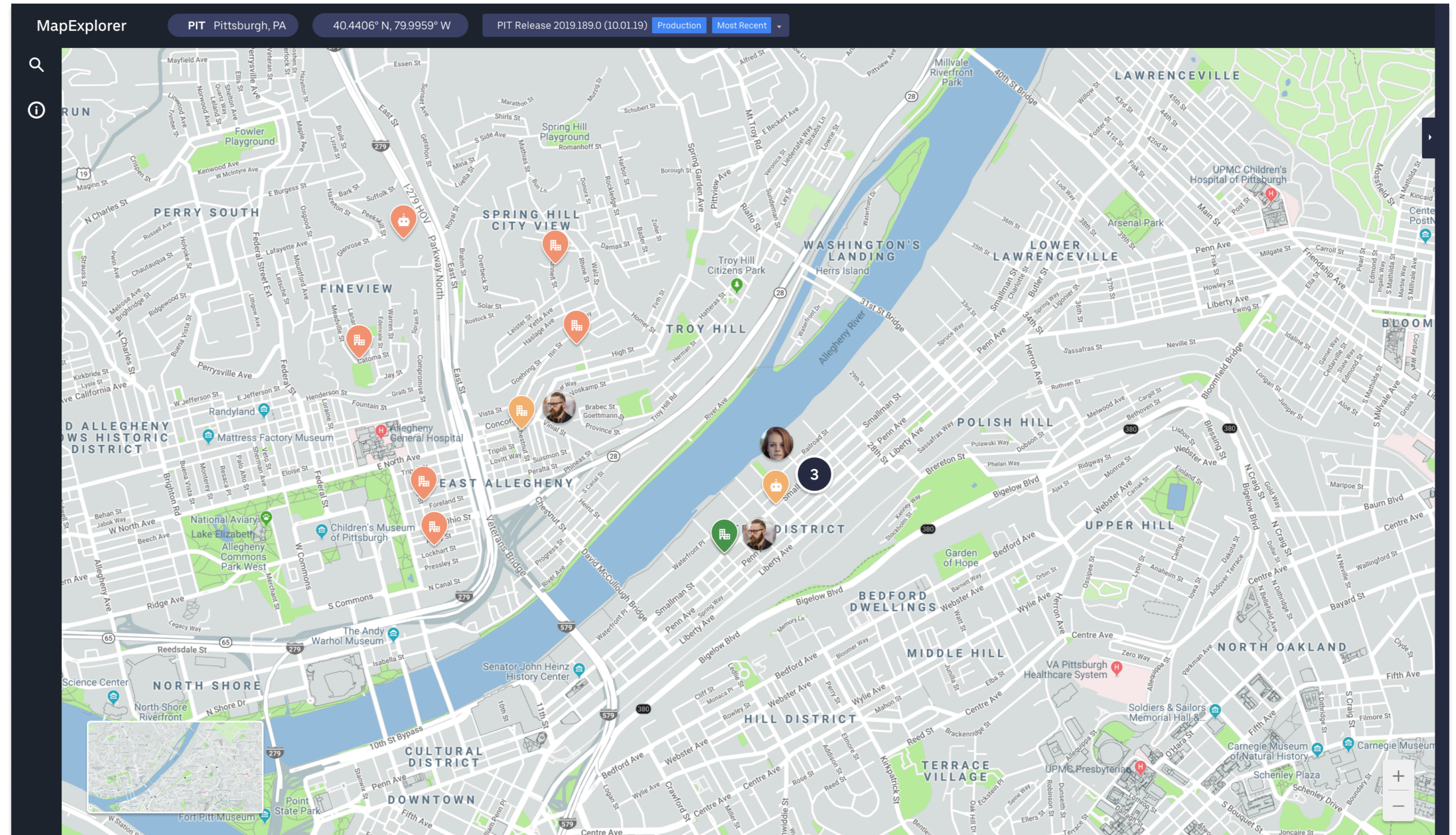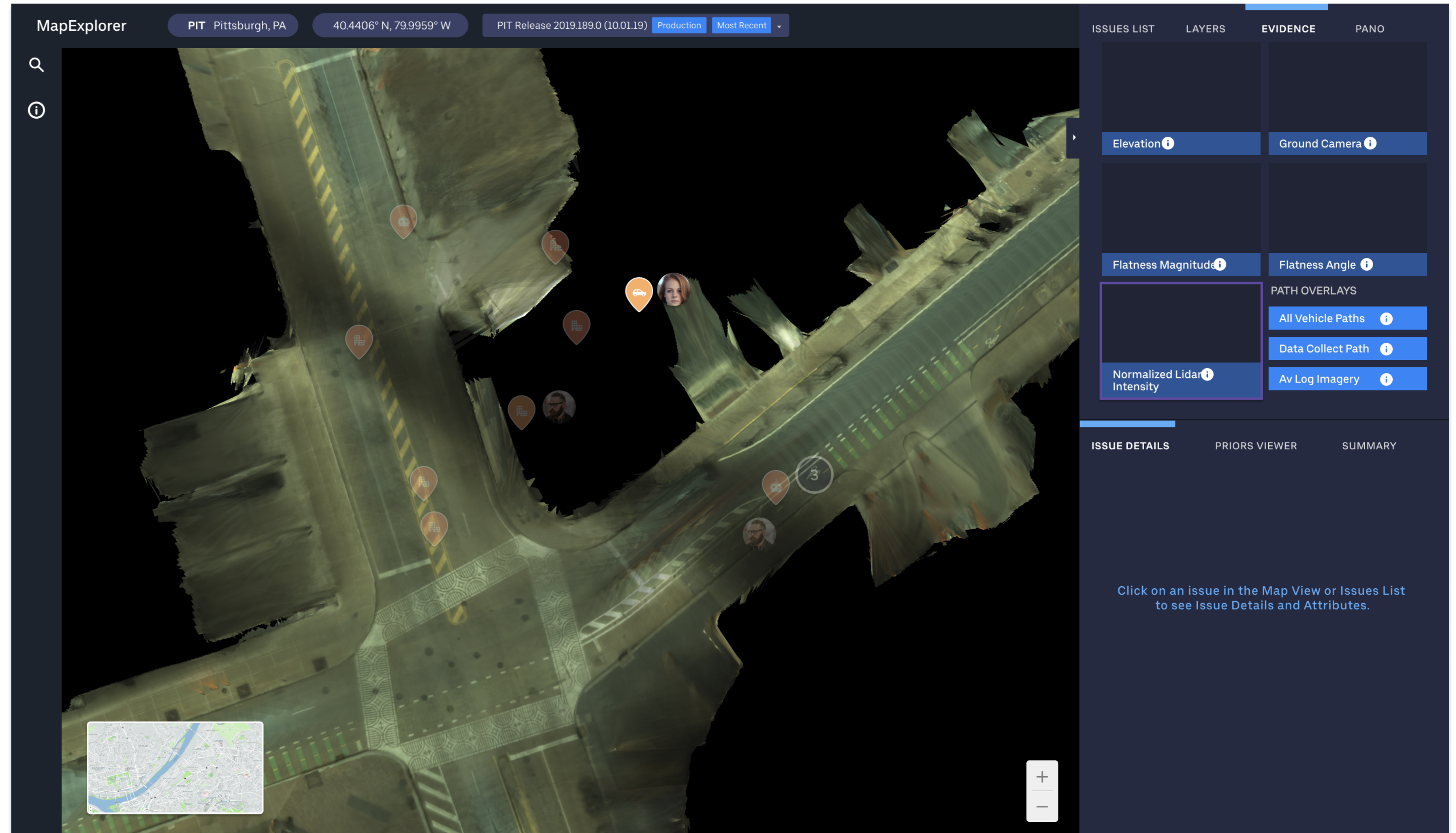

Related Document

Final Concept Deck **APPENDIX**

PROTOTYPE & TEST

Final Concept
Check Evidence

I stuck with the tab structure of MapExplorer as it affords the triage specialist the ability to quickly move between panes to check layers, evidence, panorama views, and any issue details, priors, or summary information.

As most of the triage specialists have worked with MapExplorer, they were well comfortable with how it works and were excited to use this type of interface in their triage work.

MapExplorer

PIT Pittsburgh, PA   40.4406° N, 79.9959° W   PIT Release 2019.189.0 (10.01.19) Production   Most Recent

ISSUES LIST   LAYERS   EVIDENCE   PANO

Elevation ⓘ   Ground Camera ⓘ

Flatness Magnitude ⓘ   Flatness Angle ⓘ

                            PATH OVERLAYS

                            All Vehicle Paths ⓘ

                            Data Collect Path ⓘ

Normalized Lidar   Av Log Imagery ⓘ
Intensity

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List
to see Issue Details and Attributes.

Related Document

Final Concept Deck   APPENDIX

Results

Uber ATG considered this engagement a smashing success given the time to do research and iterate on designs based on testing feedback.

75% increase in usability for the Final Concept in all scenarios

"**This was a great project, and let me tell you why... You listened to us... You understood me and the entire QA team, and I appreciate it. Thank you.**"

- Product Manager, Uber ATG

What I Learned

Ask Early for Docs

I had a real need early on for documentation on triage specialist process and technical constraints. During the first two-and-a-half days of the project, I was tasked with discovery and having these documents in-hand would have made my questions much more targeted and my time quite a bit more worthwhile.

Read the Undertones

The product team granted me a week's time to work on the Lightning-in-MapExplorer concept before signaling any red flags on a misdirection. They didn't want to use any of the Lightning design language and said so after some effort was spent to make the concept work for the first round of usability testing. That time could have been better used to explore in the MapExplorer space. Luckily, after receiving this information, I was able to repurpose much of the design using the MapExplorer design system.
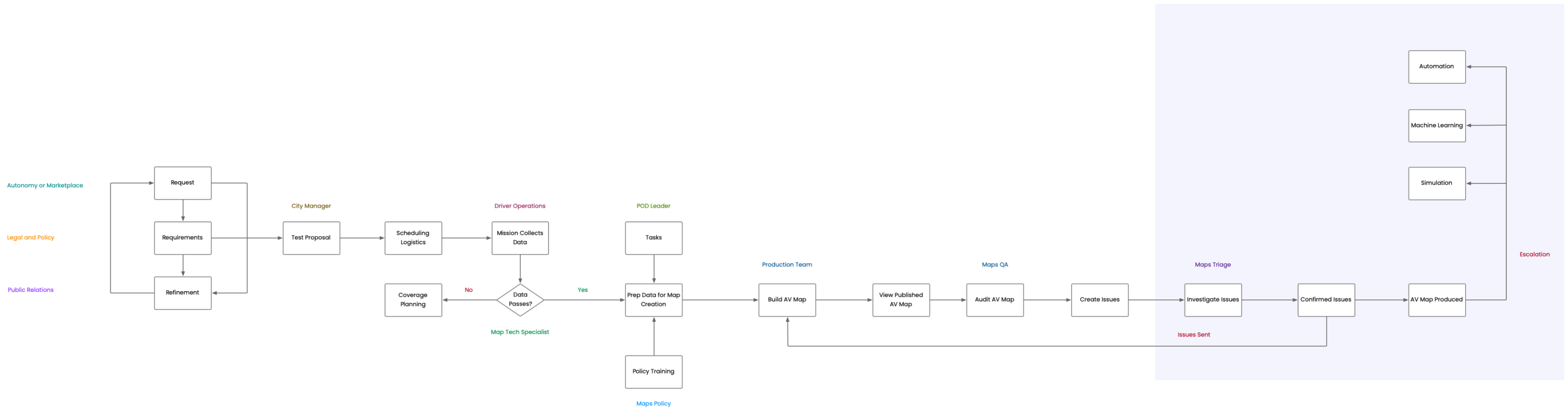
Change Comes from Within

I found that by presenting concepts early and getting the product manager super-excited about the concepts and new features went a long way in moving the development team to consider changes they had either held-off in making or hadn't considered to date. Through my efforts, the product team became the design's biggest advocate in the organization.

APPENDIX

Big Picture - AV Maps

Autonomy or Marketplace

Legal and Policy

Public Relations

Request

Requirements

Refinement

City Manager

Test Proposal

Scheduling Logistics

Driver Operations

Mission Collects Data

Escalation

Coverage Planning

No

Data Passes?

Yes

Map Tech Specialist

POD Leader

Tasks

Prep Data for Map Creation

Policy Training

Maps Policy

Production Team

Build AV Map

View Published AV Map

Maps QA

Audit AV Map

Create Issues

Maps Triage

Investigate Issues

Confirmed Issues

Issues Sent

AV Map Produced

Automation

Machine Learning

Simulation

Escalation

A1

Empathy Maps

Daryll

THE SKEPTIC

SAYS

- Process is held together by duct tape
- The business has created this process so it's a monster of their own making
- GIS graduate
- Was making maps elsewhere
- Other Triage people come from Geology
- Started at the bottom of Uber
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THINKS

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- Escalates non-production issues via Slack or JIRA
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- Communicates with other Triage specialists by prairiedogging
- Attends meetings on policy or map changes
- Work is largely copy-and-paste through many apps.

FEELS

- Not happy with having to do so much to triage an issue
- Upset because was never consulted on what would work for Triage
- Concerned about the goal - safety
- Unsure if this engagement will work.

PAINS

- Multi-application workflow
- Too many things to keep track of
- Frustrated with Lightning
- Wants to have a say in the product
- Status of triage work w/ other specialists.
- Loss of control.

GAINS

- Wants to work in one space
- Wants to eventually manage
- Wants to help maintain safety of the fleet
- Wants to feel in control.

GOAL

- Decrease number of false positives in work.
- Work with one system that does a few things.
- Increase overall safety for self-driving vehicles.
- Work on Office QA when triage work is scarce.

Martha

THE PROTECTOR

SAYS

- I feel bad for my QA team
- Things were okay at first. Now there's too much to do.
- GIS graduate
- Came from another tech company
- Proud of what the QA team has accomplished
- Lightning was never built for us
- Consultants, like you, came in and just gave us the software
- They never understood what we did
- From Pittsburgh

THINKS

- Lightning just doesn't work for QA
- It's a gold-covered turd
- How can I get my QA people out of Triage and help out with events?
- How can I get these processes into one place or even a couple?
- Why does my team have to bend to new tech?
- I'm seeing burnout with my team
- Safety is our goal - but at what cost?

DOES

- Triages issues with Triage team
- Removes obstacles for getting work done
- Leads team meetings
- Addresses map or company policy changes
- Provides professional guidance for the QA team
- Holds 1:1 meetings with team members
- Resolves team conflict
- Advises on new steps in the process
- Reports issues to her boss
- Team or individual discipline.

FEELS

- Not happy with Lightning
- Not happy with current processes
- Concerned about the goal - safety
- Anxious about this engagement.

PAINS

- Too many processes to keep track of things
- Cobbled-together process
- Wants tech that works for team
- Doesn't trust consultants
- No unity of view - cannot see work.
- Loss of control.

GAINS

- Wants QA to work in one space
- Wants to help maintain safety
- Wants to feel like not losing control.

GOAL

- Ensure triage team contentment.
- Lower number of inefficiencies in current process.
- Work to increase safety of self-driving vehicles.
- Protect team against other team's software/rules.
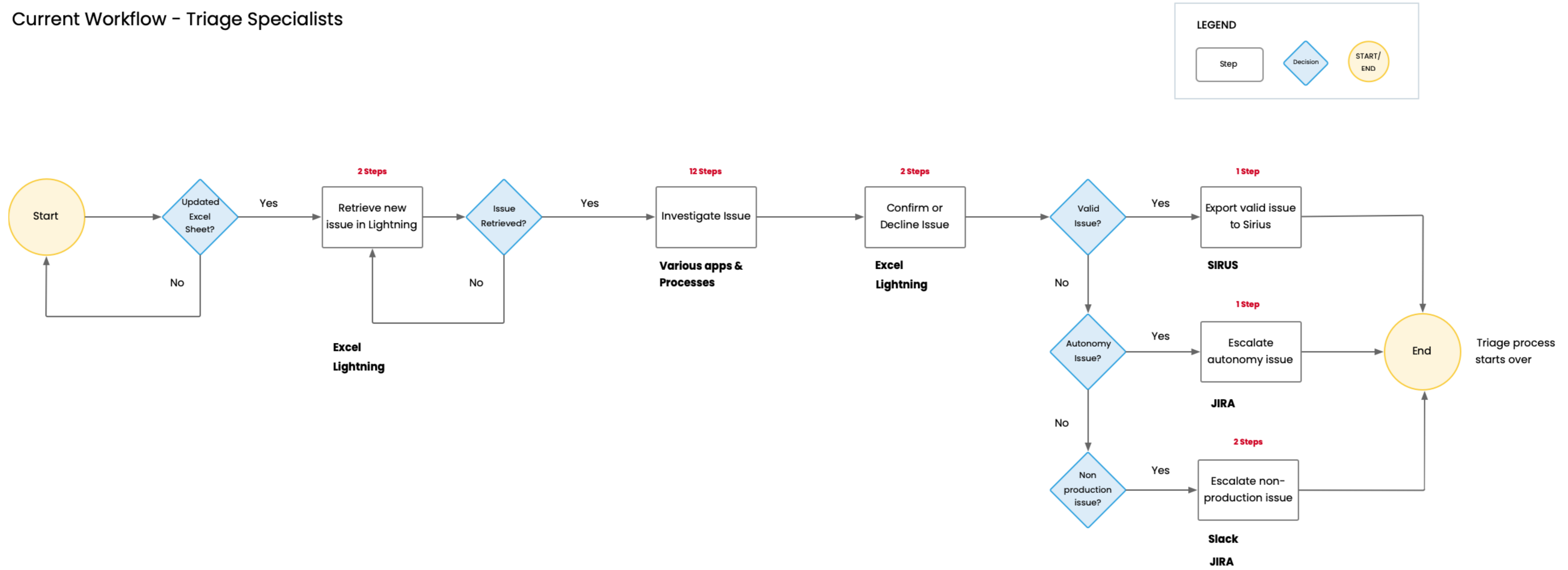
Personas

Daryll
The Skeptic

Triage Specialist

Goals
- Decrease number of false positives in his work.
- Increase overall safety for self-driving vehicles.
- Work with one system that does a few things.
- Work on Office QA events when triage work is scarce.

Frustrations
- Exasperated with multiple application workflow.
- Too many things to keep track of in marking one issue.
- Work with one system that does a few things.
- Can't see what other QA Triage staff are working on.

STRESSED   OVERWHELMED   SKEPTICAL

Martha
The Protector

QA Manager

Goals
• Ensure Triage team member contentment.
• Lower number of inefficiencies in current process.
• Work to increase safety of self-driving vehicles.
• Protect team against other team's software/rules.

Frustrations
• Opinions of the cobbled-together workflow for Triage.
• Too many processes to keep track of for employees.
• Lightning system is isolated and does nothing for the team.
• Cannot see everyone working at once - no unity of view.

BURNED OUT   UNTRUSTING   PROTECTOR

Current Workflow

Current Workflow - Triage Specialists

LEGEND

Step

Decision

START/
END

Start

Updated
Excel
Sheet?

Yes

No

2 Steps

Retrieve new
issue in Lightning

Issue
Retrieved?

Yes

No

Excel
Lightning

12 Steps

Investigate Issue

Various apps &
Processes

2 Steps

Confirm or
Decline Issue

Excel
Lightning

Valid
Issue?

Yes

No

1 Step

Export valid issue
to Sirius

SIRUS

Autonomy
Issue?

Yes

No

1 Step

Escalate
autonomy issue

JIRA

Non
production
issue?

Yes

2 Steps

Escalate non-
production issue

Slack
JIRA

End

Triage process
starts over

B1

Unpacking Triage Work

Events to Issues


```
Re-Open Event  →  New Event
                      ↓
                  In Triage ●
        ┌─────────────┼─────────────┐
        ↓             ↓             ↓
   Rejected       Accepted ●     Paused ●
   Duplicate ● ←──┘
   Not Valid ● ←──
   Will Not Fix ● ←──
```

LEGEND

● Start work timer event

● End/Pause work timer event
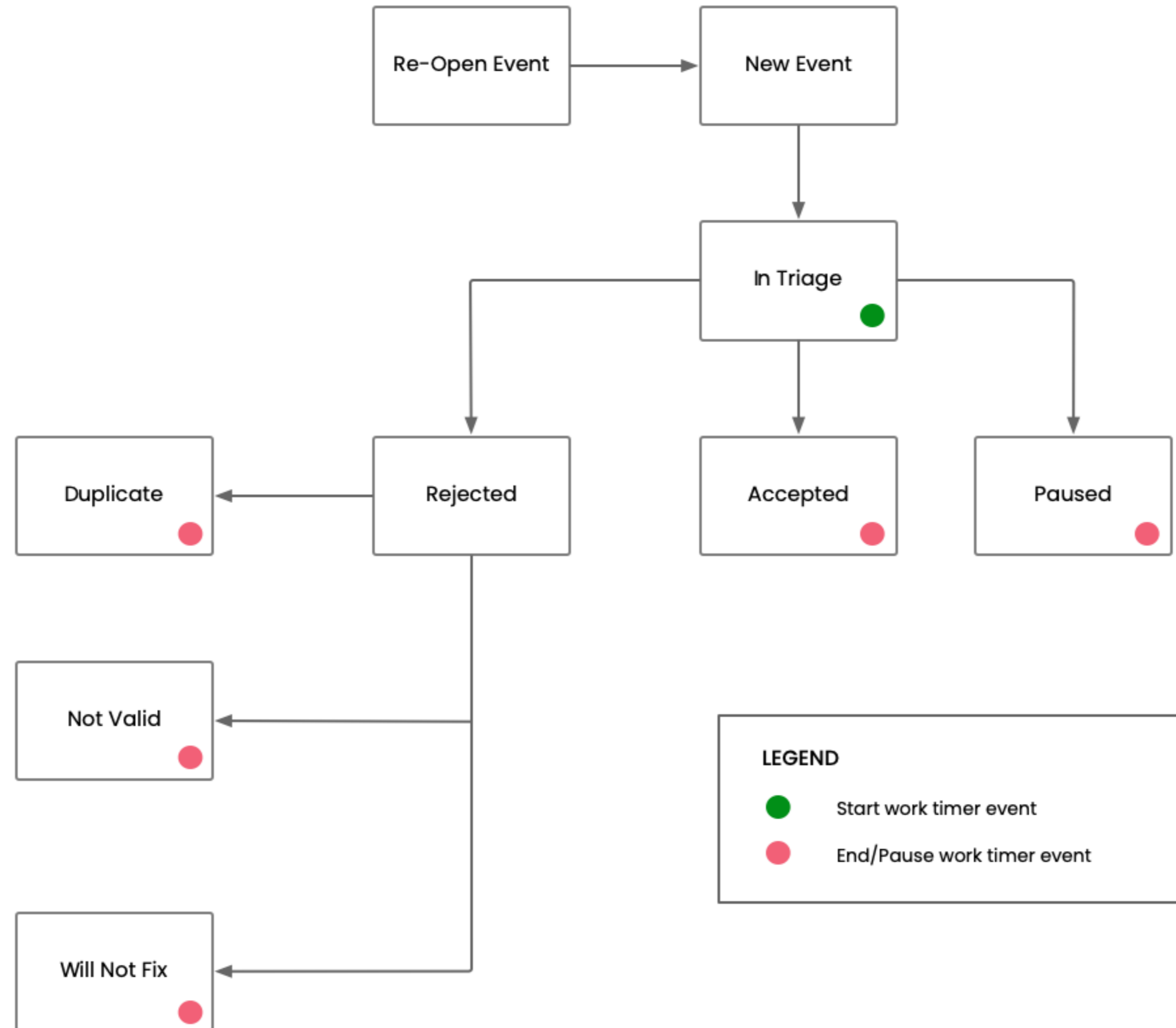
Future Workflow

Future Workflow - Triage Specialists

LEGEND

Step

Decision

START/END

All assigned issues show up

Start

1 step
Issues load in MapExplorer

Issues Retrieved?

Yes

No

1 step
Select and investigate Issue in MapExplorer

1 step
Confirm or Decline Issue

Valid Issue?

Yes

System sends valid issues to Sirius

Autonomous housekeeping

No

Autonomy Issue?

Yes

System escalates autonomy issues

Autonomous housekeeping

No

Non production issue?

Yes

System escalates non-production issues

Autonomous housekeeping

End

All issues confirm/declined

F1

Sketches

Lightning-in-MapExplorer Sketch - Intro Screen
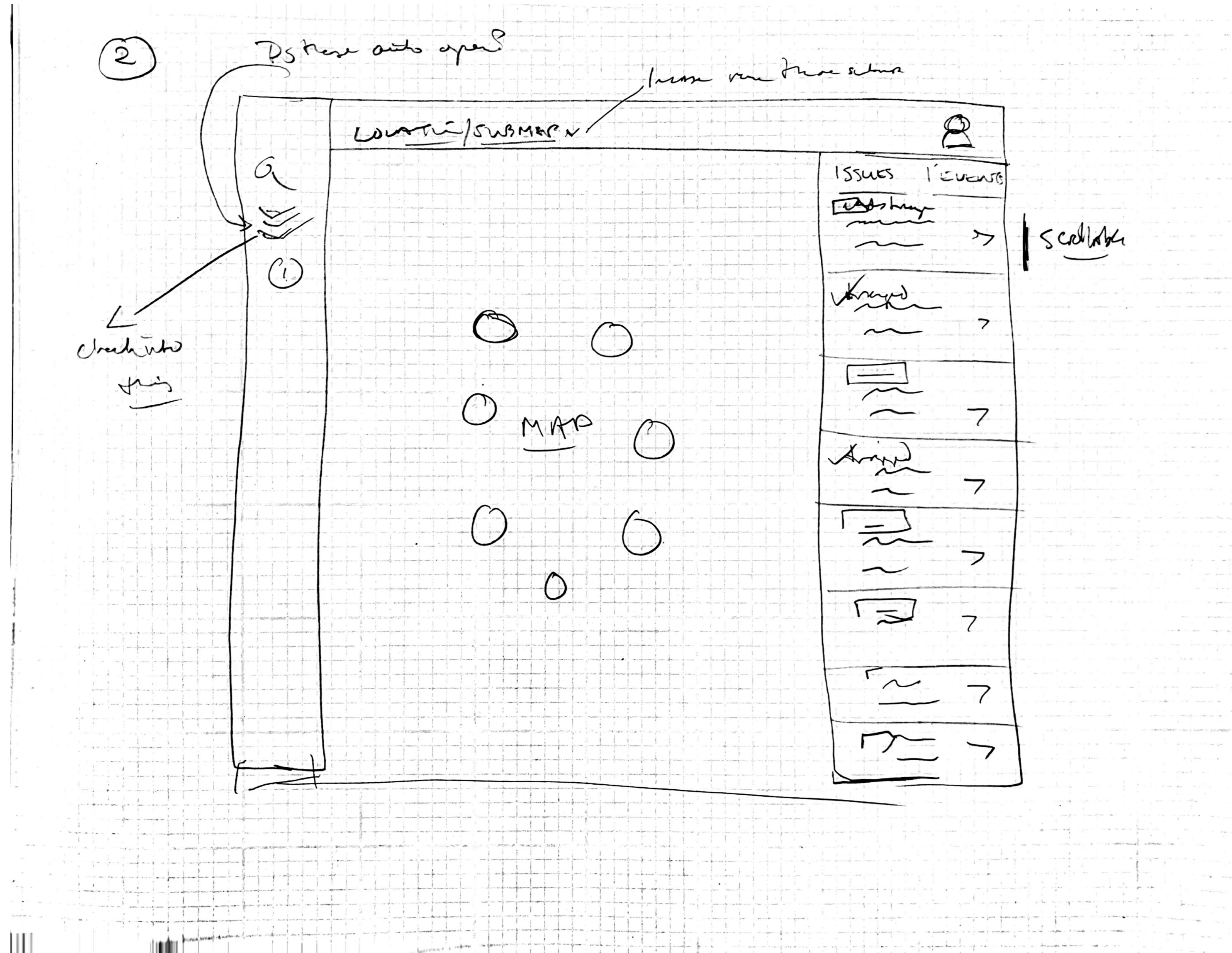
Lightning-in-MapExplorer Sketch - Map and Issues View

G2
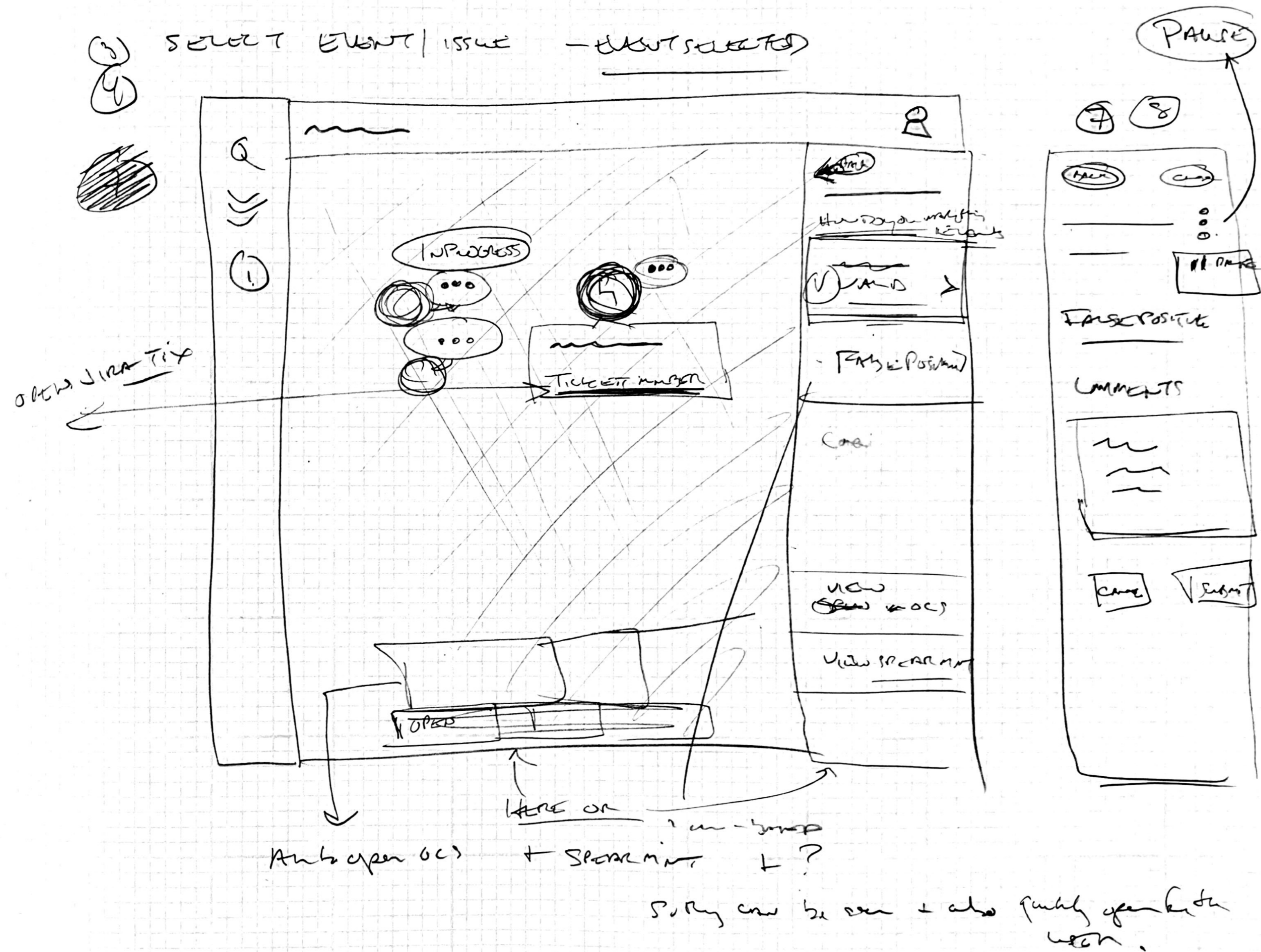
Lightning-in-MapExplorer Sketch - Specialist working on Issue
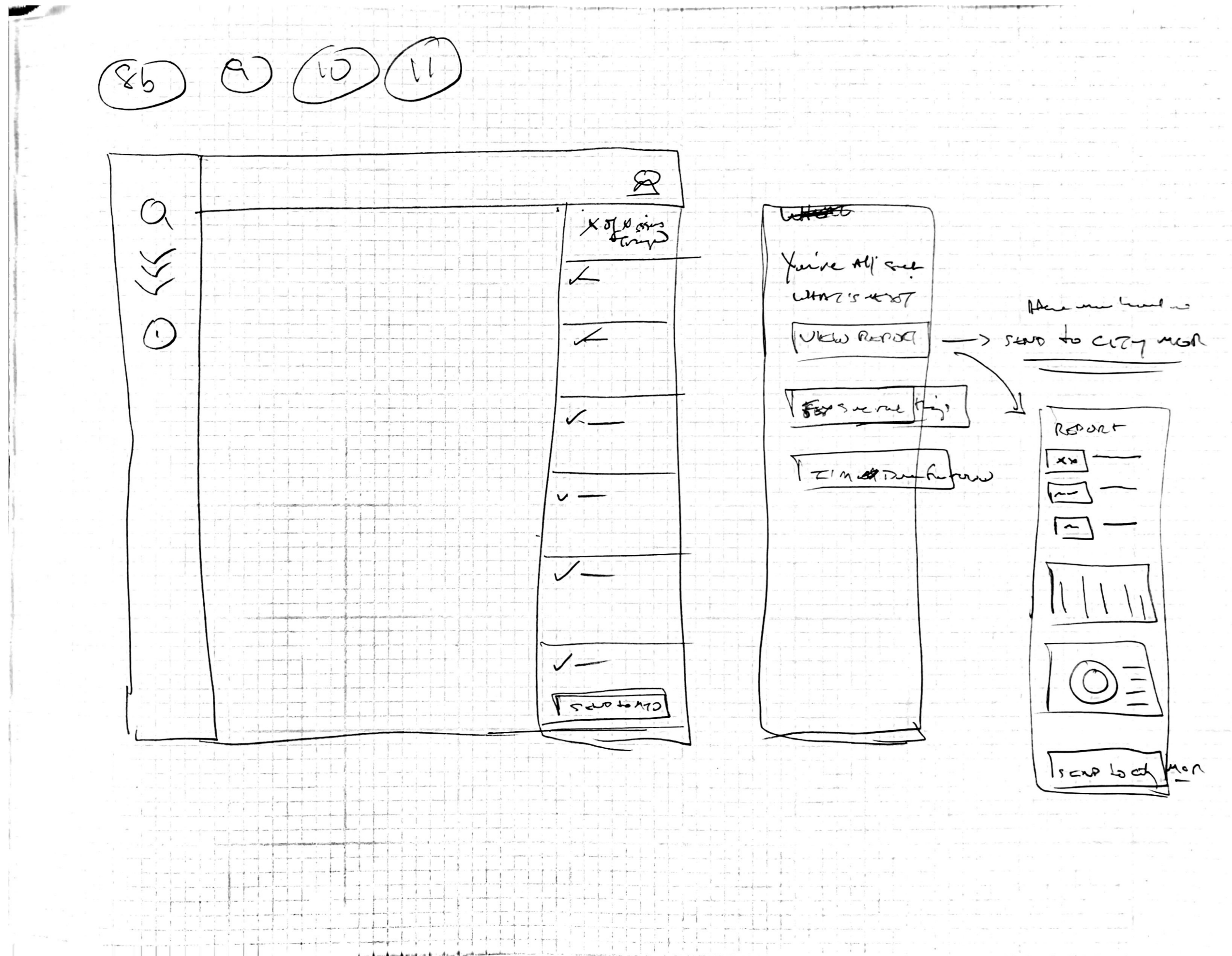
Lightning-in-MapExplorer Sketch - Panel Views
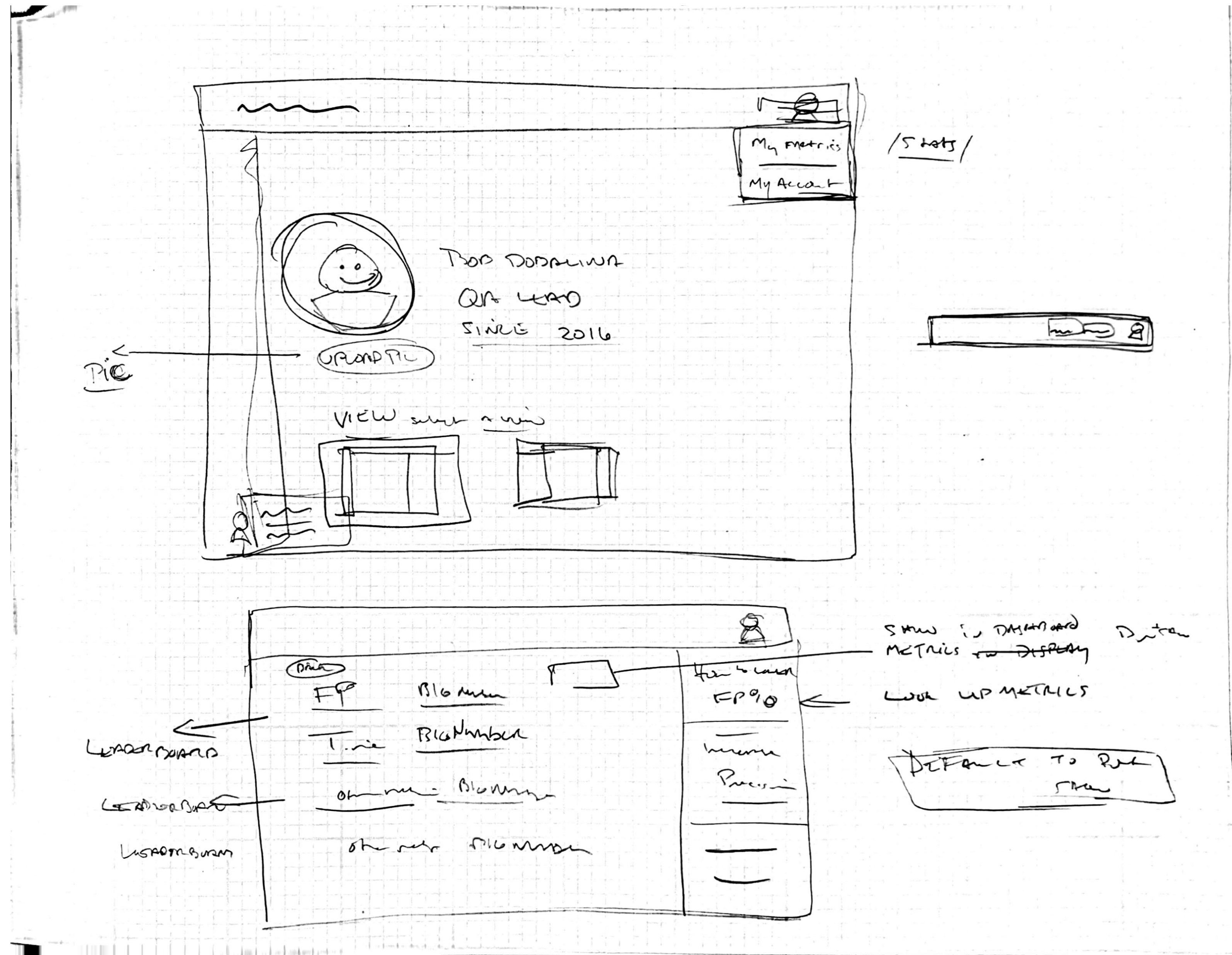
Lightning-in-MapExplorer Sketch - Account and Big Numbers View

G5
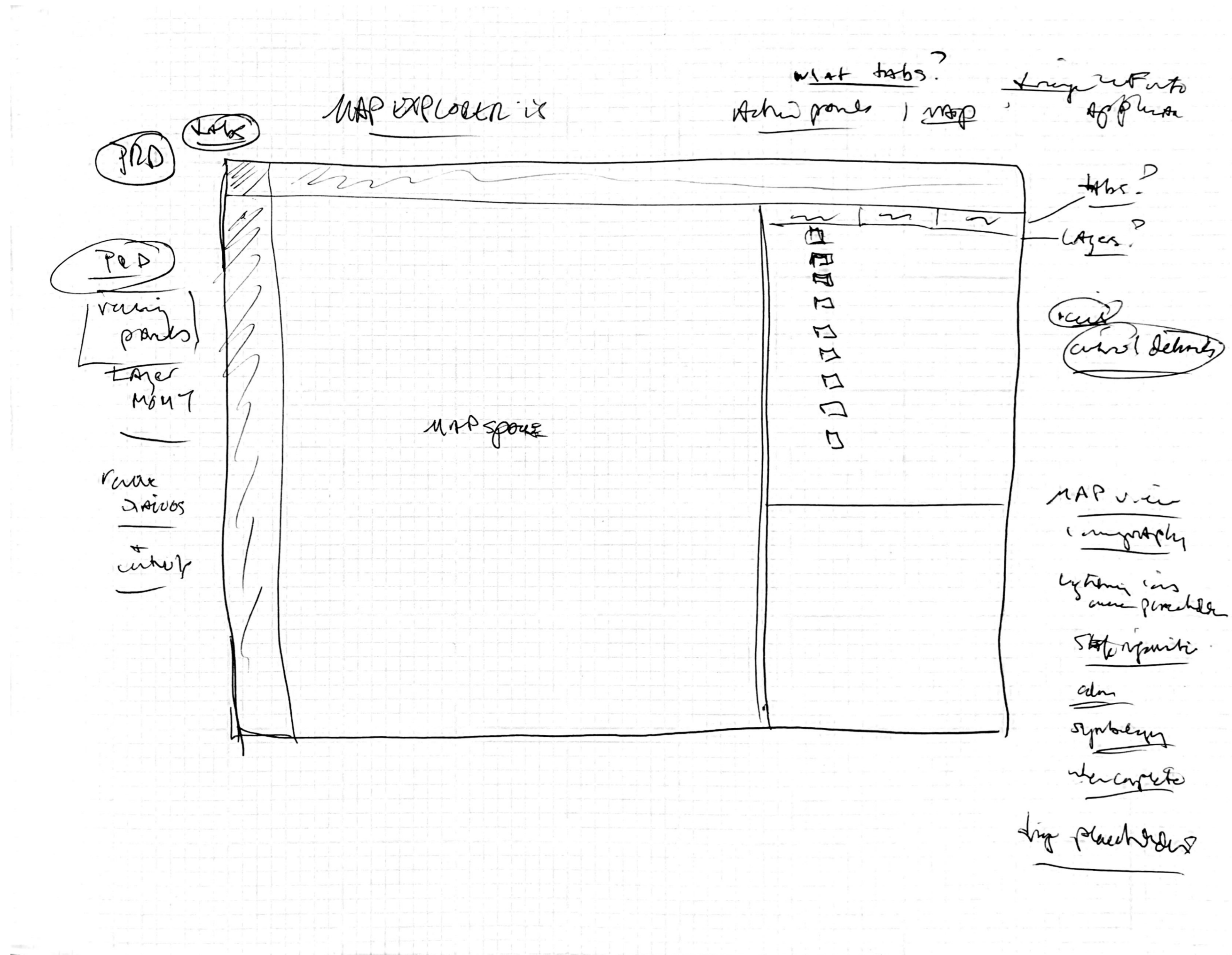
Keep it true to the Old Sketch – Map and Panels View

Lightning-in-MapExplorer Concept
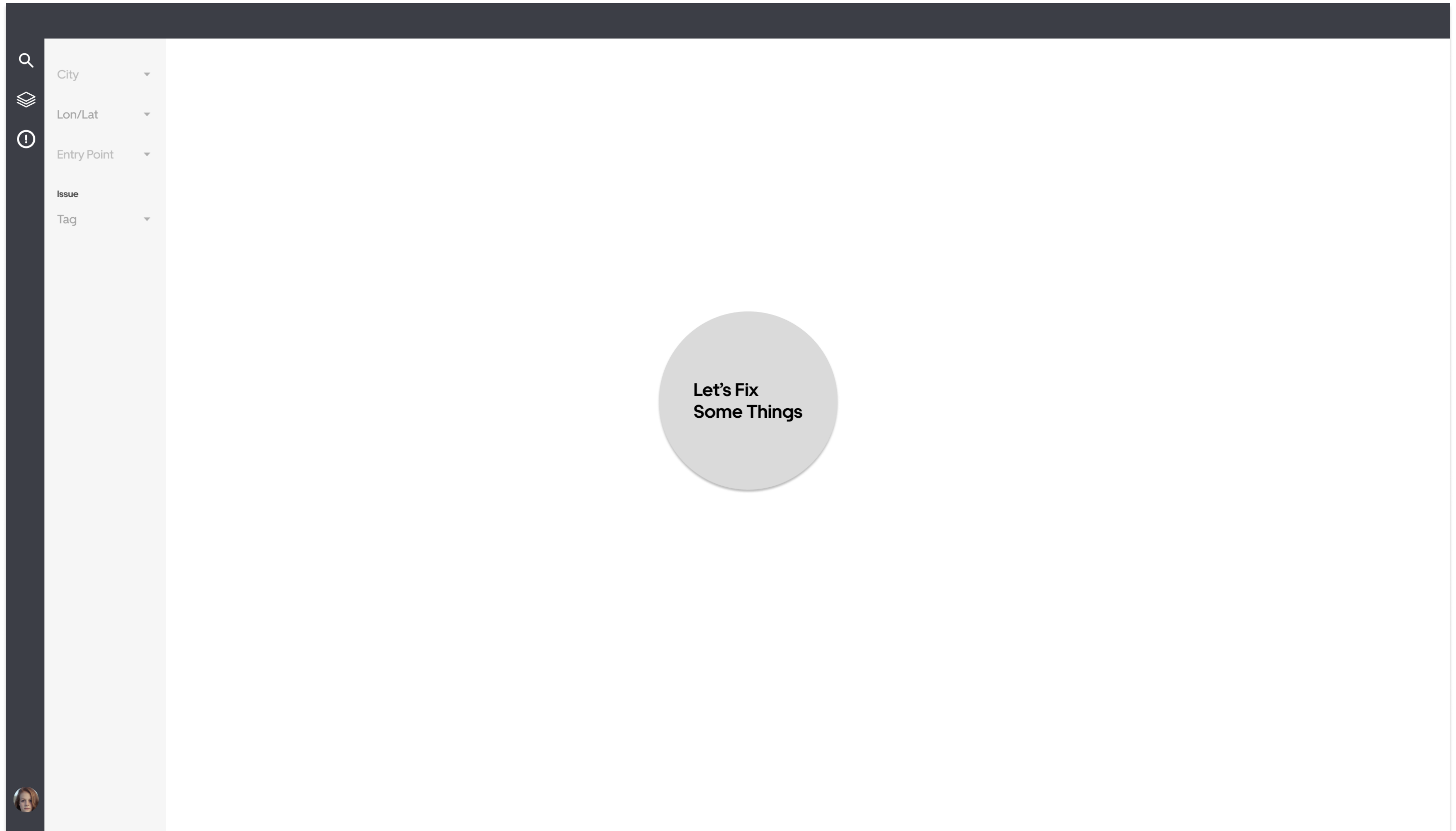
City ▾

Lon/Lat ▾

Entry Point ▾

Issue

Tag ▾

Let's Fix
Some Things

Lightning-in-MapExplorer Concept - Intro Screen

TO DO	YOU'VE DONE		

20 ISSUES

Date Created	Issue	Status	
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→
09/23/2019 11:11 AM	#map-lane-gap	NEEDS TRIAGE	→

Sidebar filters:
- pit ▾
- 40.4406° n... ▾
- PIT Maps 2019... ▾
- Issue
- Tag ▾

MAP SPACE

Lightning-in-MapExplorer Concept - Issues and Map View

H2

pit

40.4406° n...

PIT Maps 2019...

Issue

Tag

UUID: 66a5a810-cfd9-91b2-2bfa3d18ef1f

#map-lane-gap   NEEDS TRIAGE

Recorded at 08/31/2019 2:22 PM by claskowski

VO Comment

#lane-speed-brake #map-cage SB Baum Boulevard on bridge right lane - Pose loss, Motion planner dropout, soft stop and related braking #pitsts

Checkpoint   MAP_CAR_QA

Subcategory   #map-cage

Map Details

Map   pit

Entry point   ba212a2f-7561-4194-ddec-7289574b8286

Submap   ba212a2f-7561-4194-ddec-7289574b8286

GPS   -111.92635, 33.43276

Software Details

Software Version   237.48

Blueprint   Value

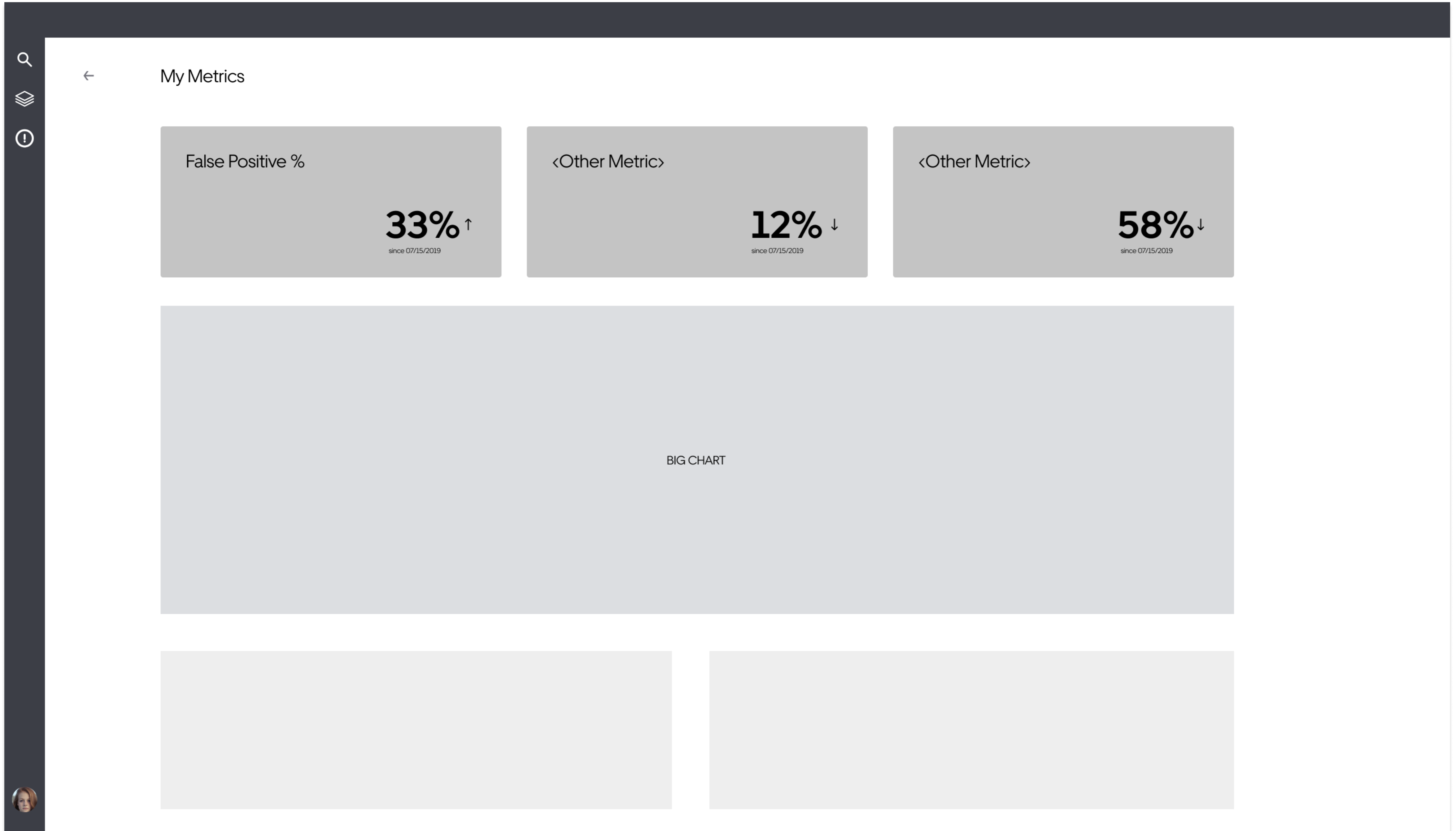Platform Alias   Value

Vehicle

Label   Value

MAP SPACE

AVAILABLE ACTIONS   EVIDENCE

Record new map issue
This event was caused by a new identifiable problem on the map.

Event is a duplicate
This event was caused by a problem that has already been identified.

Mark as not a map issue
This event is not a map issue, and should be reassigned to a different team.

Triage Comment   Deirdre Dobalina

In checking OCS and Catalog, I noticed that this was a duplicate issue.

Resolved As   Duplicate Issue

SAVE TRIAGE

OCS   Meshlab   OCS Lite   Catalog

Lightning-in-MapExplorer Concept - Mark Issue View

UUID: 66a5a810-cfd9-91b2-2bfa3d18ef1f

#map-lane-gap NEEDS TRIAGE

Recorded at 08/31/2019 2:22 PM by claskowski

VO Comment

#lane-speed-brake #map-cage SB Baum Boulevard on bridge right lane - Pose loss, Motion planner dropout, soft stop and related braking #pitsts

Checkpoint	MAP_CAR_QA
Subcategory	#map-cage

Map Details

Map	pit
Entry point	ba212a2f-7561-4194-ddec-7289574b8286
Submap	ba212a2f-7561-4194-ddec-7289574b8286
GPS	-111.92635, 33.43276

Software Details

Software Version	237.48
Blueprint	Value
Platform Alias	Value

Vehicle

Label	Value

pit

40.4406° n...

PIT Maps 2019...

Issue

Tag

AVAILABLE ACTIONS **EVIDENCE**

MAP SPACE

OCS   Meshlab   OCS Lite   Catalog

Lightning-in-MapExplorer Concept - Look up Evidence

H4

TO DO   YOU'VE DONE

ALL ISSUES TRIAGED!

Here are some options for you...

VIEW REPORT

GET MORE ISSUES

I'M DONE FOR NOW

pit

40.4406° n...

PIT Maps 2019...

Issue

Tag

MAP SPACE
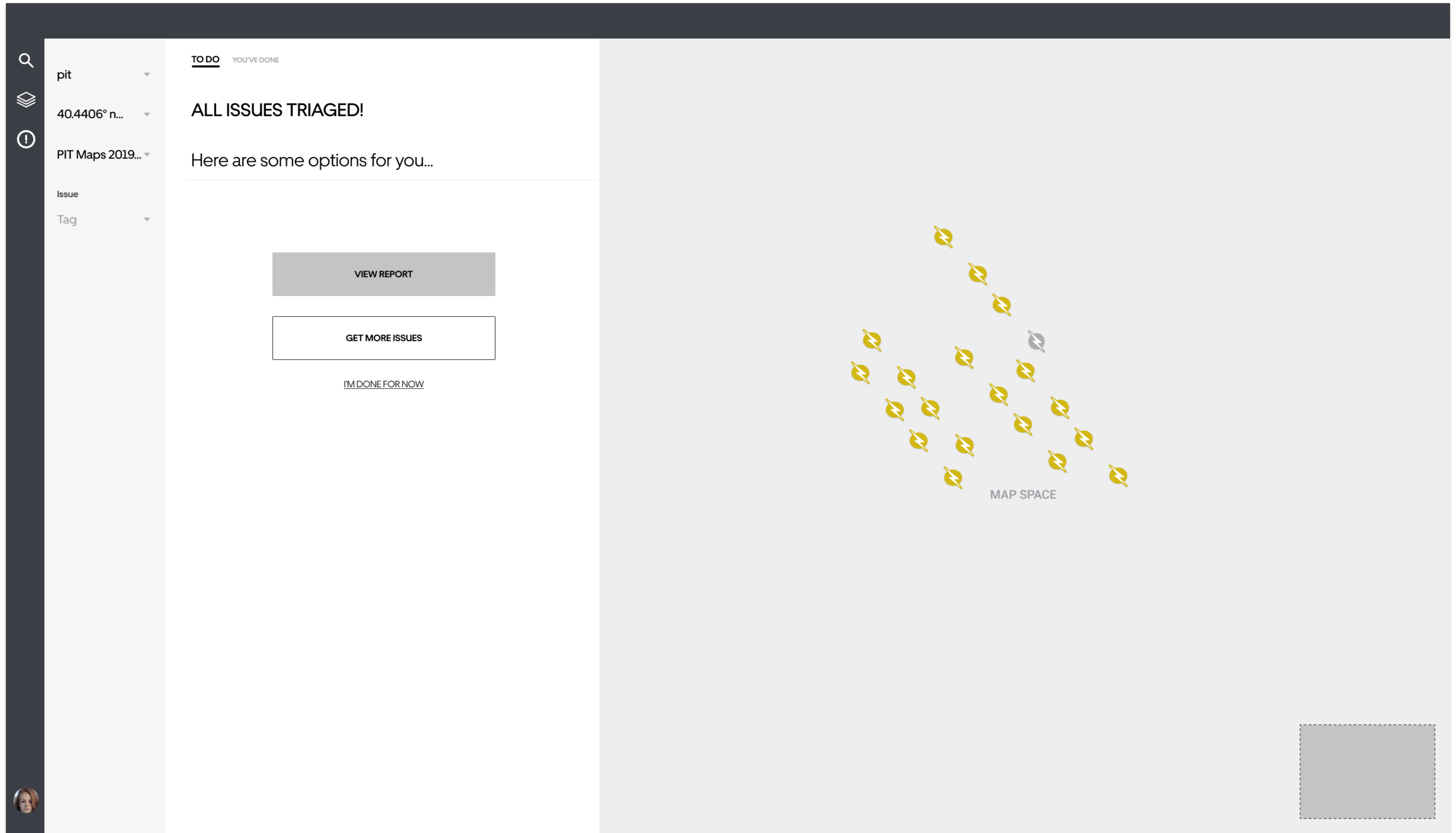
Lightning-in-MapExplorer Concept - All Issues Triaged

← My Metrics

False Positive %

33% ↑

since 07/15/2019

‹Other Metric›

12% ↓

since 07/15/2019

‹Other Metric›

58% ↓

since 07/15/2019

BIG CHART

Lightning-in-MapExplorer Concept - Big Numbers View

H6

Usability Test Scenarios

Usability Testing (50 minutes)

FOCUS FOR TRIAGE SPECIALISTS AND QA SPECIALISTS

-- Evaluative --

Initial Experience

- PROBE: Before we jump in, what do you think you'll see when you enter this app?
  - PROBE: What types of things do you think you'll see? (Features, information, etc.)

Initial Screen Scenario

- PROBE: What do you think you can take action on in this screen?
  - SUCCESS: Speaks to CTA and clicks on the button.

Load Issues Scenario

- PROBE: You want to look at map issues in the City of Pittsburgh. How would you do that?
  - SUCCESS: Search > PIT Pittsburgh
- PROBE: From here you want to select an entry point of sub-map 189. How would you do that?
  - SUCCESS: Select Entry Point > 189 sub-map.
- PROBE: You want to begin resolving a map lane gap issue from Office QA. How would you do that?
  - SUCCESS 1: Speaks to list of issues or icons on the map.
  - SUCCESS 2: Clicks on either the issue or the Office QA map icon.

-- Generative --

Issue Scenario

- PROBE: Based on that last click, what do you think is going on in this screen?
  - PROBE: What strikes you as interesting?
  - PROBE: What strikes you as out of place?
- PROBE: Now, you've opened an issue to work on. How would you resolve the issue? Now, I know it's not actually on the screen, but where would go to do this given how you work and what you've seen thus far.

- PROBE: How would you open evidence sources to verify that there is an issue?
  - BUMP: Can you show me?
  - PROBE: What would you expect to happen when you click on one of the sources? Let's say you wanted to look at the LIDAR.
  - SUCCESS: clicks on Evidence > discusses what is there > Normalized LIDAR Intensity.

Mark Issue Scenario

- PROBE: You've looked at some sources of evidence and you've found that this is a duplicate issue. How would you resolve this issue as duplicate? Now, I know it's not on the screen, but where do you think you would go to mark this as a duplicate issue?
- SUCCESS: Speaks to the location and provides guidance.

Comment/Save Scenario

- PROBE: Let's say you've marked this issue as a duplicate but you find that you want to leave a comment to MTO. How would you go about leaving a comment. Where do you think you would go to do that - given your work and what we've seen thus far? Is it on the screen or do we create our own panel?
  - SUCCESS: Speaks to the location of where they would comment and save the scenario.

History Scenario

- PROBE: Let's say you've saved your triaged issue. How would you look at the history of this issue?
  - SUCCESS: Speaks to where the history of the issue could go (given ME's nuanced interface).
- PROBE: What does the history of an issue look like to you?
  - PROBE: Details, chronological/reverse chronological order, etc.

Debrief (5 minutes)

- Distribute SUS/BERT (LINK): https://forms.gle/7PT2cz7DsbnxM34d9
- Is there **anything else** you were hoping to be able to provide feedback on that we haven't discussed?
- Could we get your **contact information** in the event we wanted to follow up with you?
- Who do you think we should talk to **next?**

Final Concept Designs

Home Screen

Hi Deirdre

Welcome back to MapExplorer!

🔍 Search for a City, Street Address, or a Lat/Lon

Missions (6)

Pittsburgh 1

Pittsburgh 2

Pittsburgh 3

Toronto 1
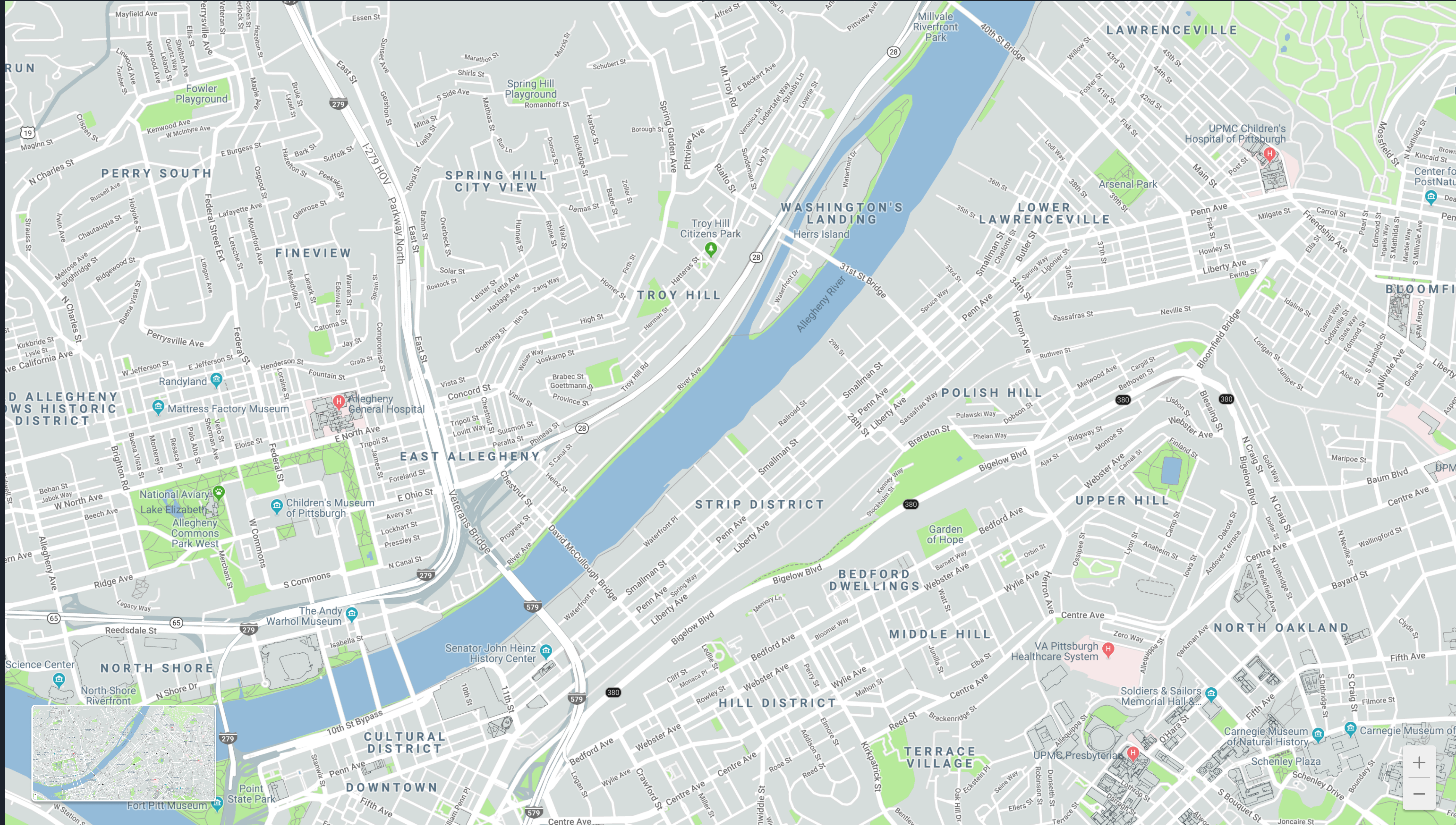
San Francisco 1

San Francisco 2

Search Panels

MapExplorer

search

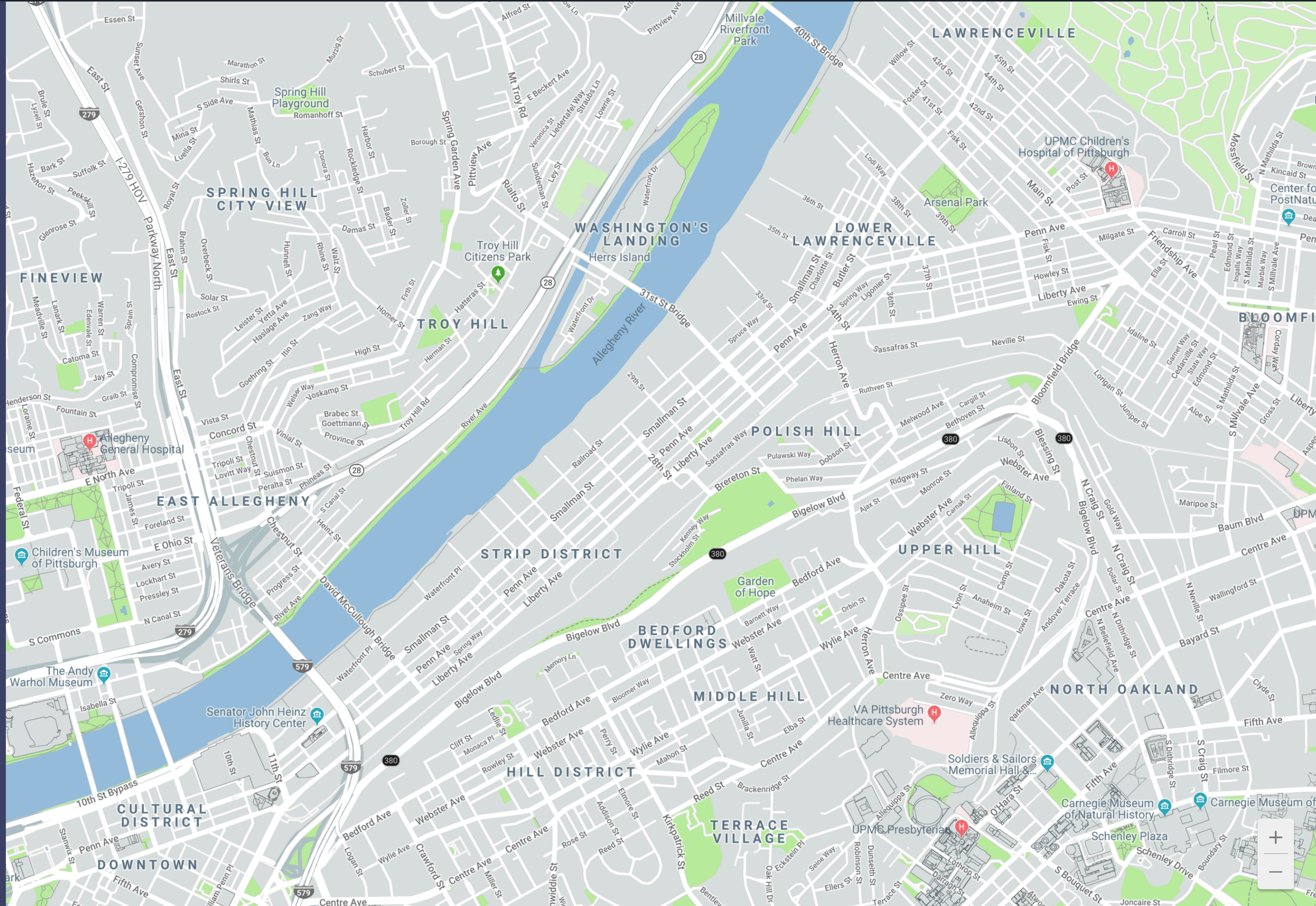40.4406° N, 79.9959° W

12345 Spring Garden Ave
Pittsburgh, PA

All Cities

PHX Phoenix, AZ
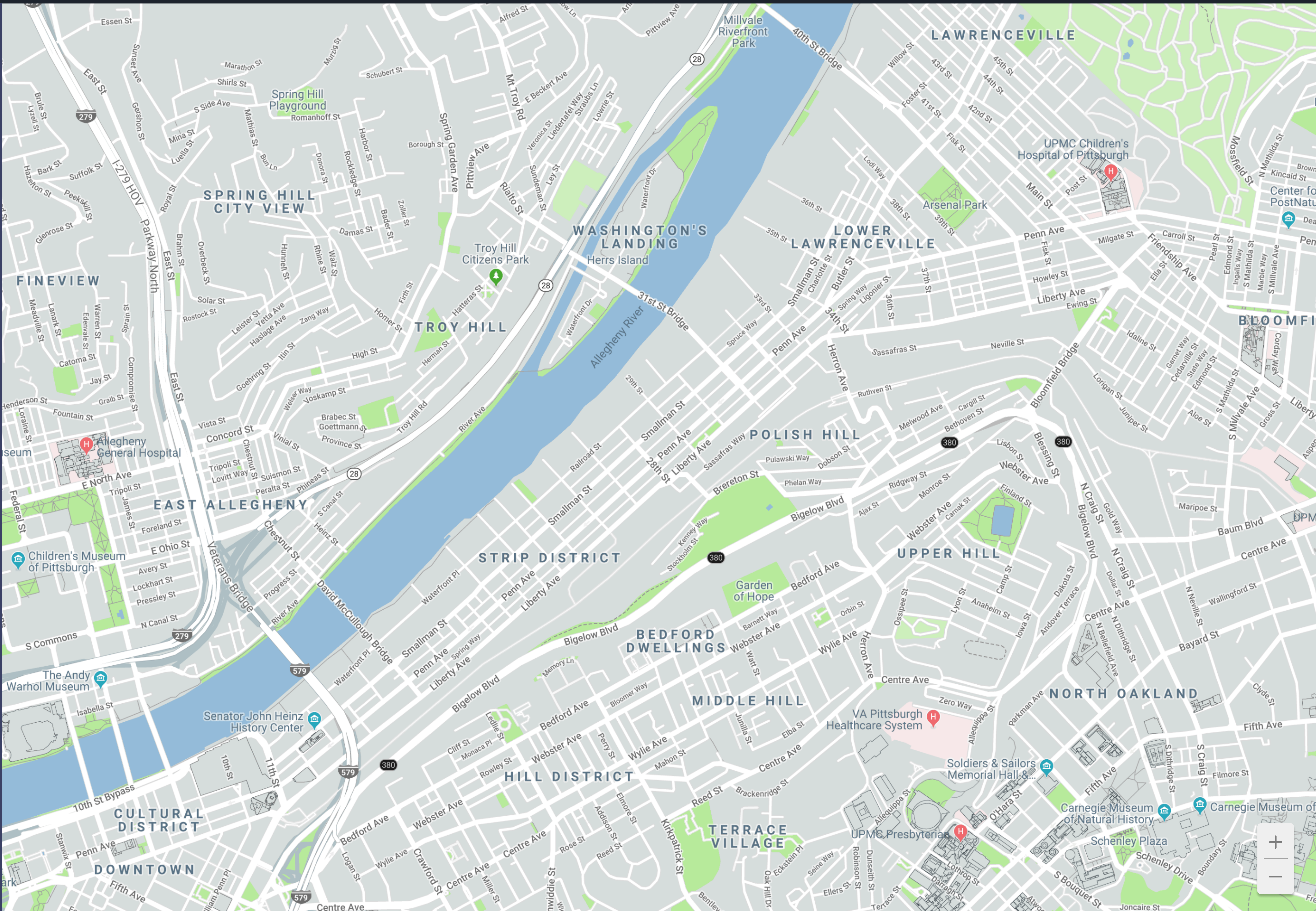
PIT Pittsburgh, PA

SFO San Franscico, CA

YYZ Toronto, Ontario

MapExplorer

PIT

Cities

PIT Pittsburgh, PA

Lat/Lon

40.4406° N, 79.9959° W

MapExplorer

55555 Veronica St Pittsburgh PA

Address

55555 Veronica St
Pittsburgh PA

Cities

PIT Pittsburgh, PA

MapExplorer
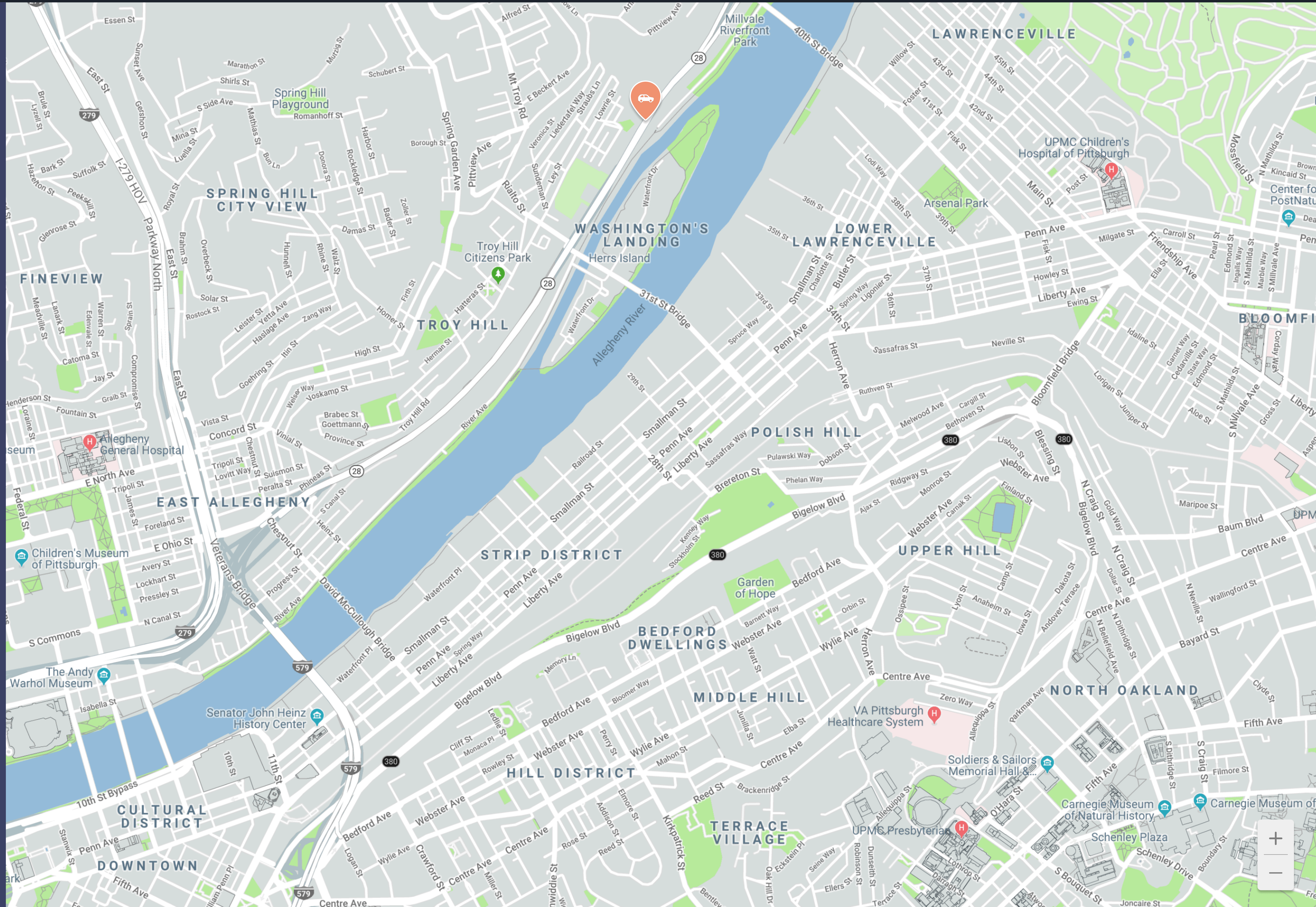
40.4406° N, 79.9959° W

Lat/Lon

40.4406° N, 79.9959° W

Cities

PIT Pittsburgh, PA
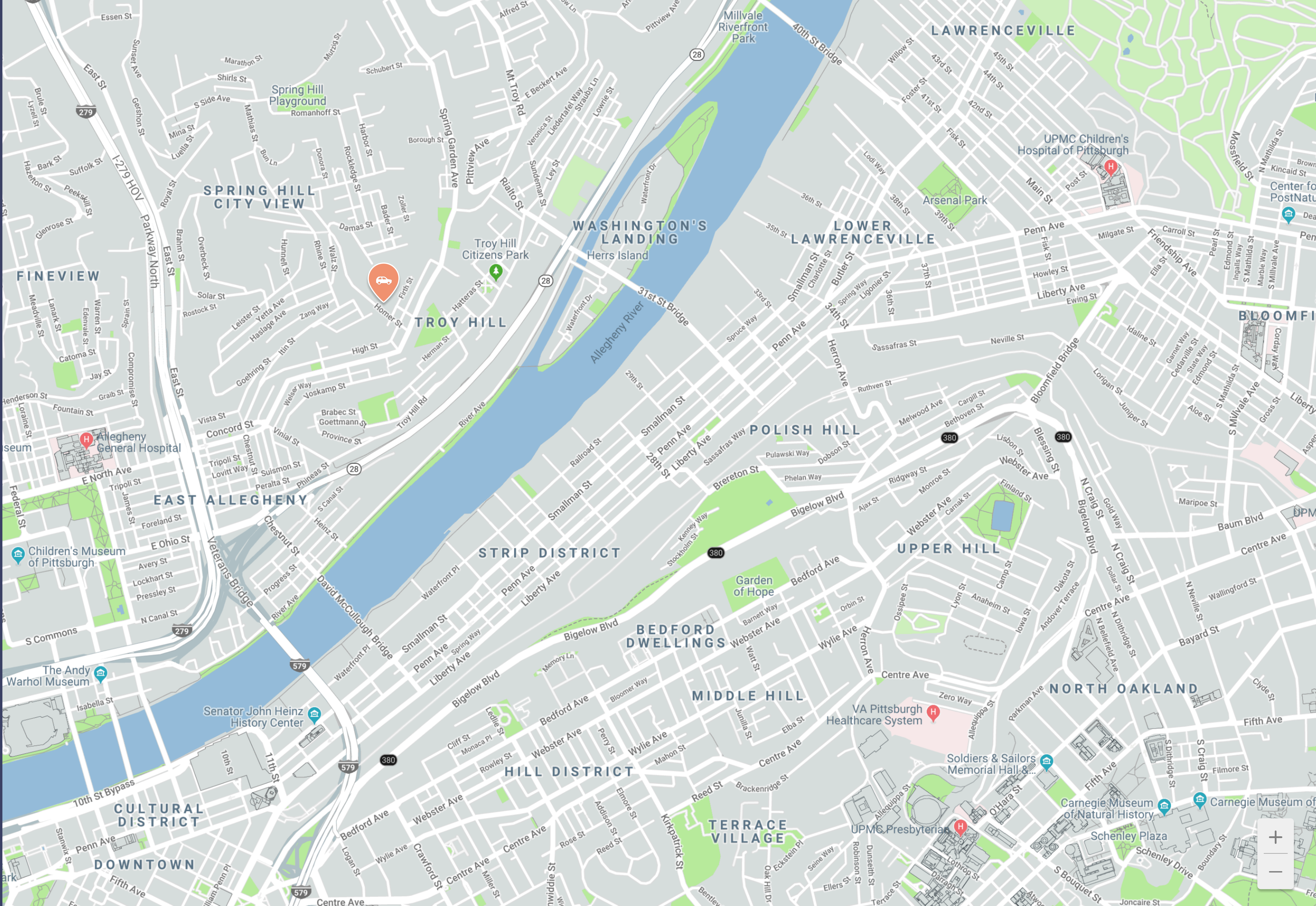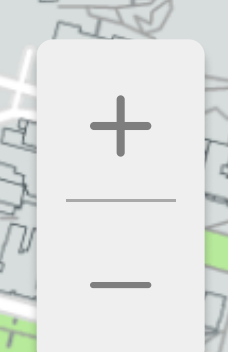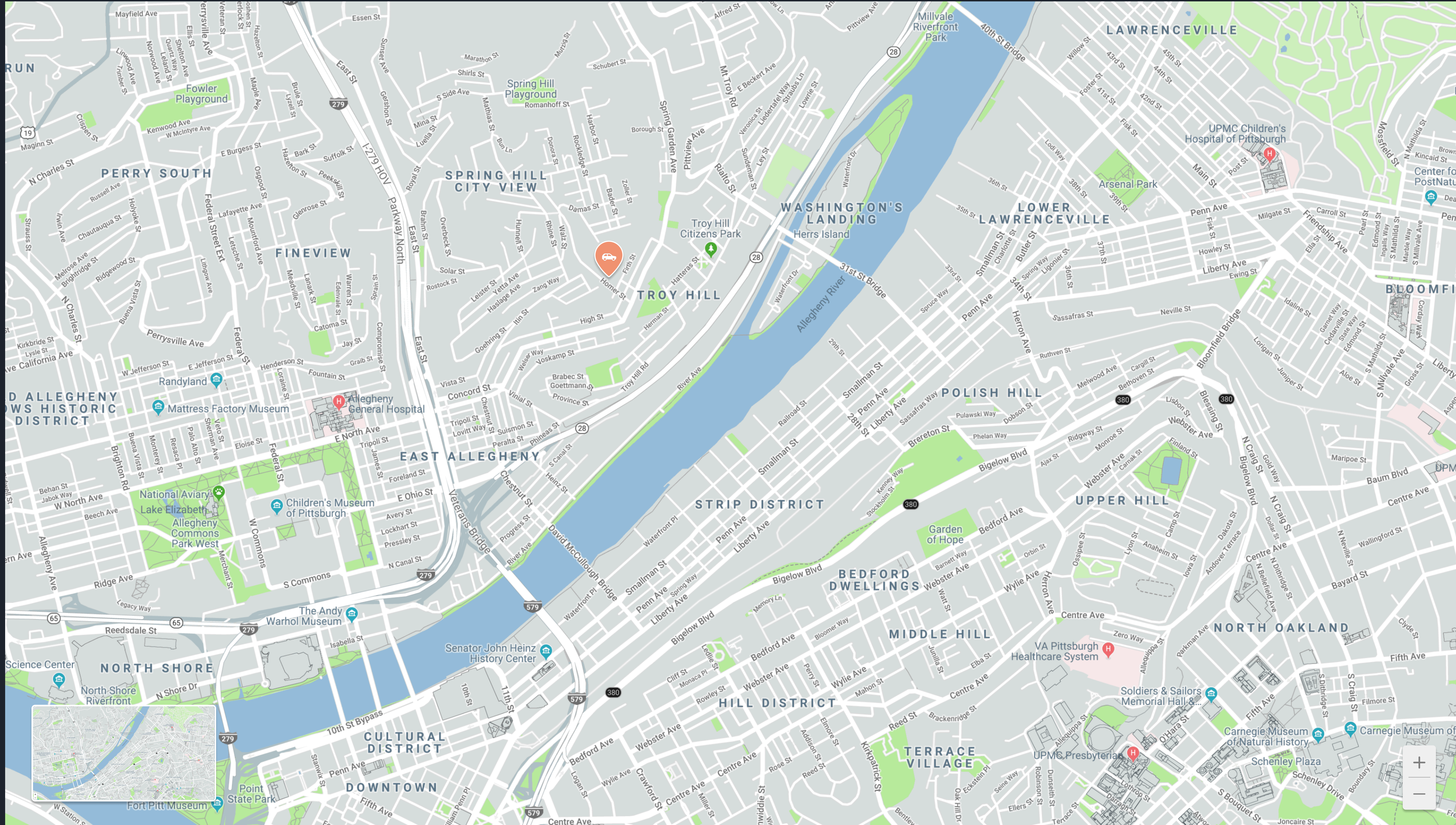
MapExplorer

PIT Pittsburgh, PA

40.4406° N, 79.9959° W

Select a Map ▾

PIT ✕

Production (18)   Release (20)

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.189.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT ✕
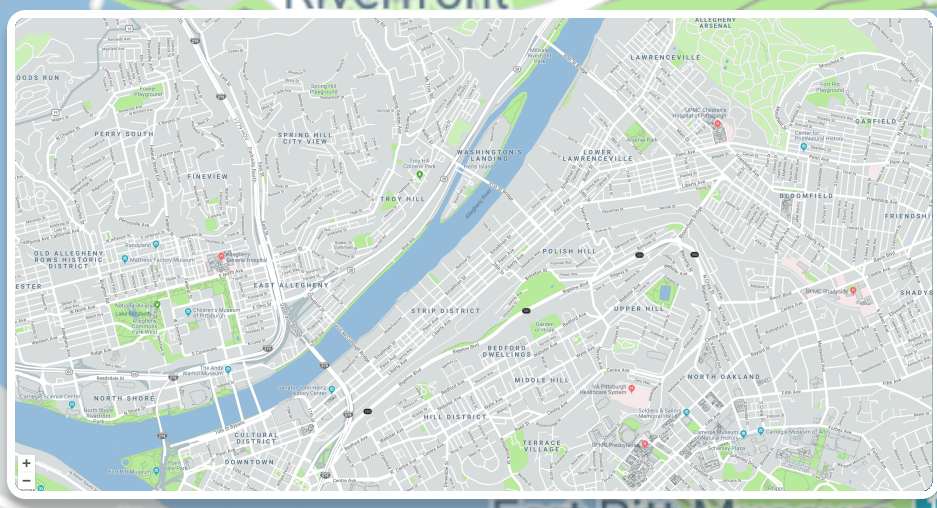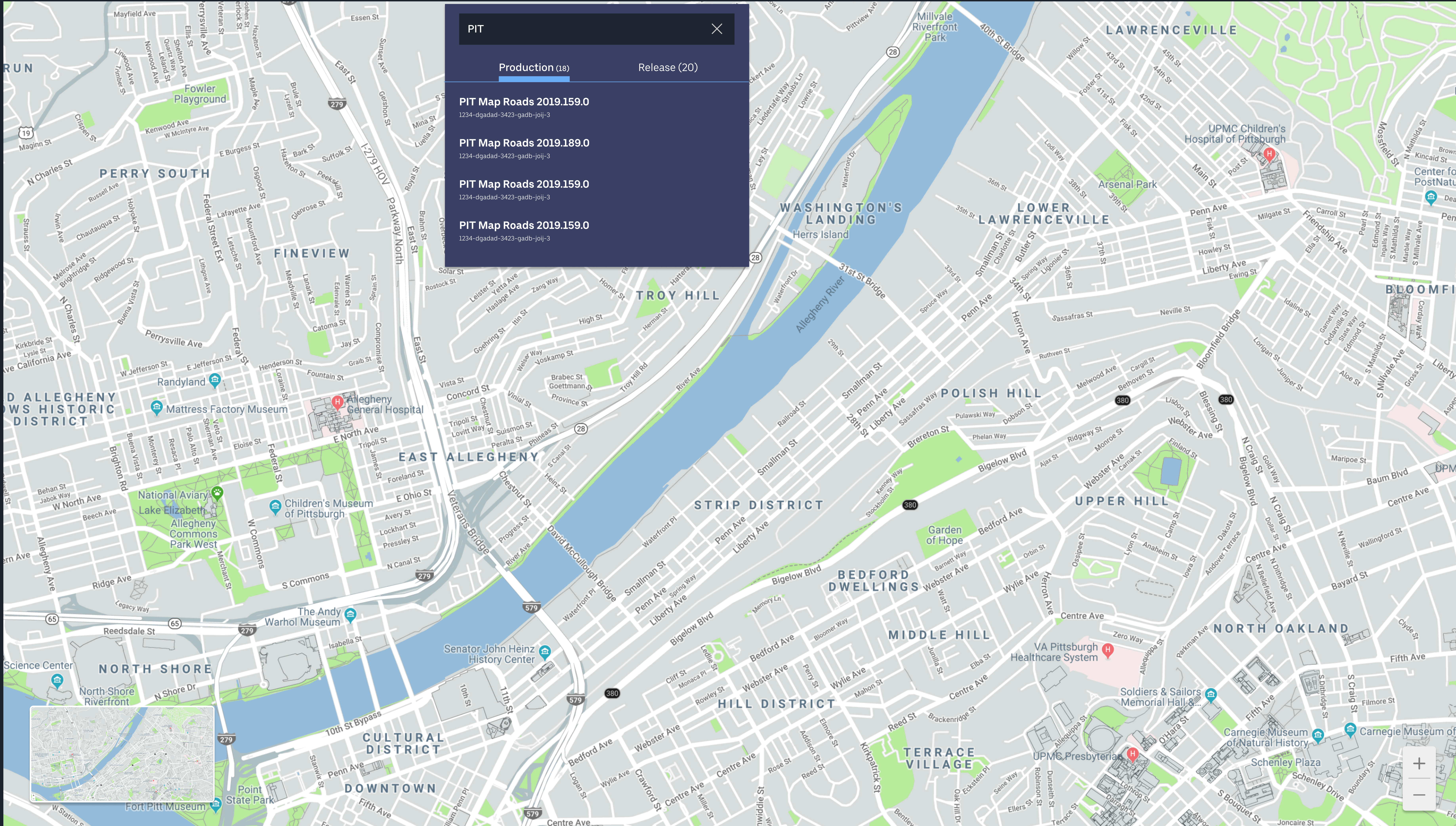
Production (18)   Release (20)

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.189.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

Mark Real Issue

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

TO DO   COMPLETE

Issue	Status	Date Created
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

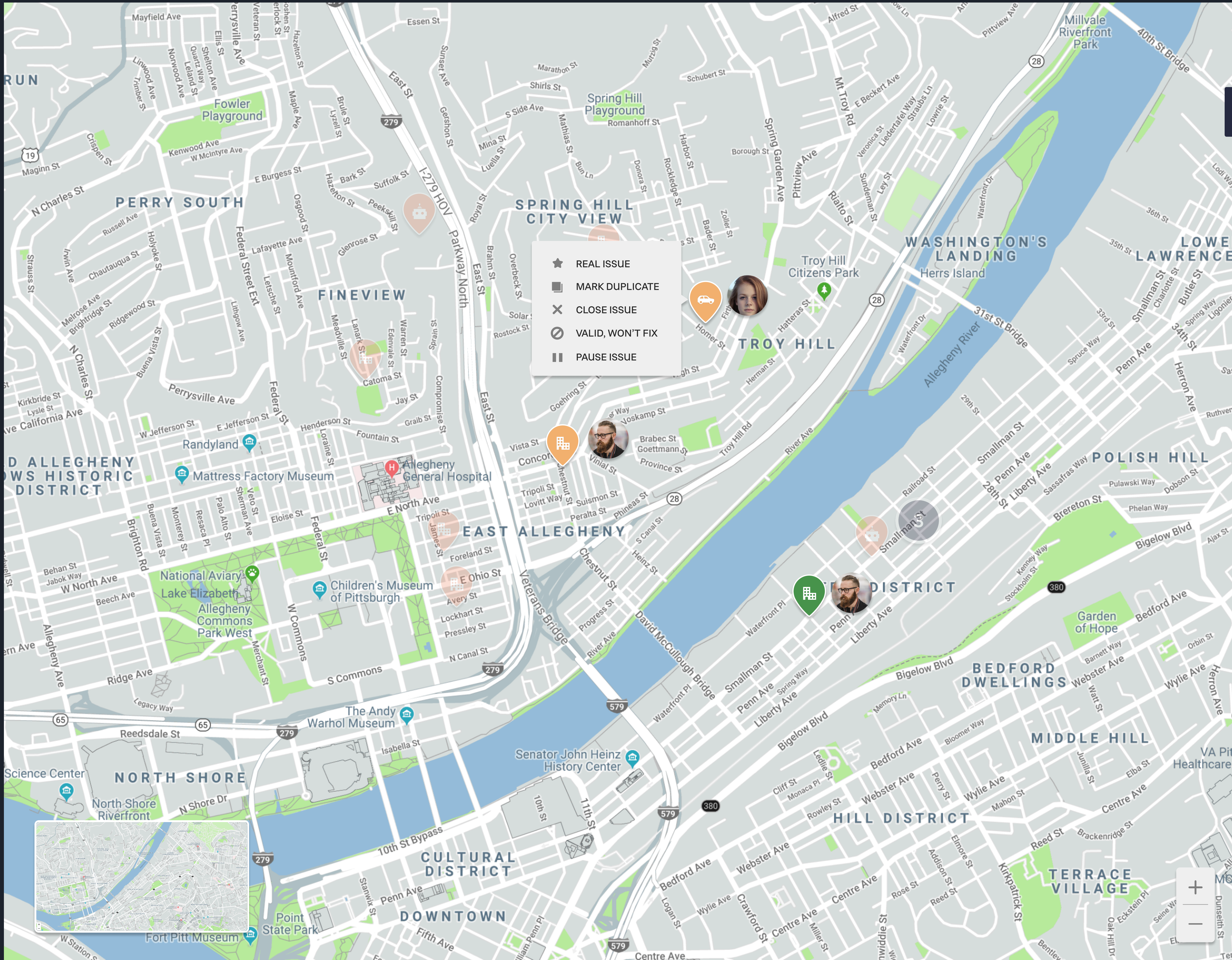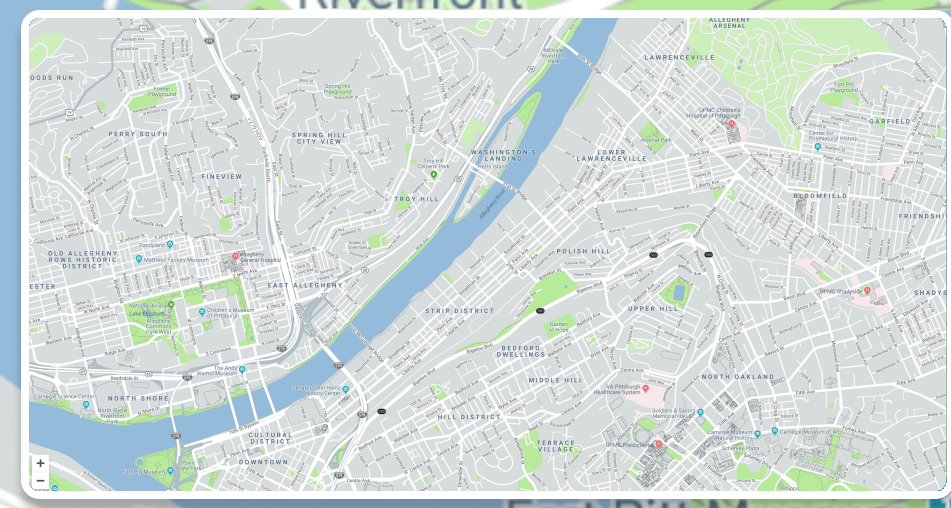Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues   TO DO   COMPLETE

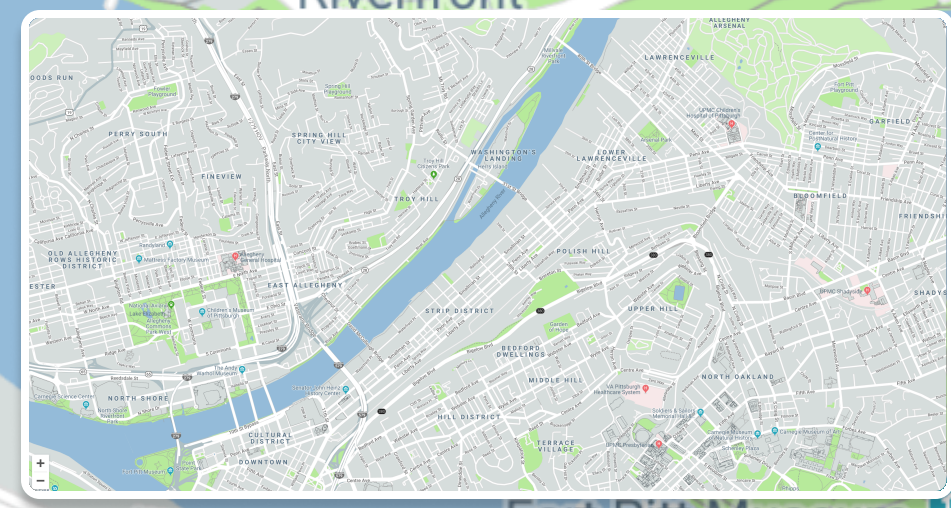| Issue	Status		Date Created
Lane Gap		ACTIVE	09/23/2019 11:11 AM
Lane Gap		REVIEWING	09/23/2019 11:11 AM
Lane Gap		ACTIVE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List
to see Issue Details and Attributes.

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues   TO DO   COMPLETE

Issue	Status	Date Created
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	REVIEWING	09/23/2019 11:11 AM
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM

Map context menu

- ★ REAL ISSUE
- ▣ MARK DUPLICATE
- ✕ CLOSE ISSUE
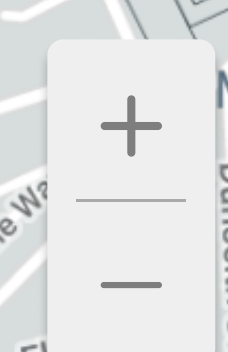- ⊘ VALID, WON'T FIX
- ‖ PAUSE ISSUE

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues   TO DO   COMPLETE

Issue	Status	Date Created
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	REVIEWING	09/23/2019 11:11 AM
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

Map context menu:
- ★ REAL ISSUE
- ▣ MARK DUPLICATE
- ✕ CLOSE ISSUE
- ⊘ VALID, WON'T FIX
- ‖ PAUSE ISSUE

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues ∨

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

🚗 Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes
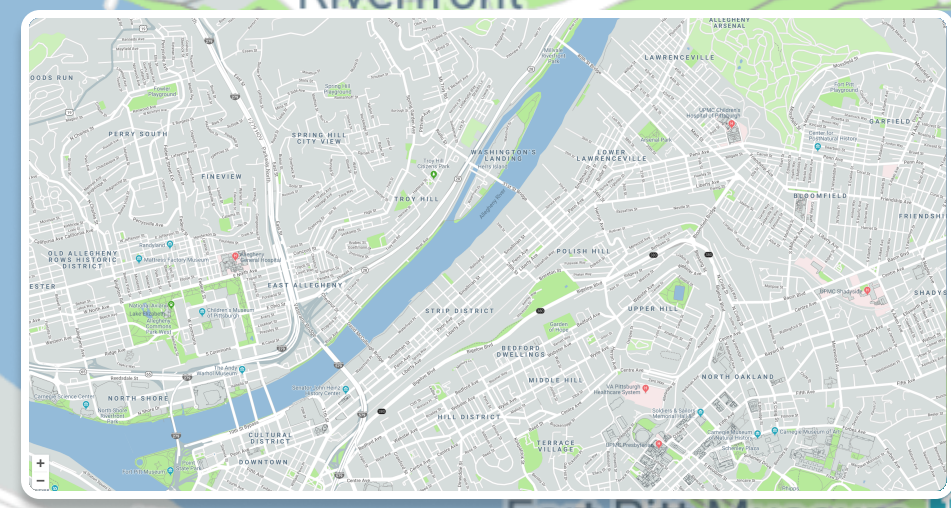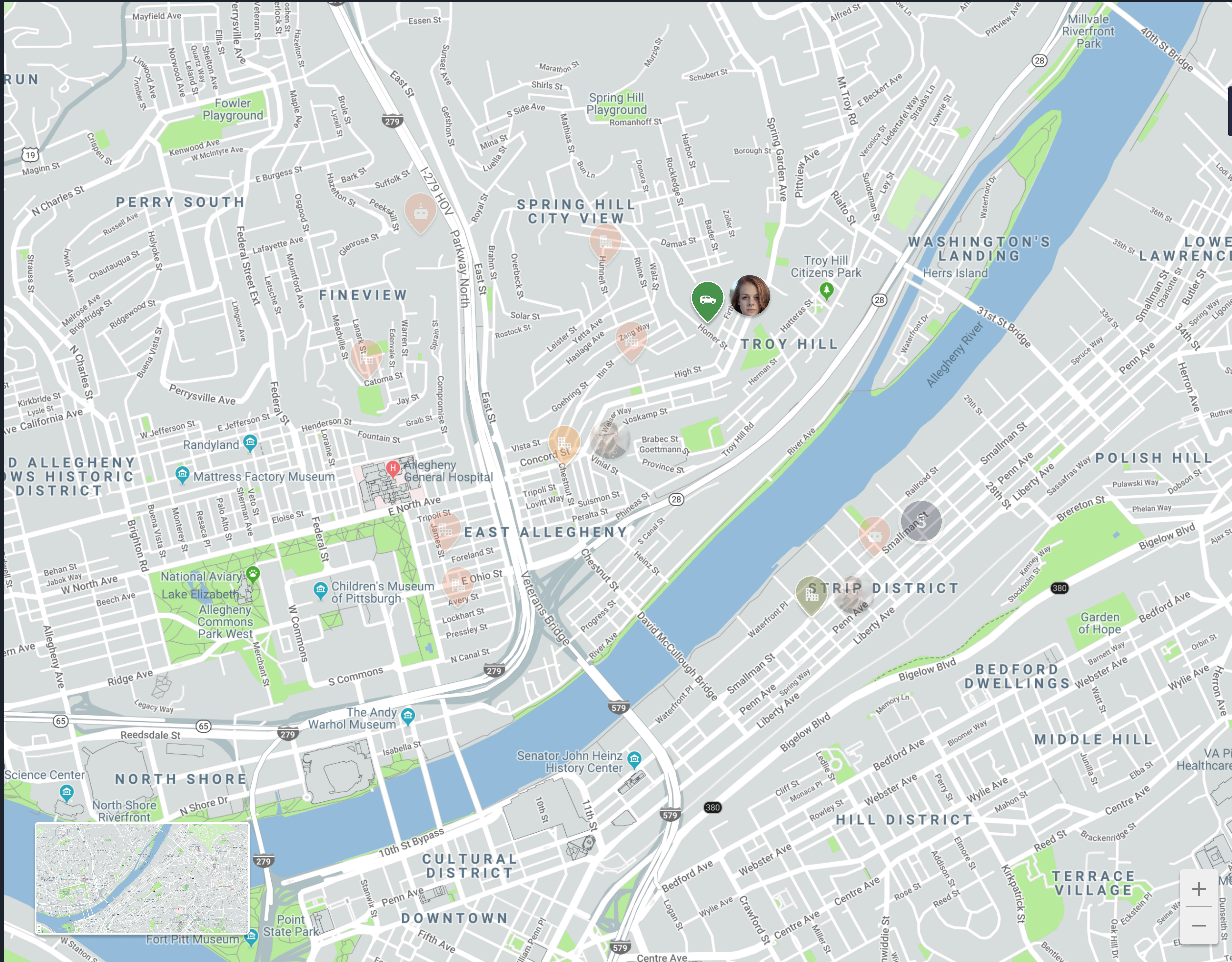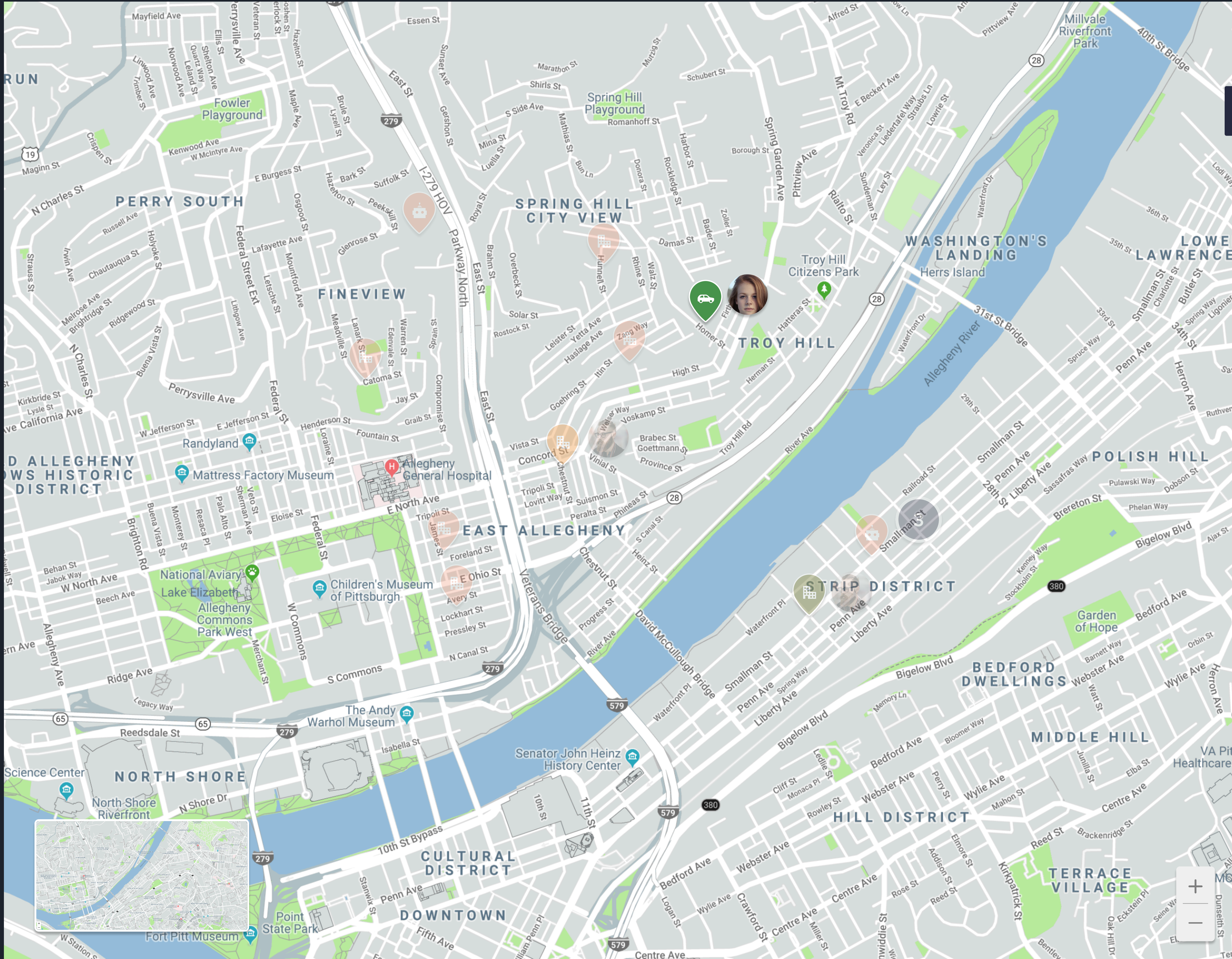
Issue   🚗 Road QA Event   ⏸
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

⭐ Real Issue   ▭ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

Your Comments...

CANCEL   ➤ SUBMIT

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID:	dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type:	Verified
Lat/Lon:	-79.575848/104.2039
Lane Gap:	Yes

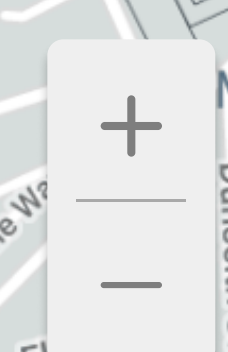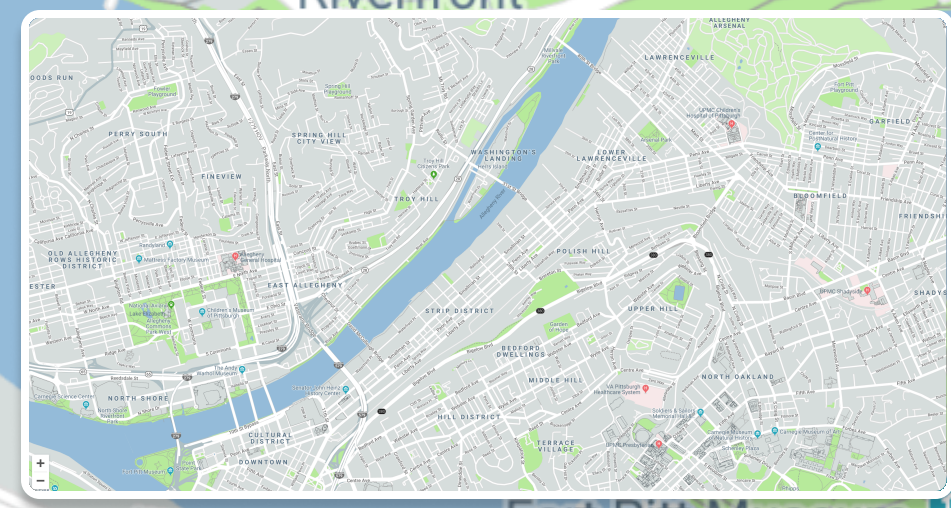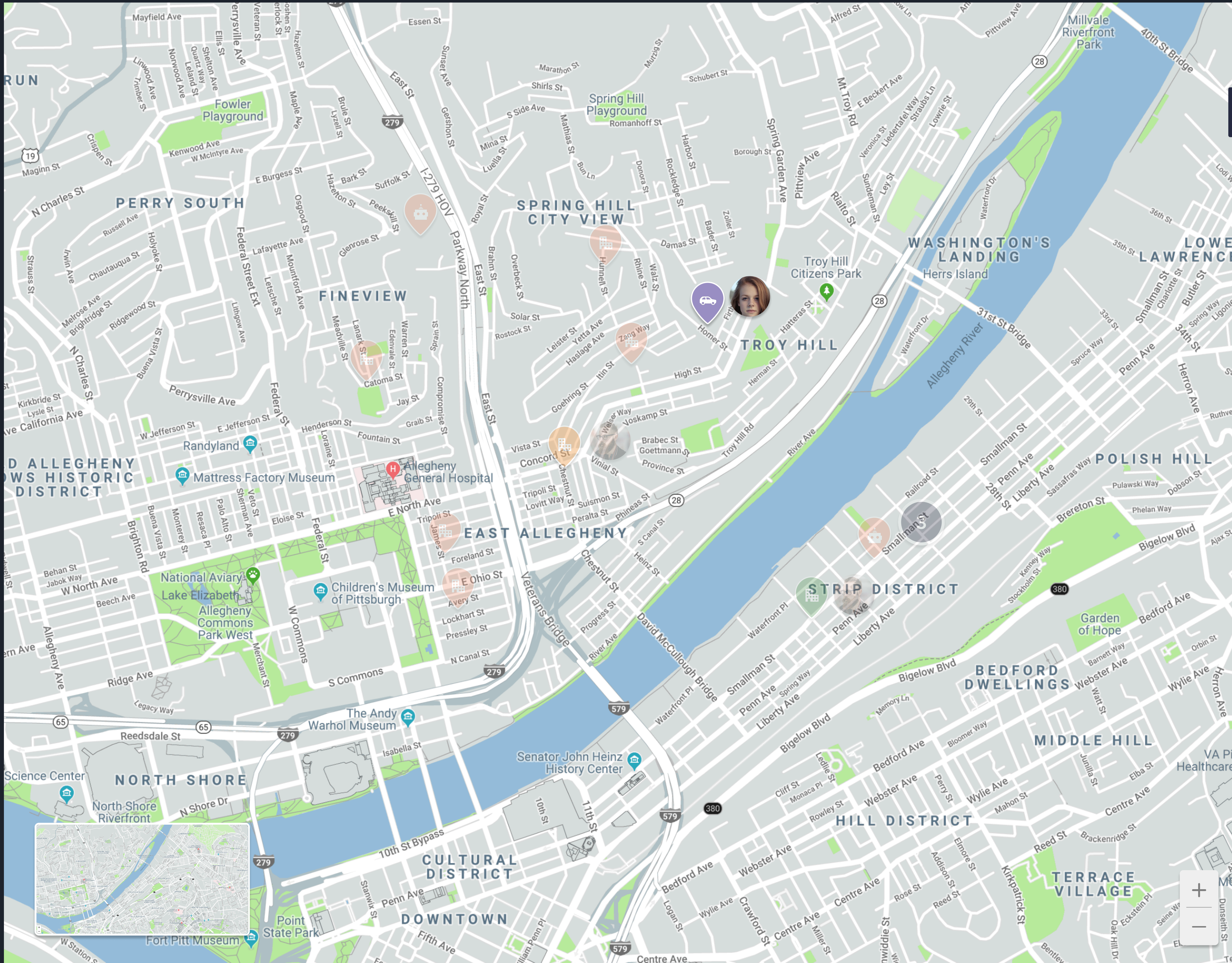### Issue   Road QA Event

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

★ Real Issue   Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

This looks like we are missing the lane gap information here. I'm sending it to MTO to look into this further.

CANCEL   ➤ SUBMIT

MapExplorer

PIT Pittsburgh, PA

40.4406° N, 79.9959° W

PIT Release 2019.189.0 (10.01.19) Production Most Recent

99 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue Road QA Event   Real Issue

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"This looks like we are missing the lane gap information here. I'm sending it to MTO to look into this further."

▶ Triaged Issue sent to MTO at 1:23 pm

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

Re-Open Issue   JIRA: 987654
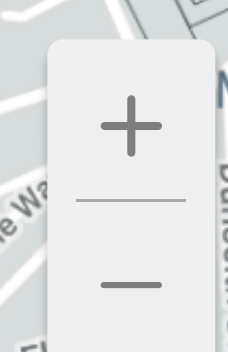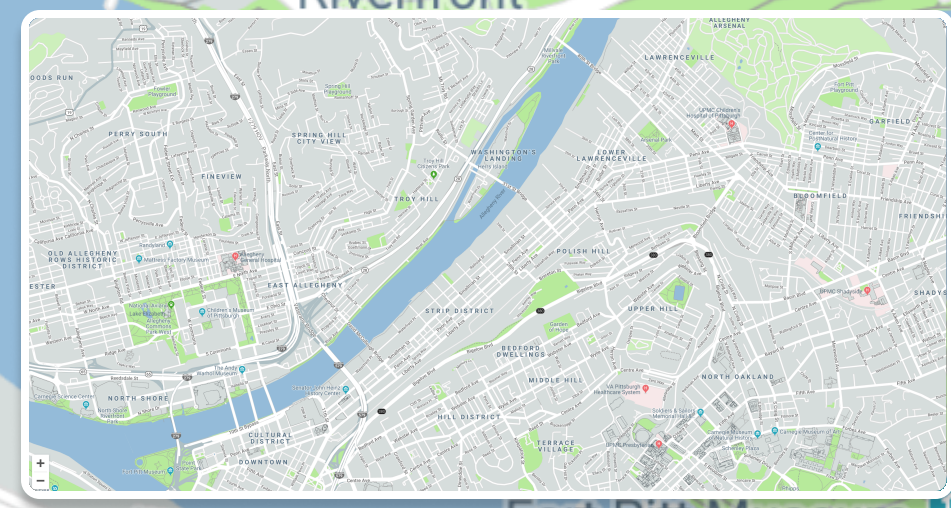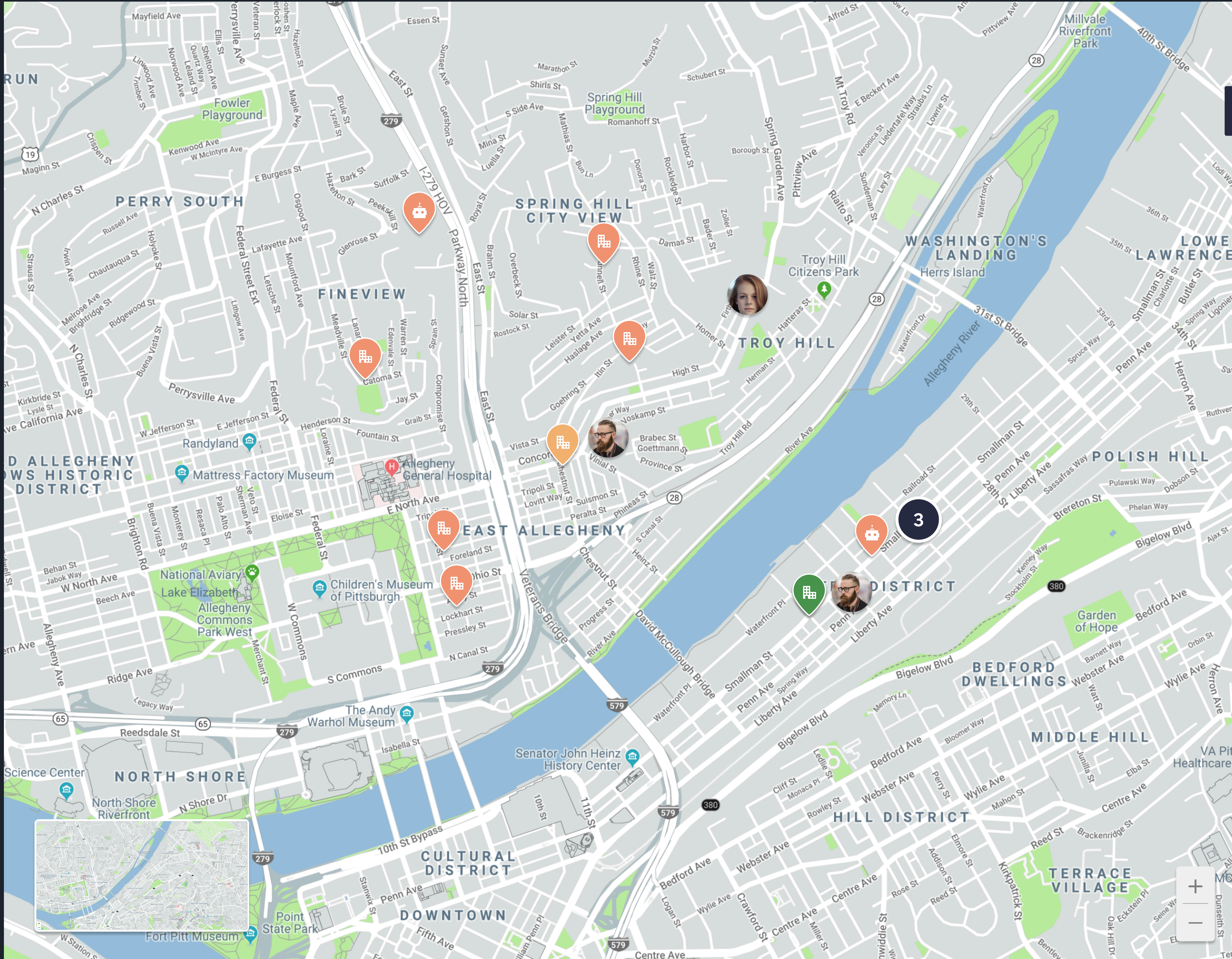
We saved your changes!   ↶ Undo

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues

TO DO   COMPLETE

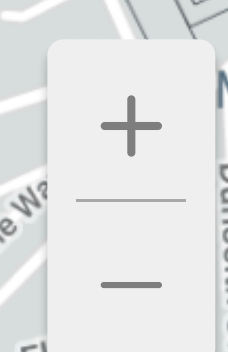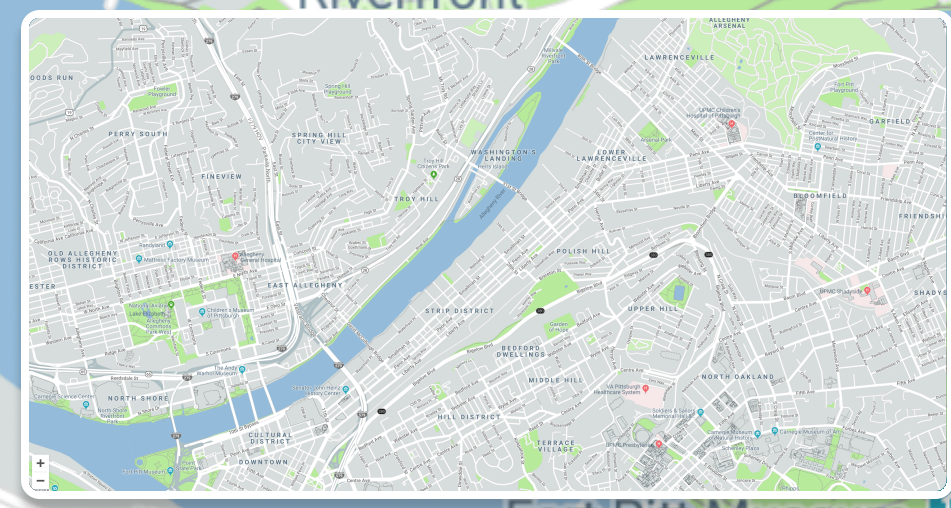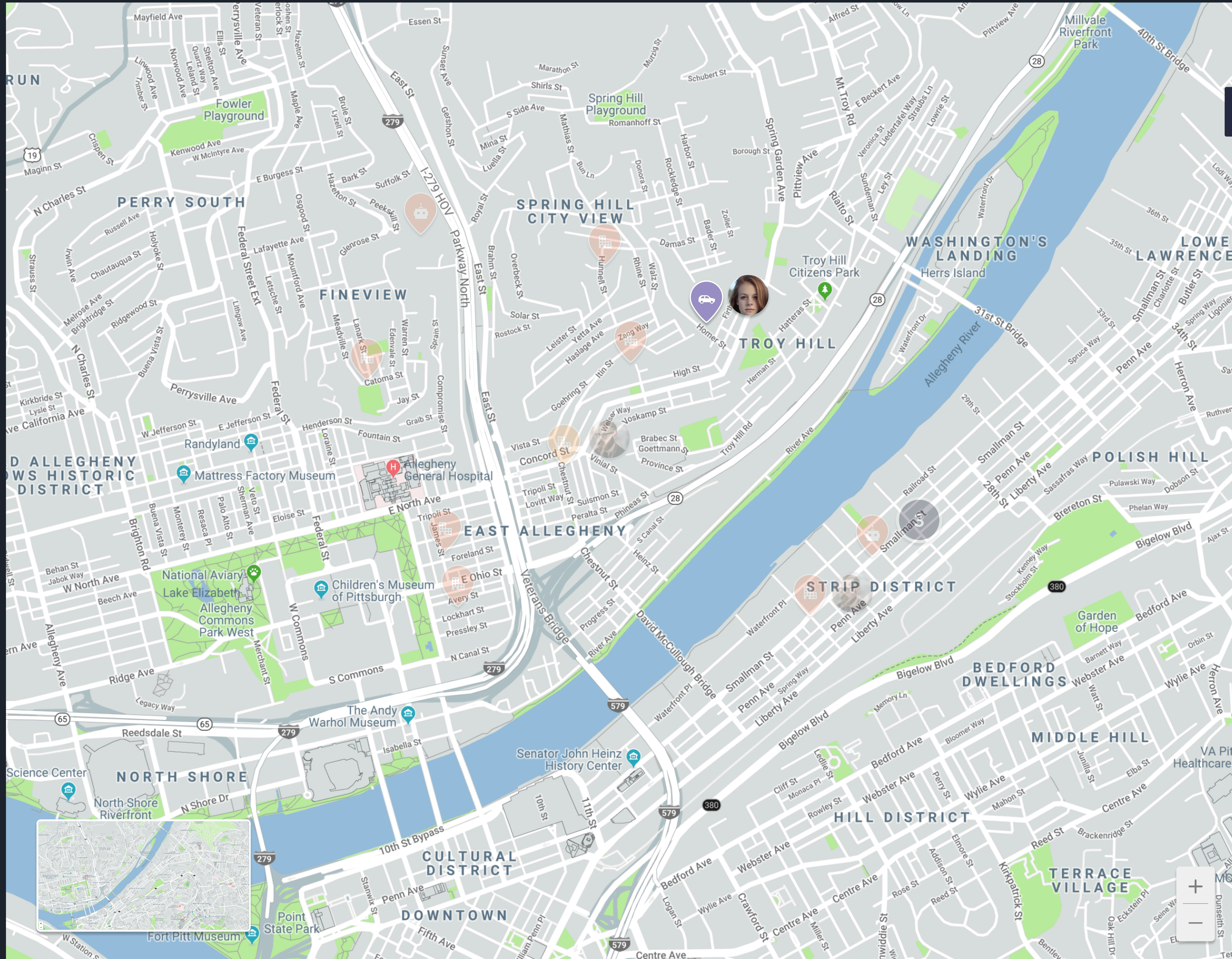| Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List
to see Issue Details and Attributes.

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

1 Issue ⚙ ^   TO DO   COMPLETE

Issue	Status	Date Created
Lane Gap	REAL ISSUE	09/23/2019 11:11 AM
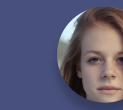
ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

Edit/Save Attributes

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues ▾

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

🚗 Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
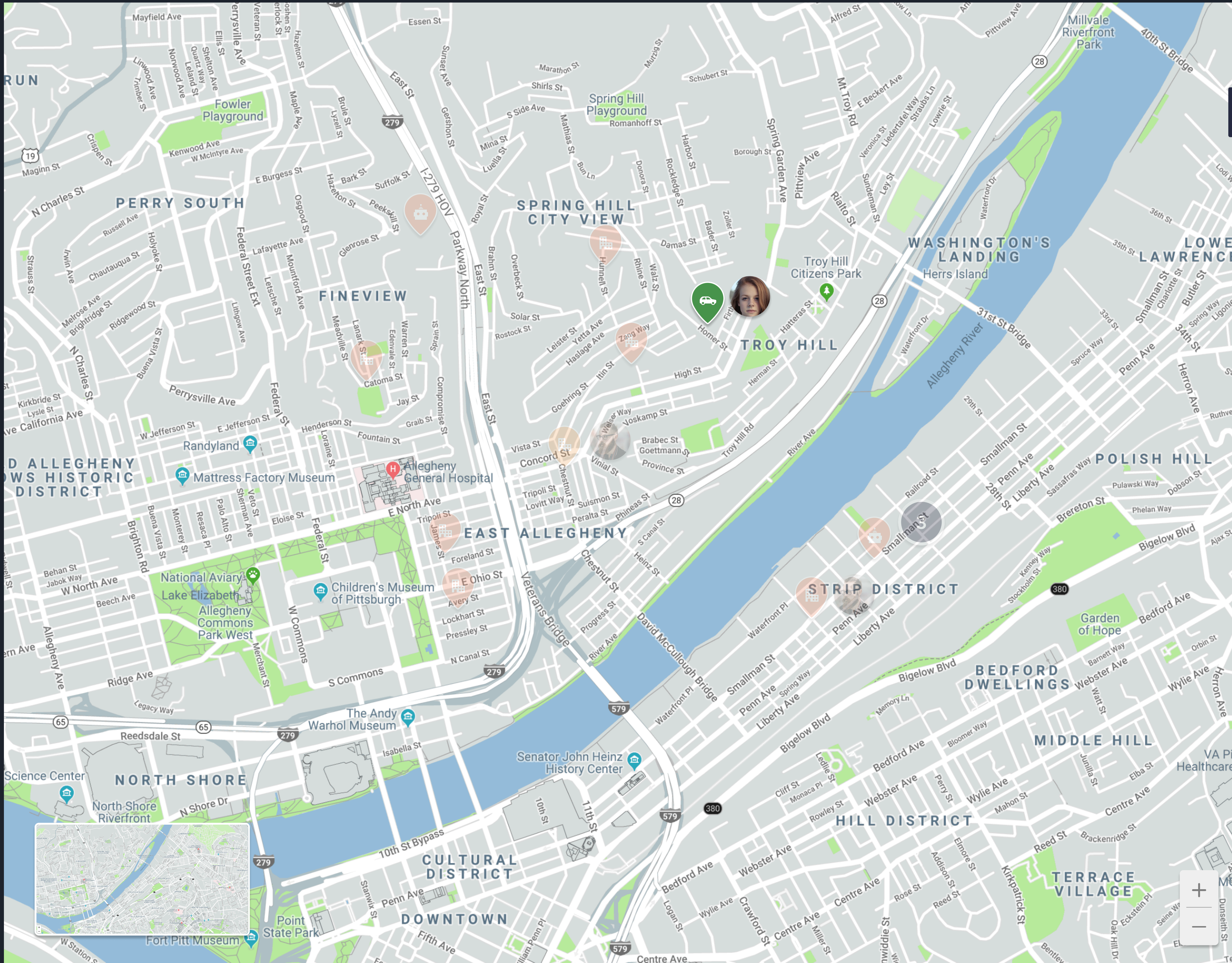**Path Type:** Unverified
Lat/Lon: -79.575848/104.2039
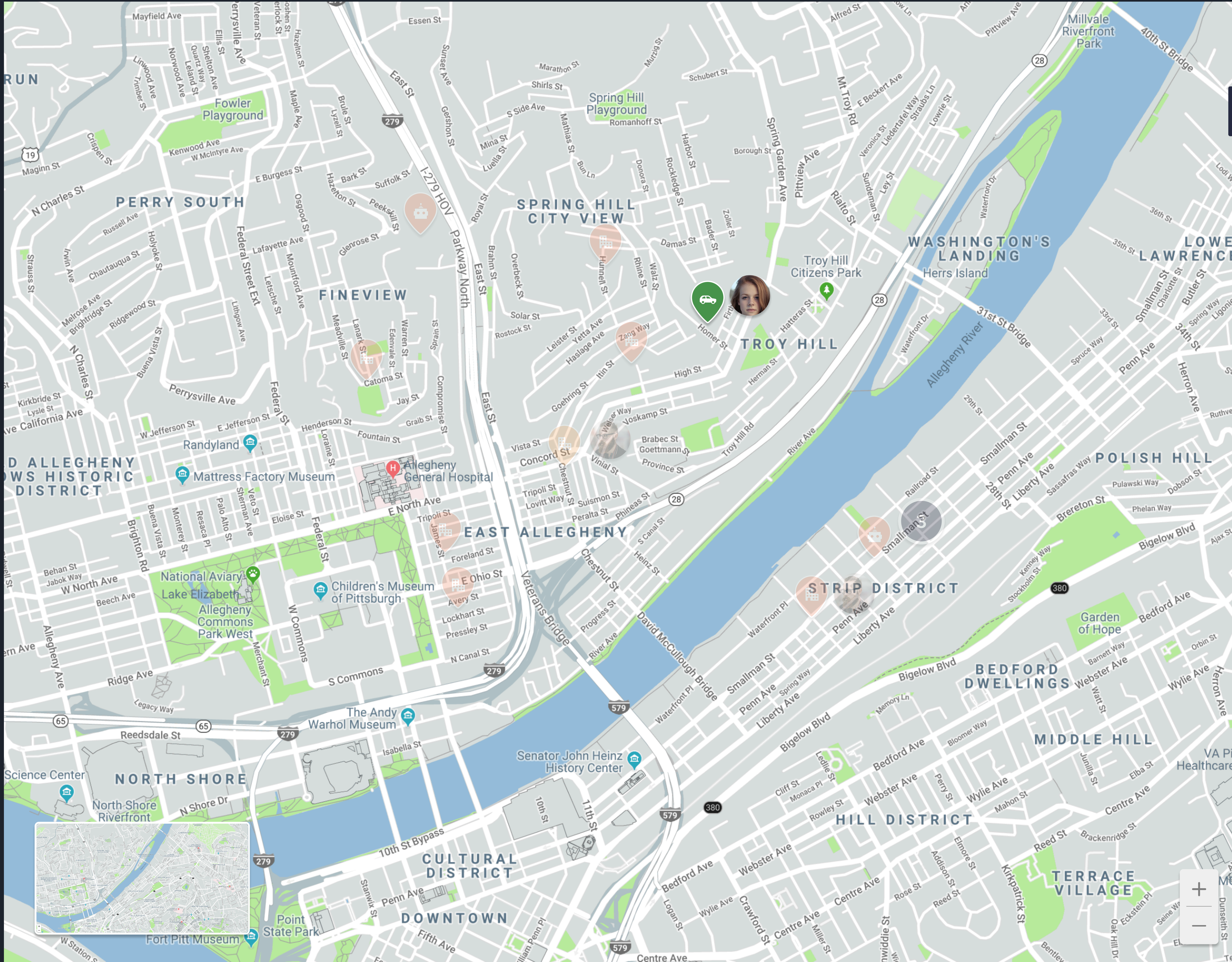**Lane Gap:** Yes

Issue 🚗 Road QA Event   ⏸

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

⭐ Real Issue   ▣ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Unverified
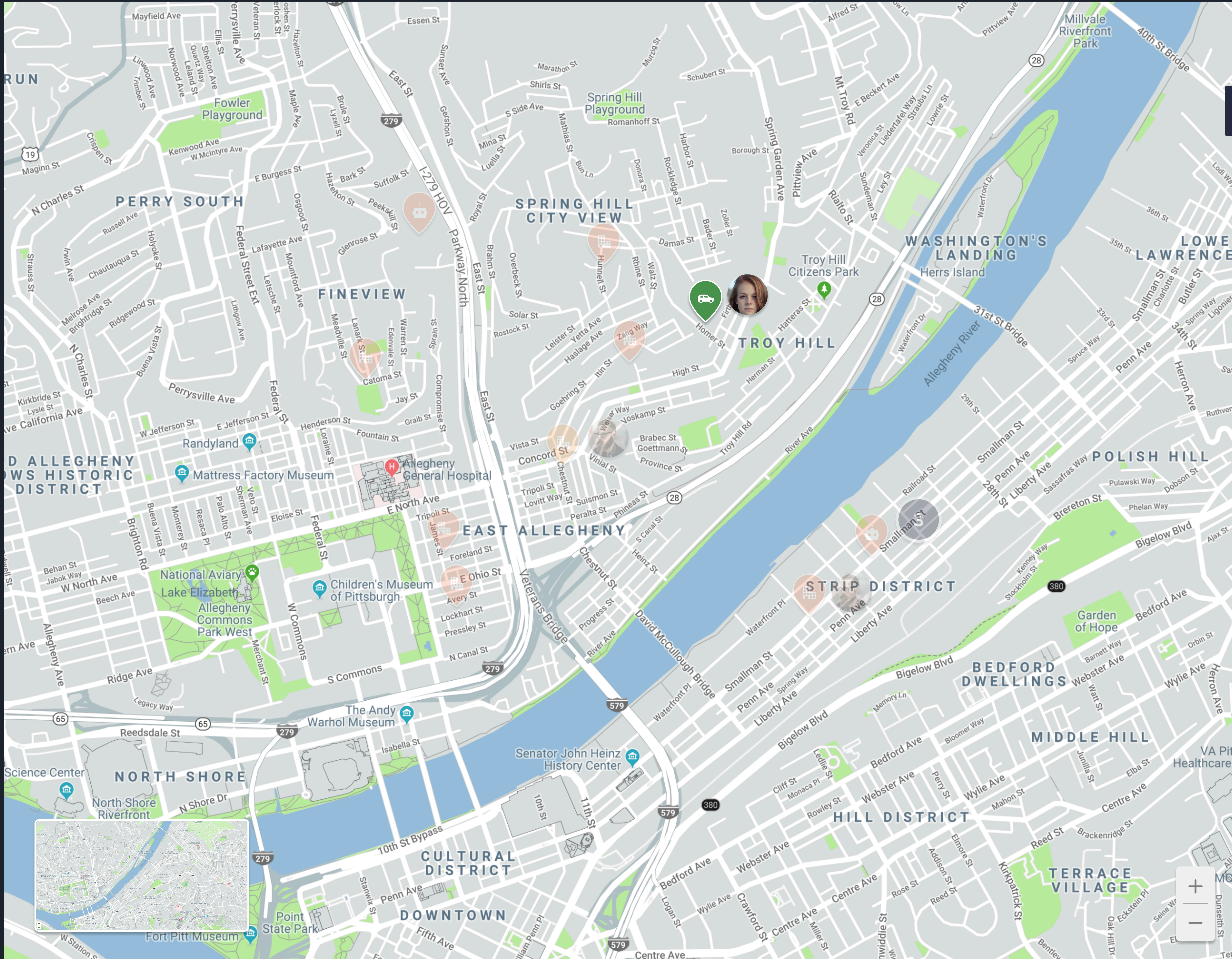Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue Road QA Event
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

Real Issue   Mark Duplicate   Close Issue   Valid, Won't Fix

MapExplorer

ISSUES LIST LAYERS EVIDENCE PANO

100 Issues ⌄

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS PRIORS VIEWER SUMMARY

🚗 Selected: Lane Gap ✕ Cancel ✓ Save

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd ✕
Path Type: Unverified ⌄
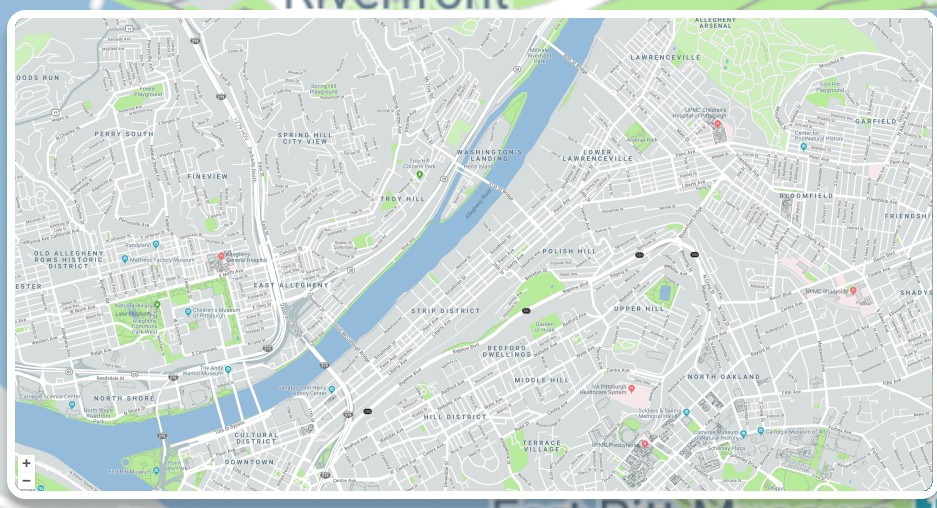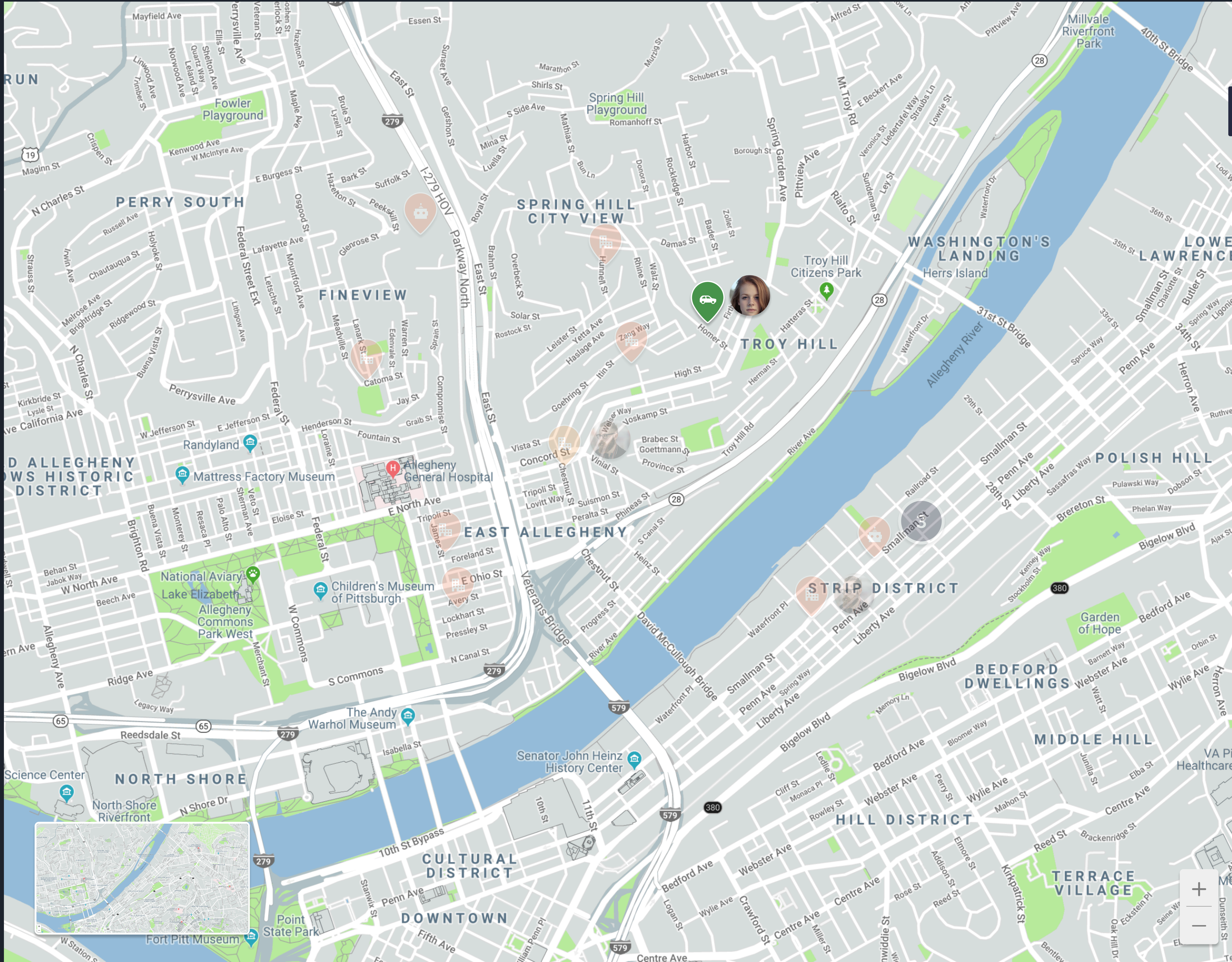Lat/Lon: -79.575848/104.2039 ✕
Lane Gap: Yes ⌄

Issue 🚗 Road QA Event ⏸

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

⭐ Real Issue ▣ Mark Duplicate ✕ Close Issue ⊘ Valid, Won't Fix

PIT Pittsburgh, PA

40.4406° N, 79.9959° W

PIT Release 2019.189.0 (10.01.19) Production Most Recent

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues ∨

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

🚗 Selected: Lane Gap   ✕ Cancel   ✓ Save

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd ✕
Path Type: Unverified ∨
Lat/Lon: Unverified ✕
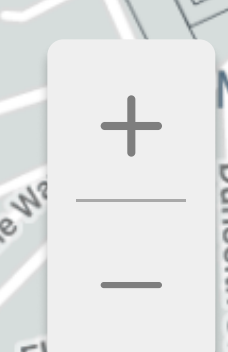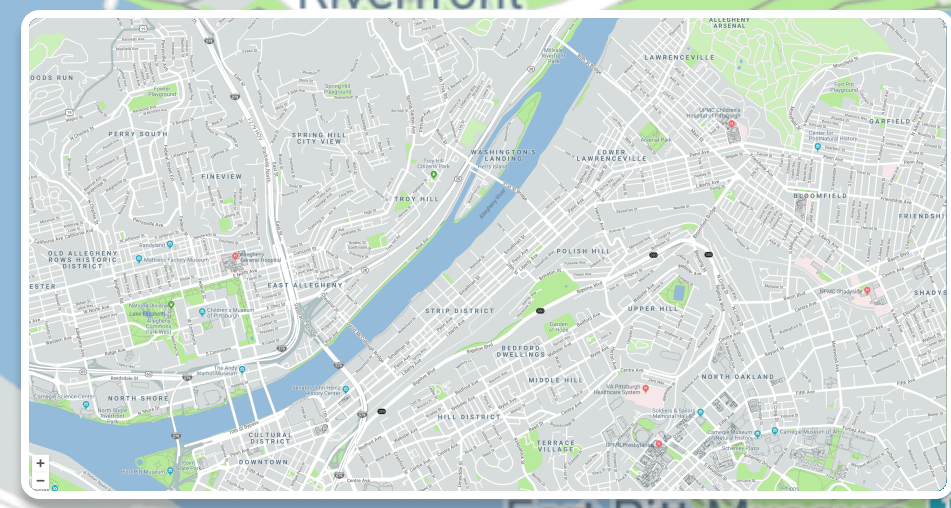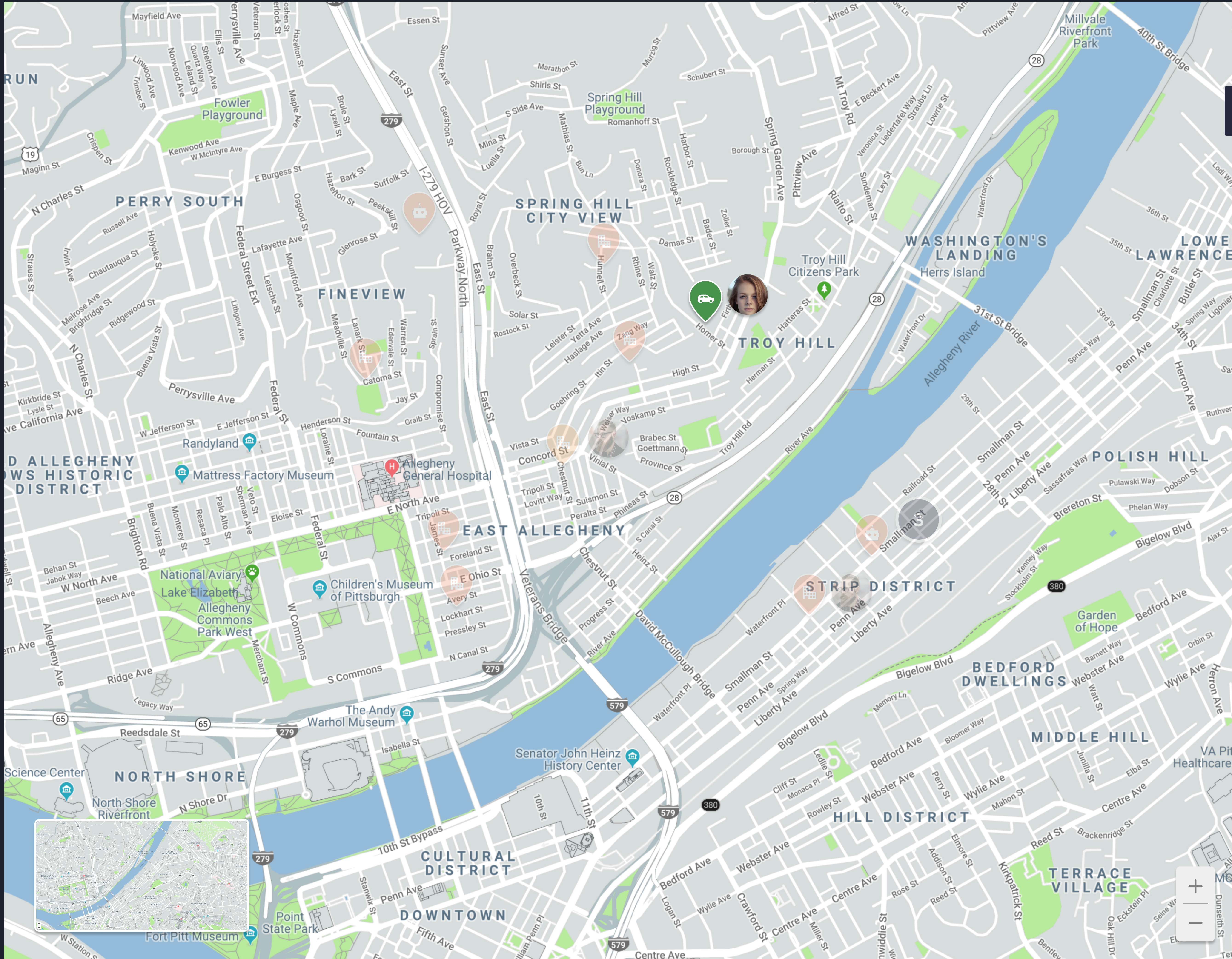Lane Gap: Verified

Issue 🚗 Road QA Event   ⏸

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

★ Real Issue   ▬ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

MapExplorer

PIT Pittsburgh, PA | 40.4406° N, 79.9959° W | PIT Release 2019.189.0 (10.01.19) | Production | Most Recent

100 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   ✕ Cancel   ✓ Save

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd ✕

Path Type: Verified

Lat/Lon: -79.575848/104.2039 ✕
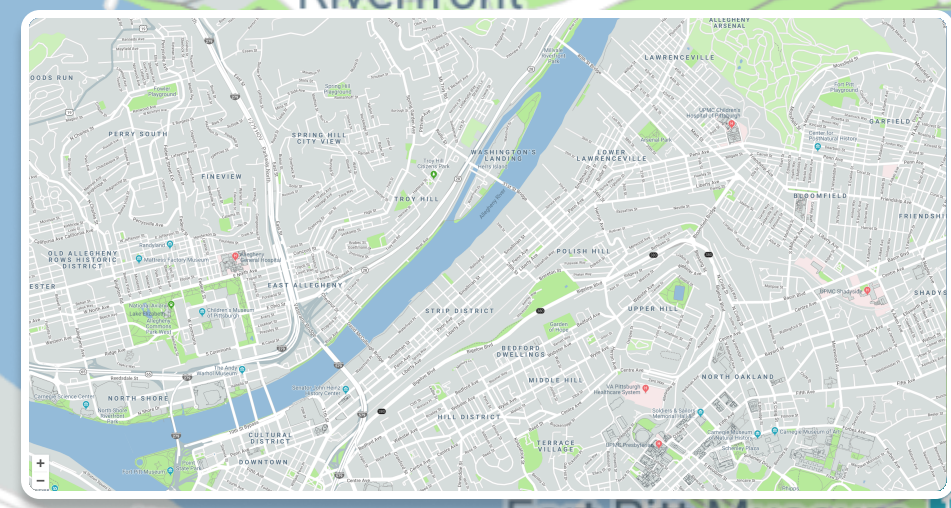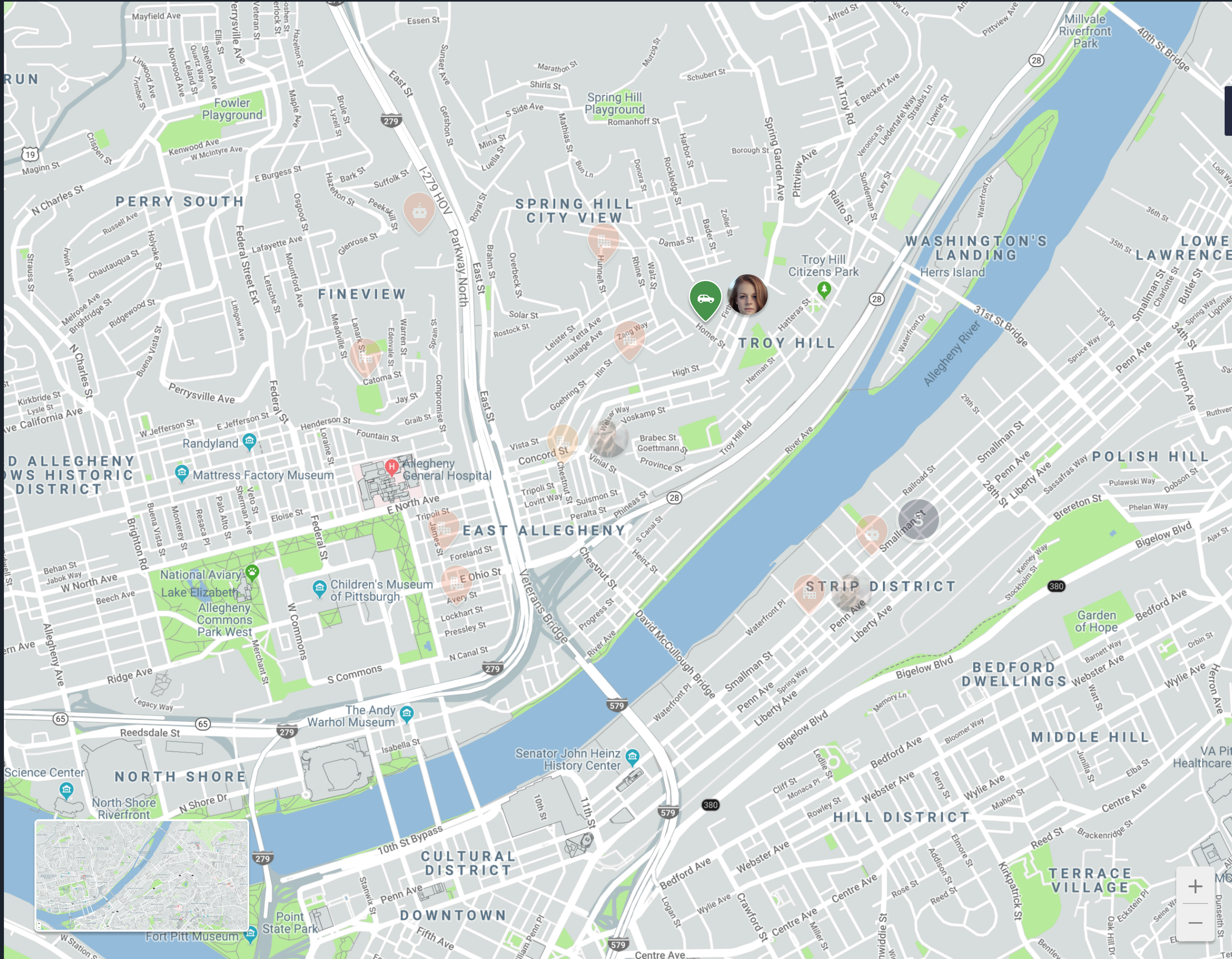
Lane Gap: Yes

Issue   🚗 Road QA Event

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

⭐ Real Issue   🗐 Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues ⌄

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

🚗 Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
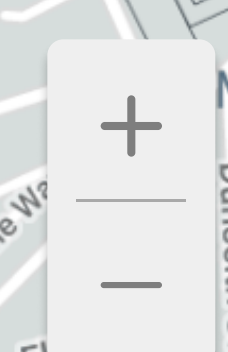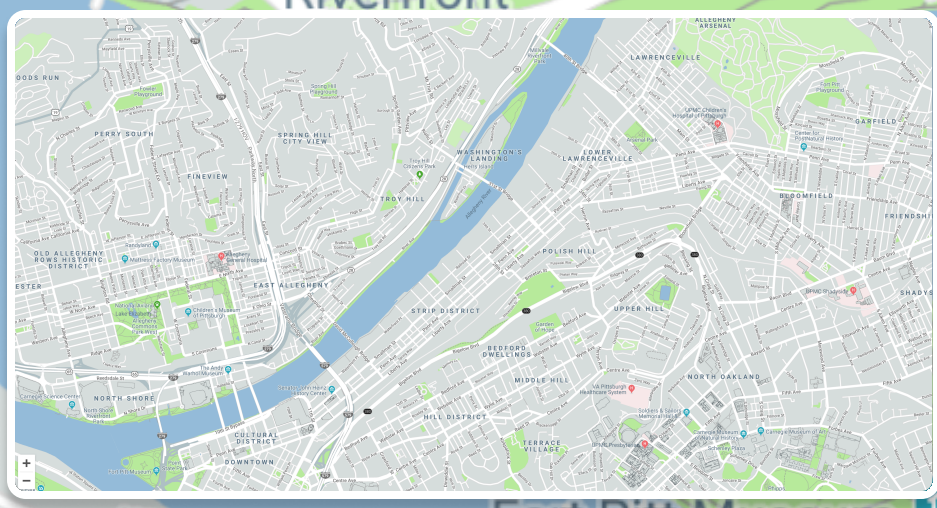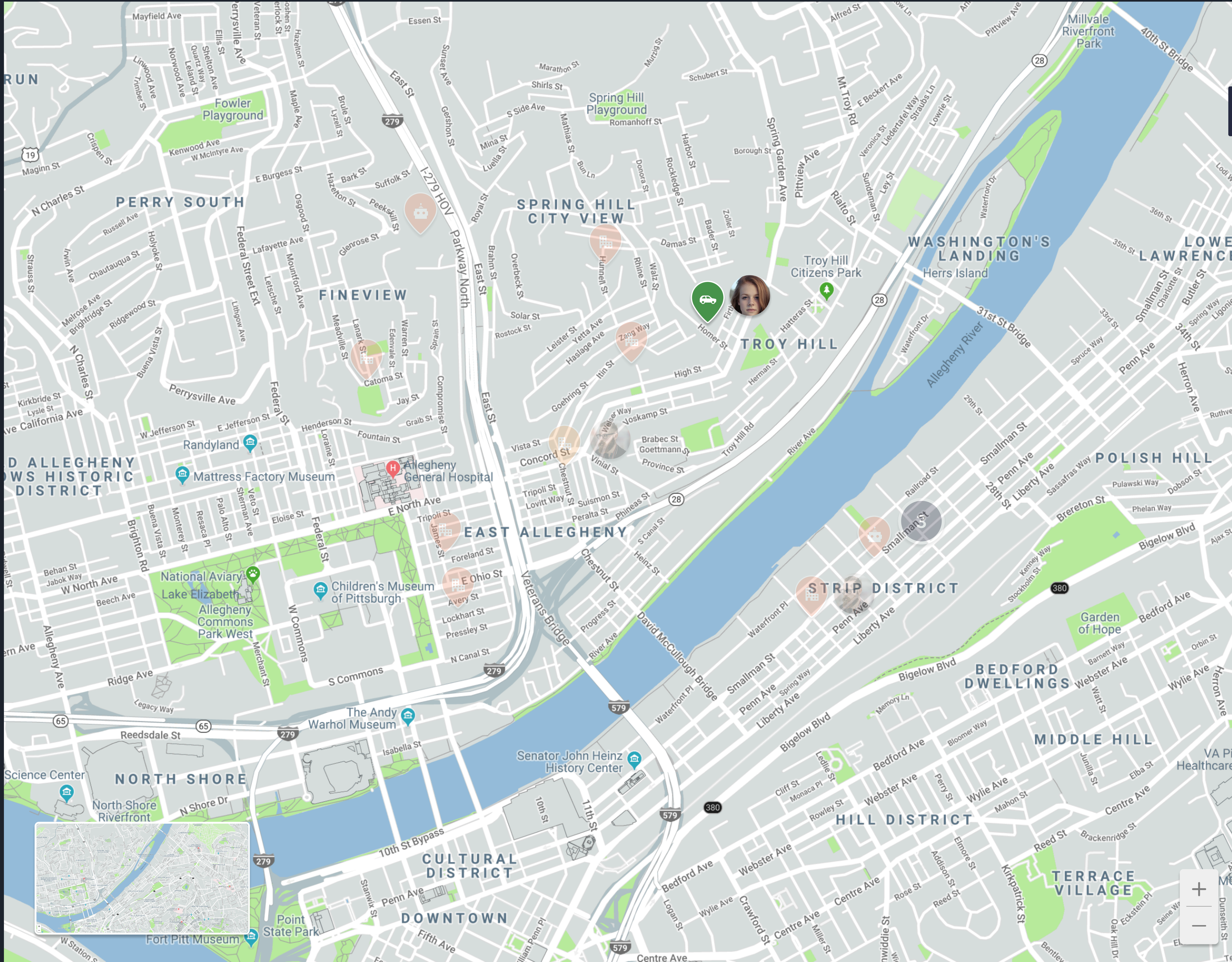**Lane Gap:**   Yes

Issue 🚗 Road QA Event   ⏸

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

★ Real Issue   ▣ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

We saved your changes!   ↩ Undo

Button States

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY
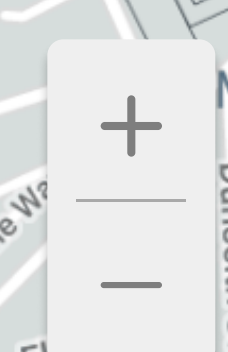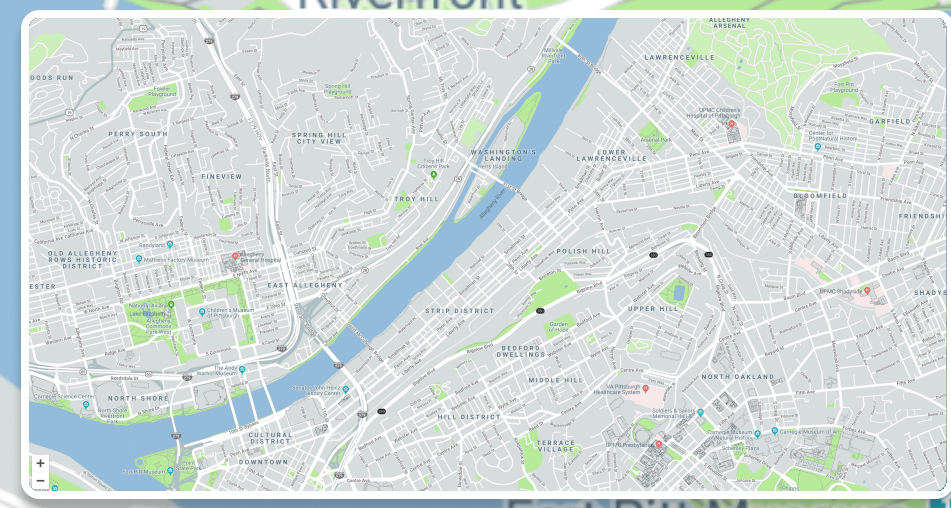
🚗 Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue 🚗 Road QA Event   ▶

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

★ Real Issue   ▣ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

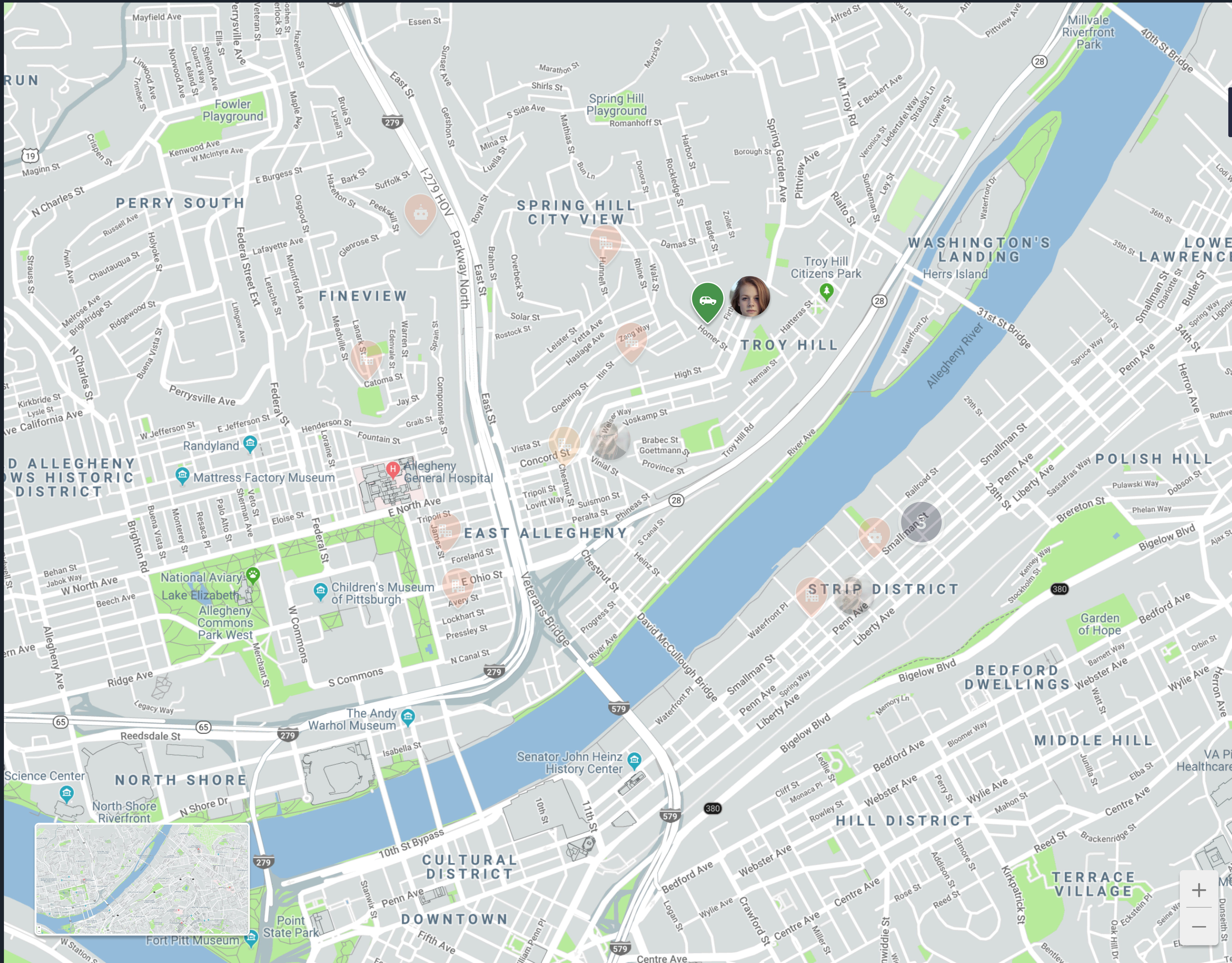**Selected: Lane Gap**   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd

Path Type: Verified

Lat/Lon: -79.575848/104.2039

Lane Gap: Yes

Issue   Road QA Event   PAUSE ISSUE

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

Real Issue   Mark Duplicate   Close Issue   Valid, Won't Fix

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues ⌄

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

🚗 Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue 🚗 Road QA Event   RESUME ISSUE ▸
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
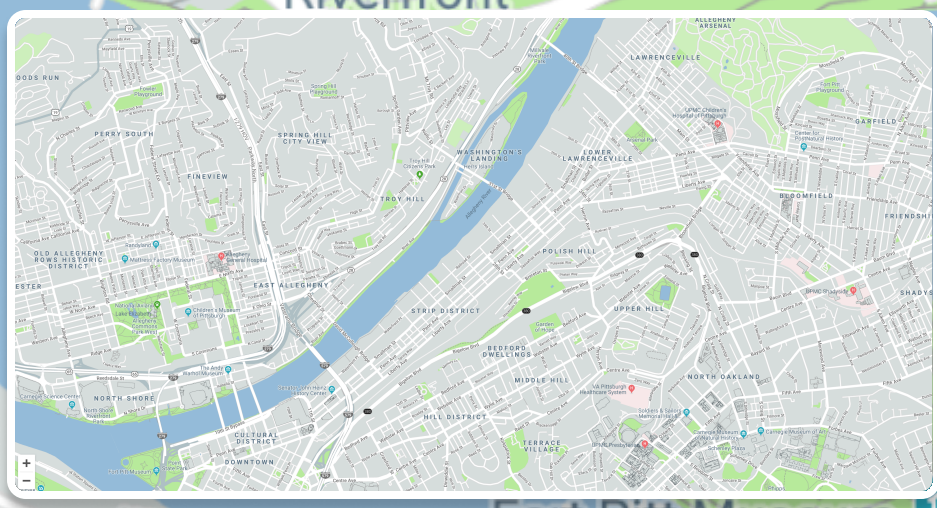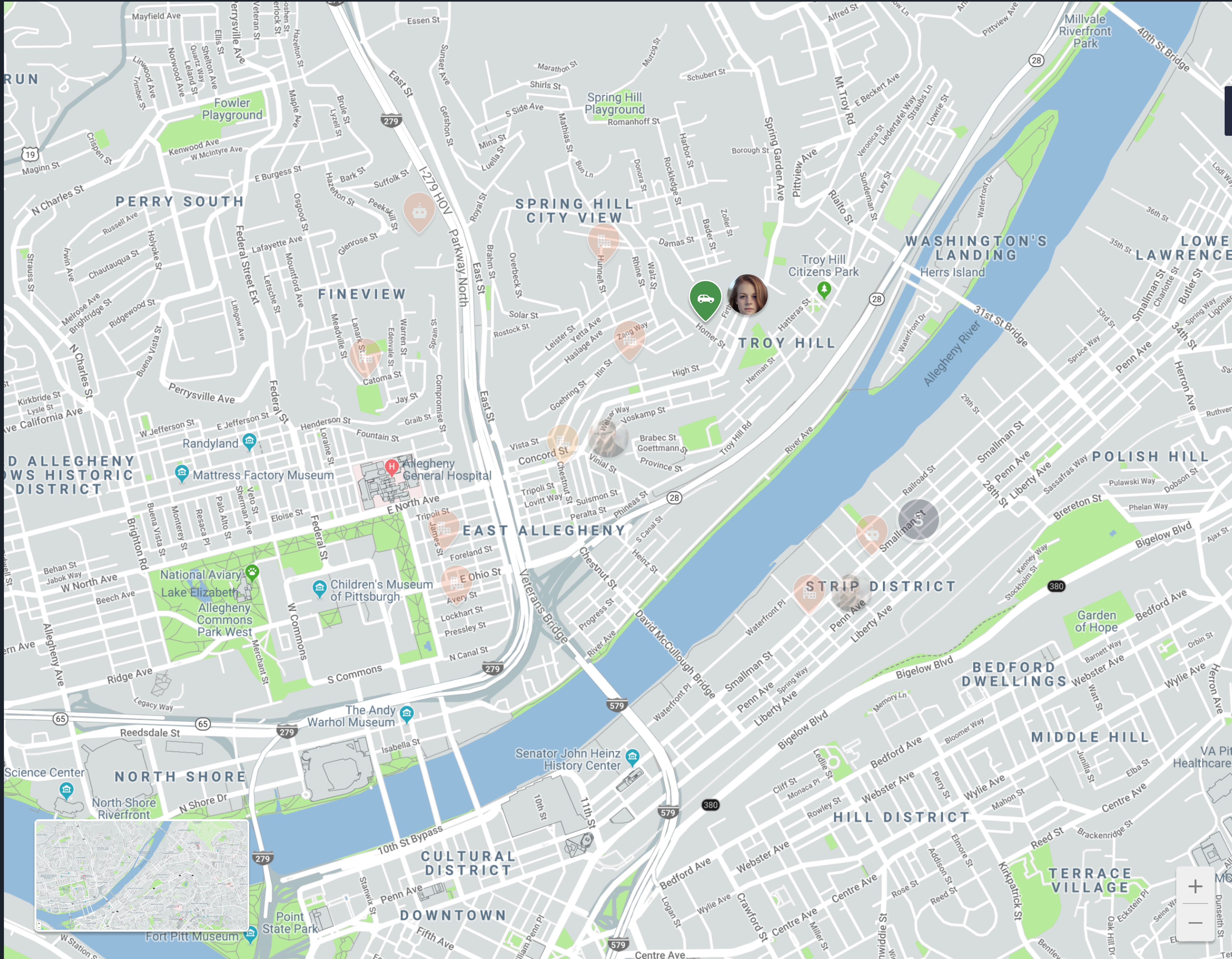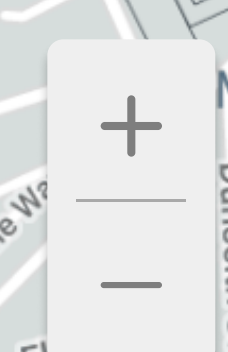Added to map issue at 12:02 pm

★ Real Issue   ▦ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

We saved your changes!   ↩ Undo

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues ⌄

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

🚗 **Selected: Lane Gap**   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue 🚗 Road QA Event   ⏸

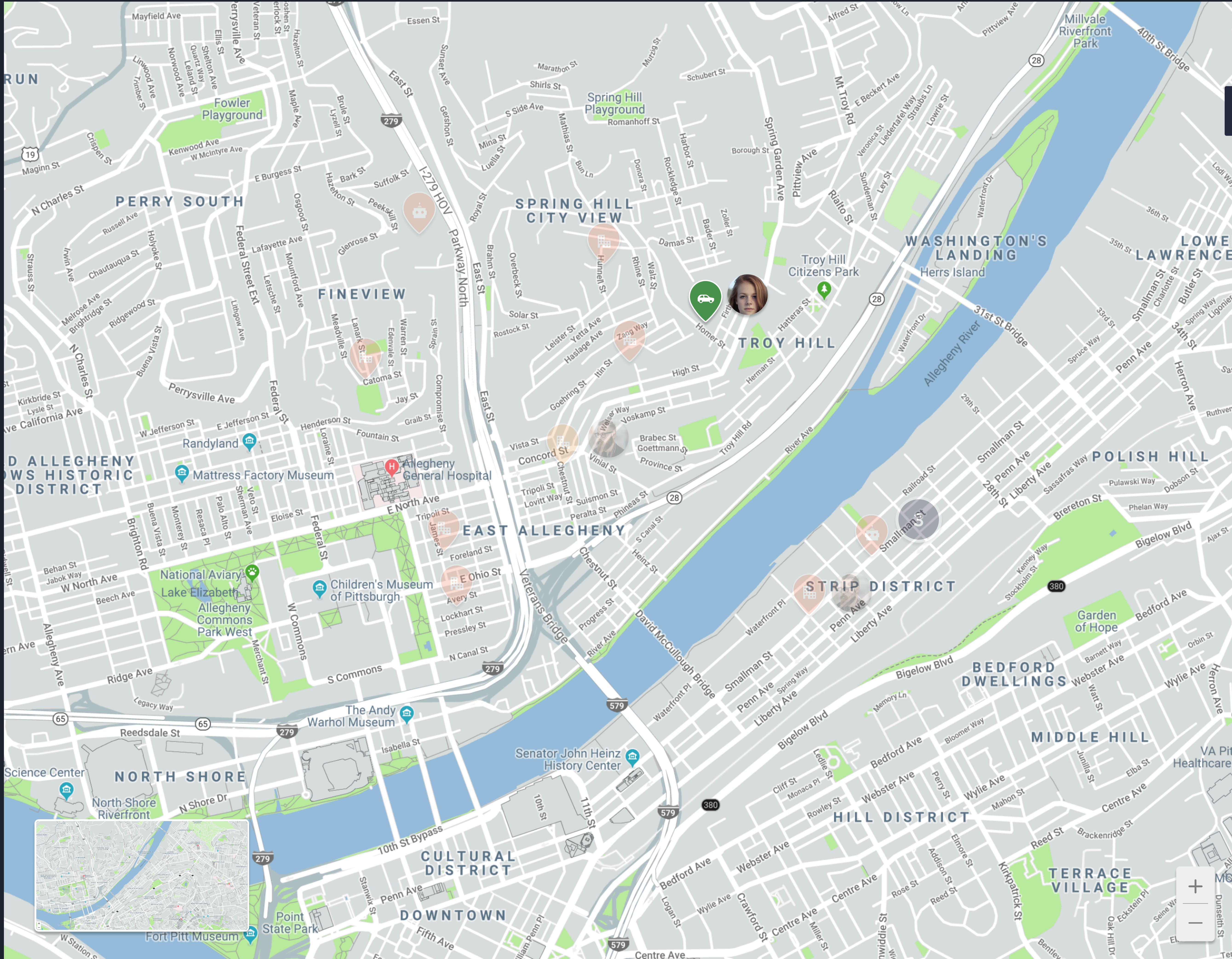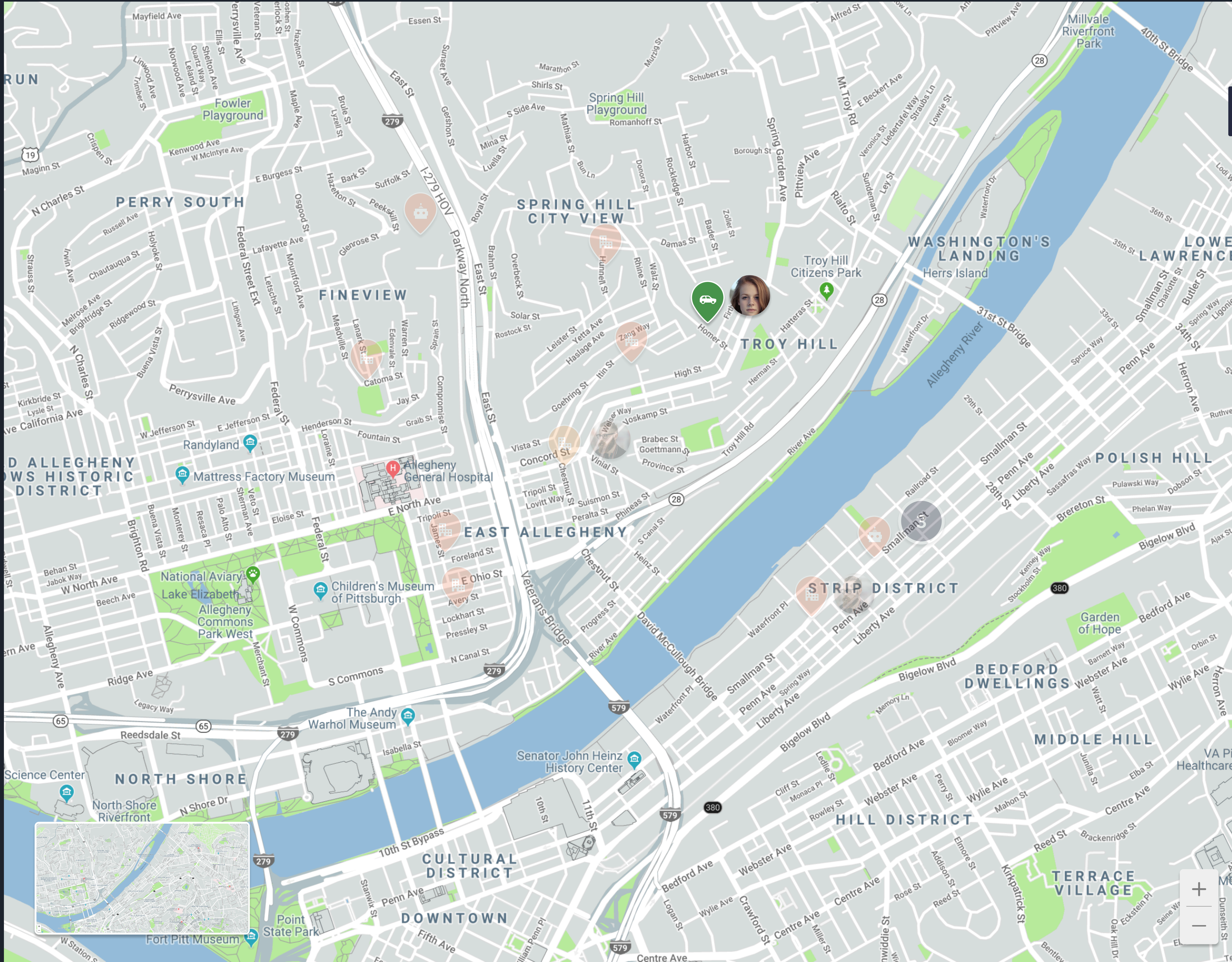ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the
intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

★ Real Issue   ▭ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

Your Comments...

CANCEL   ➤ SUBMIT

MapExplorer

PIT Pittsburgh, PA   40.4406° N, 79.9959° W   PIT Release 2019.189.0 (10.01.19) Production Most Recent

100 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue   Road QA Event

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

Real Issue   Mark Duplicate   Close Issue   Valid, Won't Fix

Your Comments...

CANCEL   SUBMIT

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
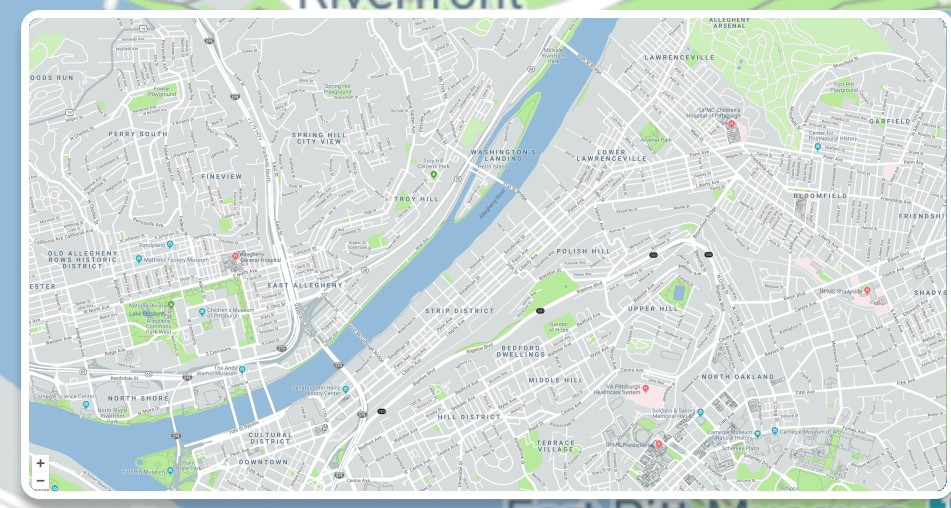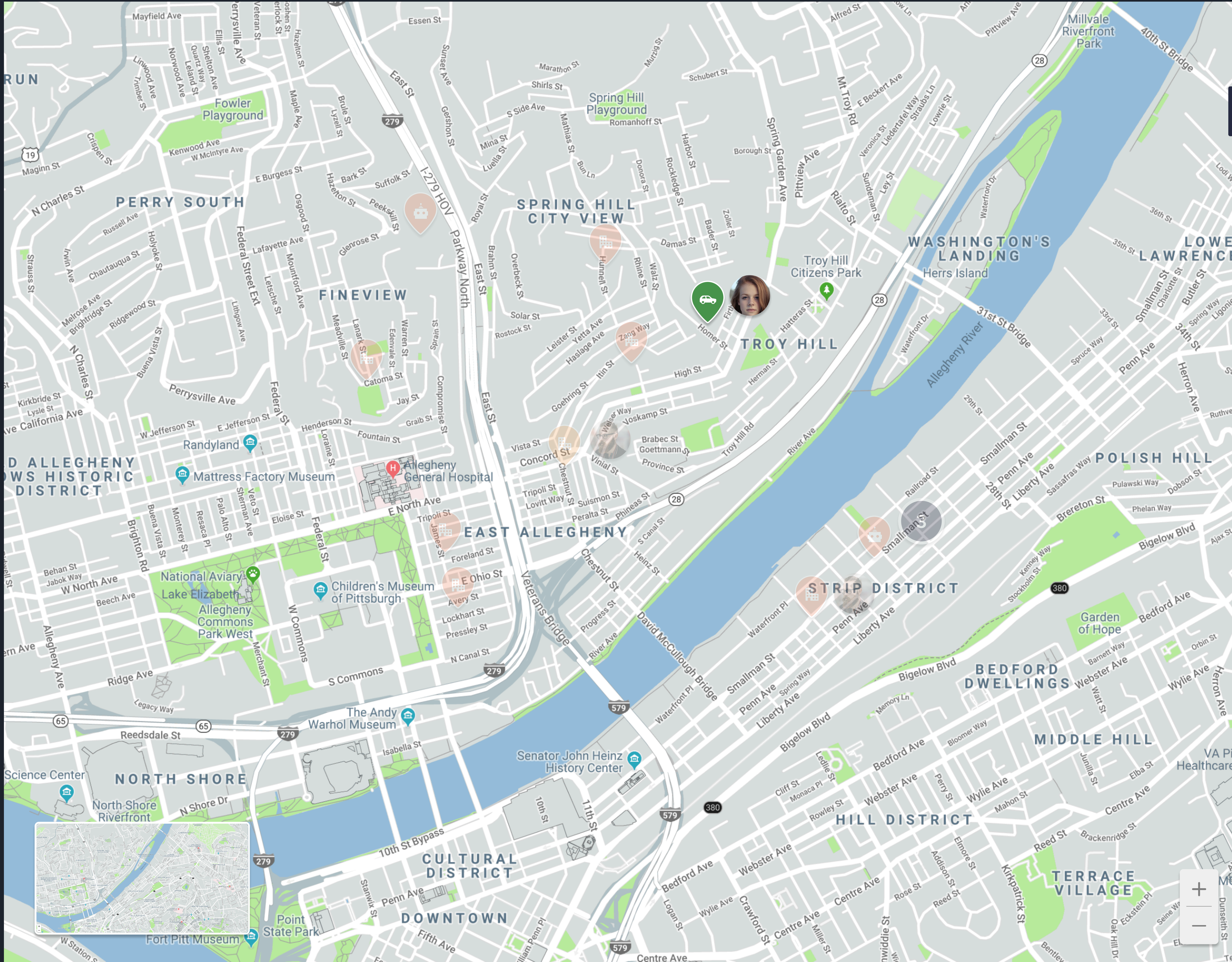Lane Gap: Yes
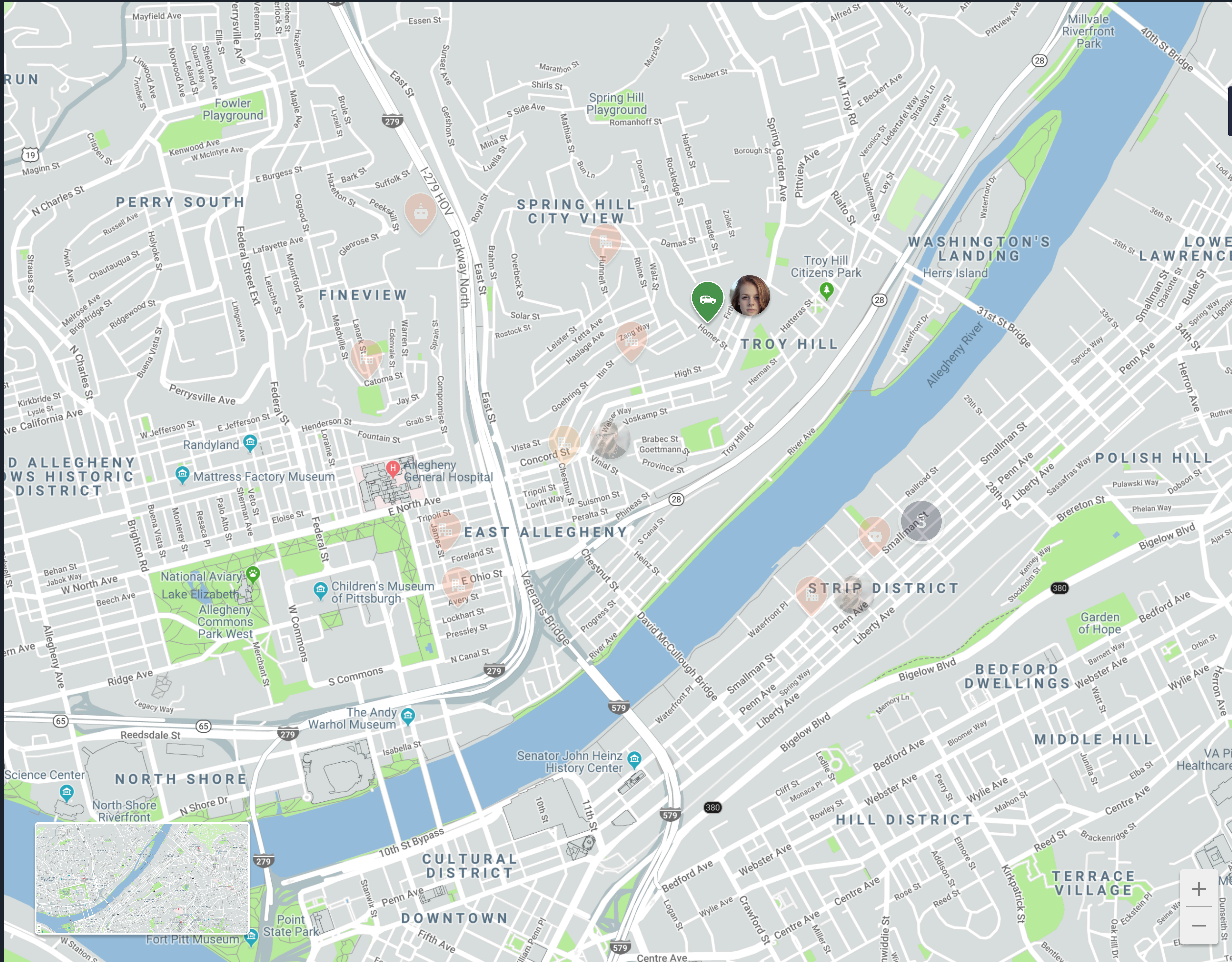
Issue   Road QA Event

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

Real Issue   Mark Duplicate   Close Issue   Valid, Won't Fix

Your Comments...

CANCEL   SUBMIT

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue		Status	Date Created
Lane Gap		REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

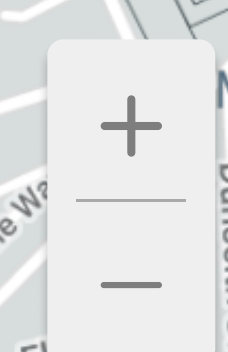**Issue** Road QA Event
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

⭐ Real Issue   Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

This looks like we are missing the lane gap information here. I'm sending it to MTC to look into this further.

CANCEL   ➤ SUBMIT

MapExplorer

RUN
Mayfield Ave
Essen St
Millvale Riverfront Park

PERRY SOUTH
SPRING HILL CITY VIEW
WASHINGTON'S LANDING

FINEVIEW
TROY HILL

EAST ALLEGHENY
POLISH HILL

NORTH SHORE
STRIP DISTRICT
BEDFORD DWELLINGS

CULTURAL DISTRICT
DOWNTOWN
MIDDLE HILL
HILL DISTRICT
TERRACE VILLAGE

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd

Path Type: Verified

Lat/Lon: -79.575848/104.2039

Lane Gap: Yes

Issue   Road QA Event   ⭐ Real Issue

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"This looks like we are missing the lane gap information here. I'm sending it to MTO to look into this further."
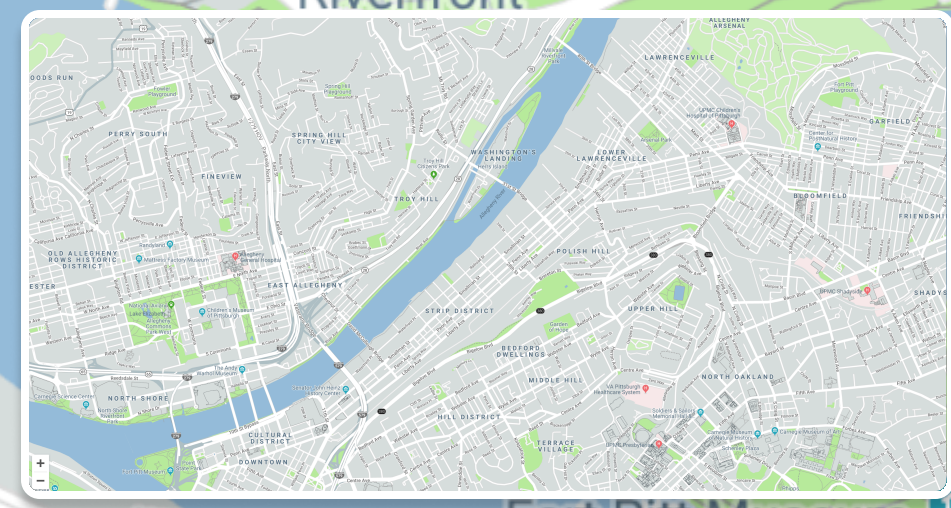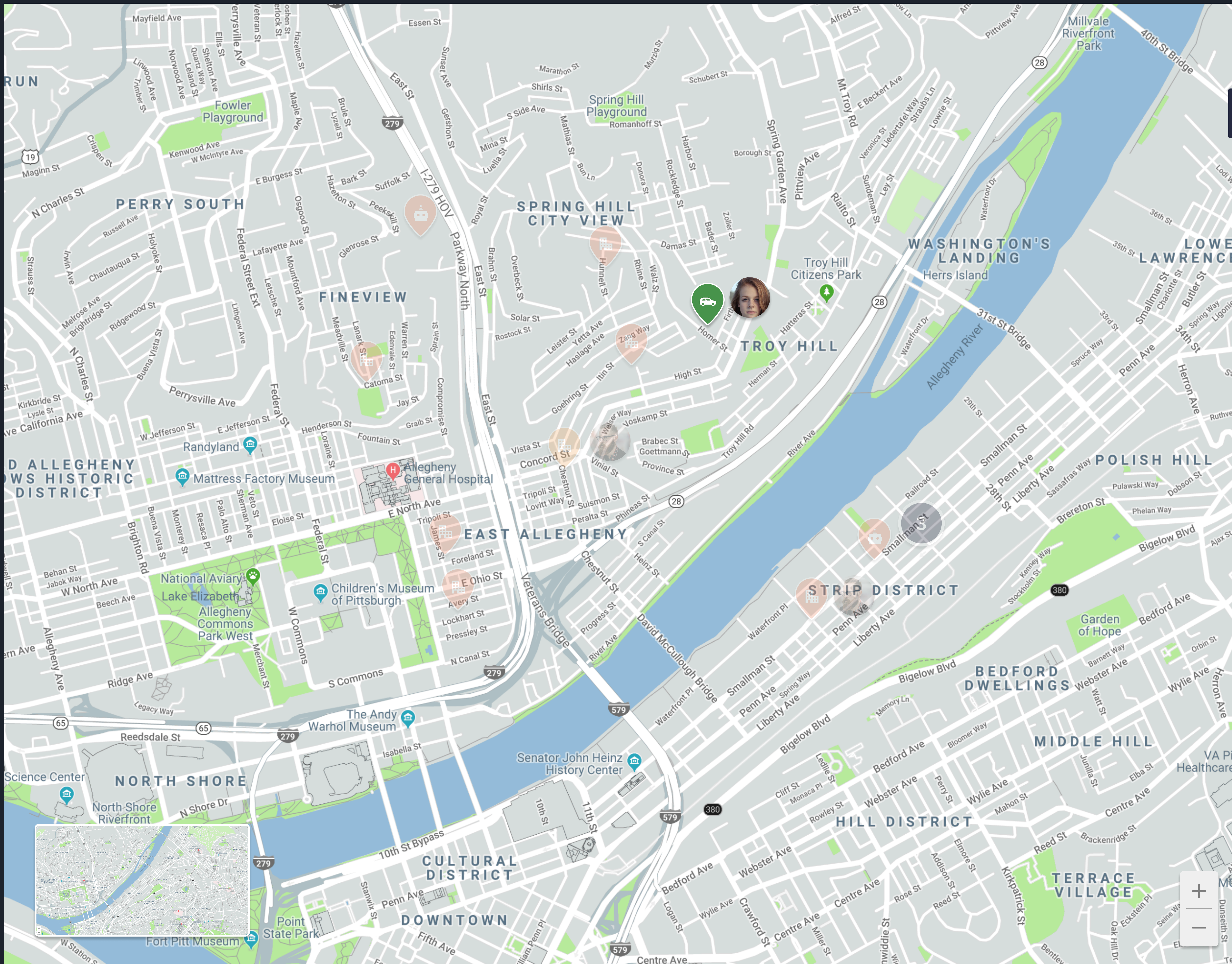
▸ Triaged Issue sent to MTO at 1:23 pm

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

Re-Open Issue   JIRA: 987654

We saved your changes!   ↺ Undo

MapExplorer
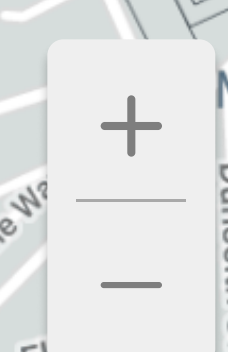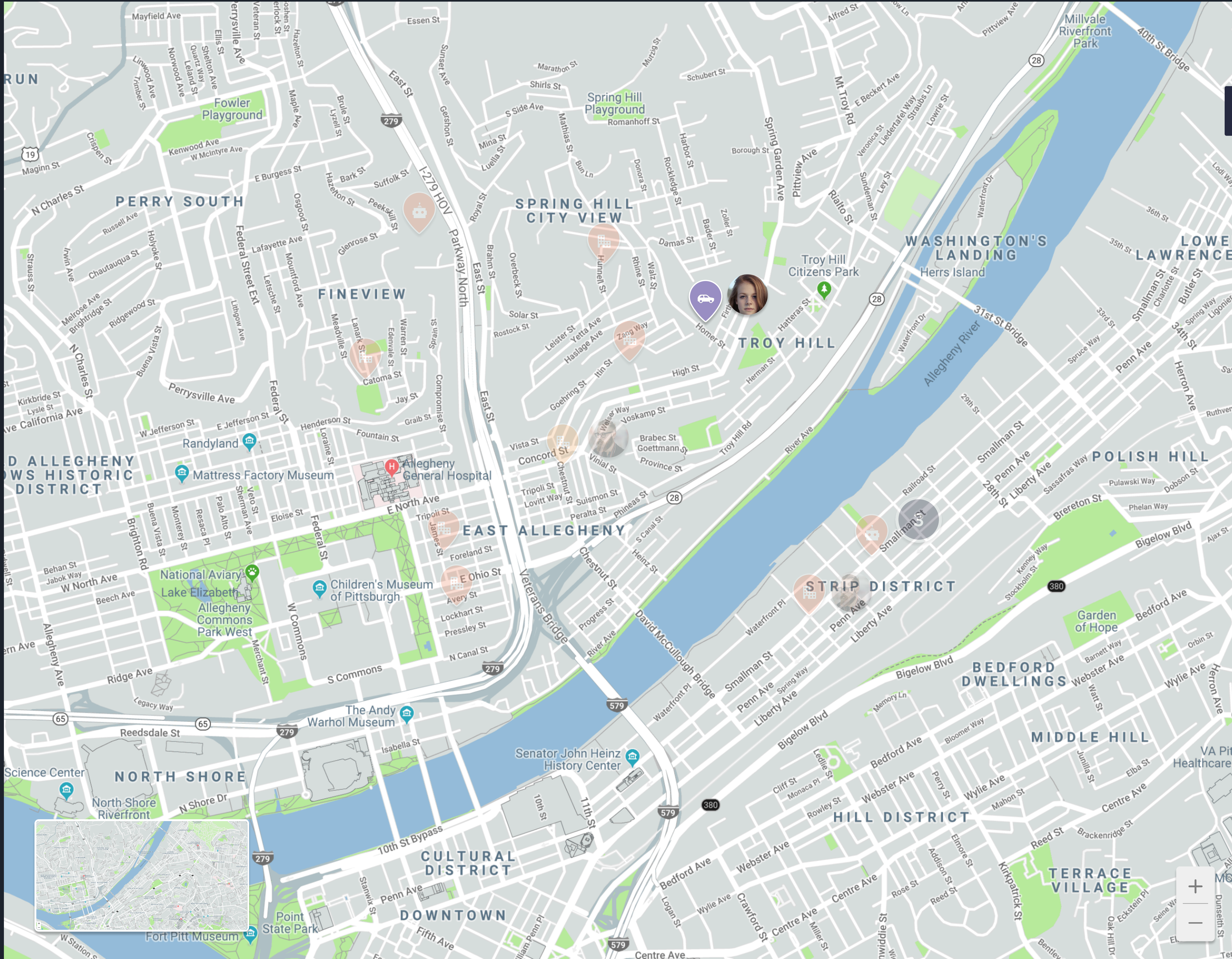
PIT Pittsburgh, PA

40.4406° N, 79.9959° W

PIT Release 2019.189.0 (10.01.19) Production Most Recent

4 Issues

TO DO   COMPLETE

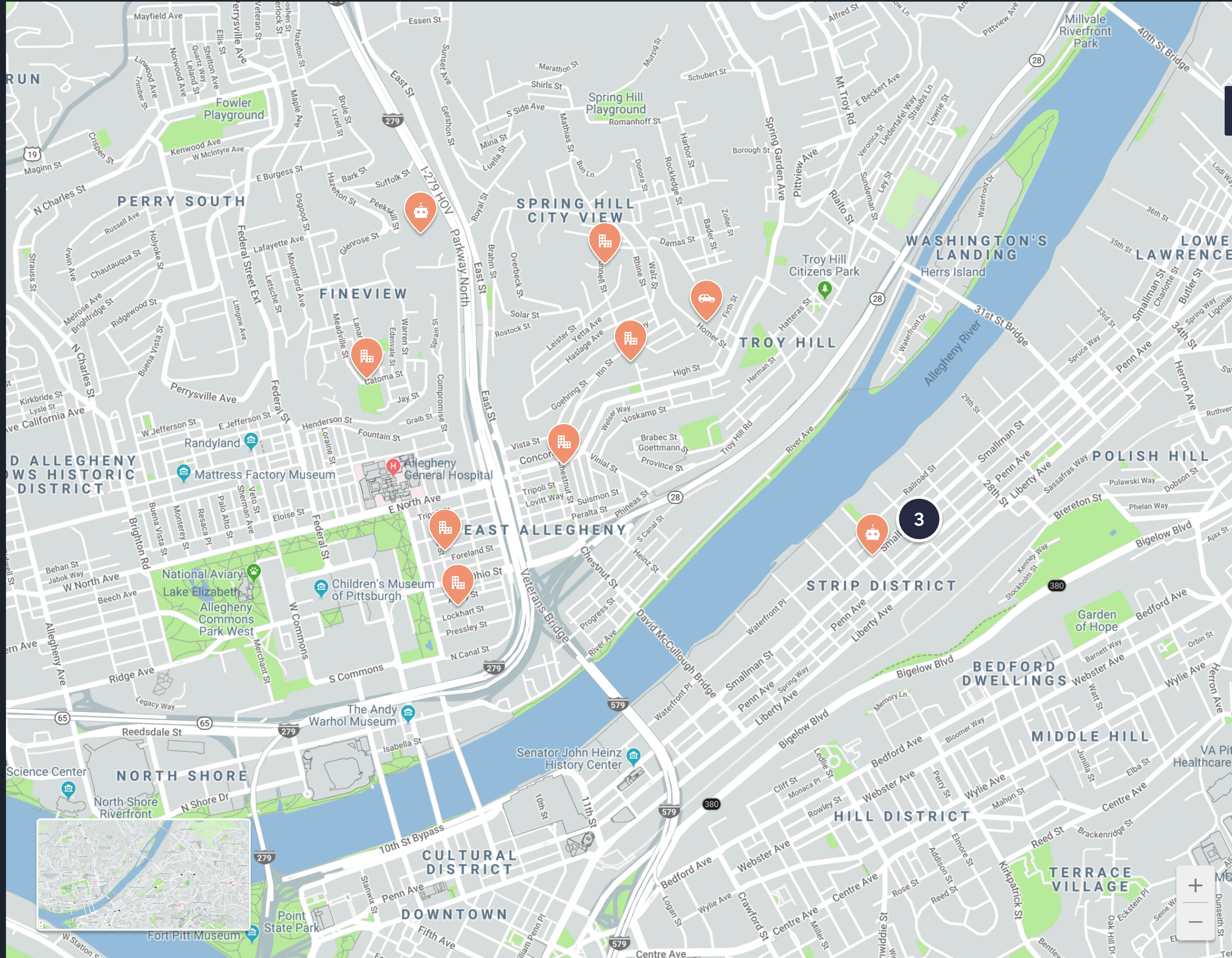| Issue		Status	Date Created
Lane Gap		REAL ISSUE	09/23/2019 11:11 AM
Lane Gap		NOT AN ISSUE	09/23/2019 11:11 AM
Lane Gap		VALID - NO FIX	09/23/2019 11:11 AM
Lane Gap		DUPLICATE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

Filters

MapExplorer

PIT Pittsburgh, PA   40.4406° N, 79.9959° W   PIT Release 2019.189.0 (10.01.19) Production Most Recent ▾

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue

Lane Gap

Lane Gap

Lane Gap

Lane Gap

Lane Gap

ISSUE DETAI

SORT BY

Issue: A - Z

Issue: Z - A

Status: A - Z

Status: Z - A

Date Created: Most Recent   ✓

Date Created: Most Distant

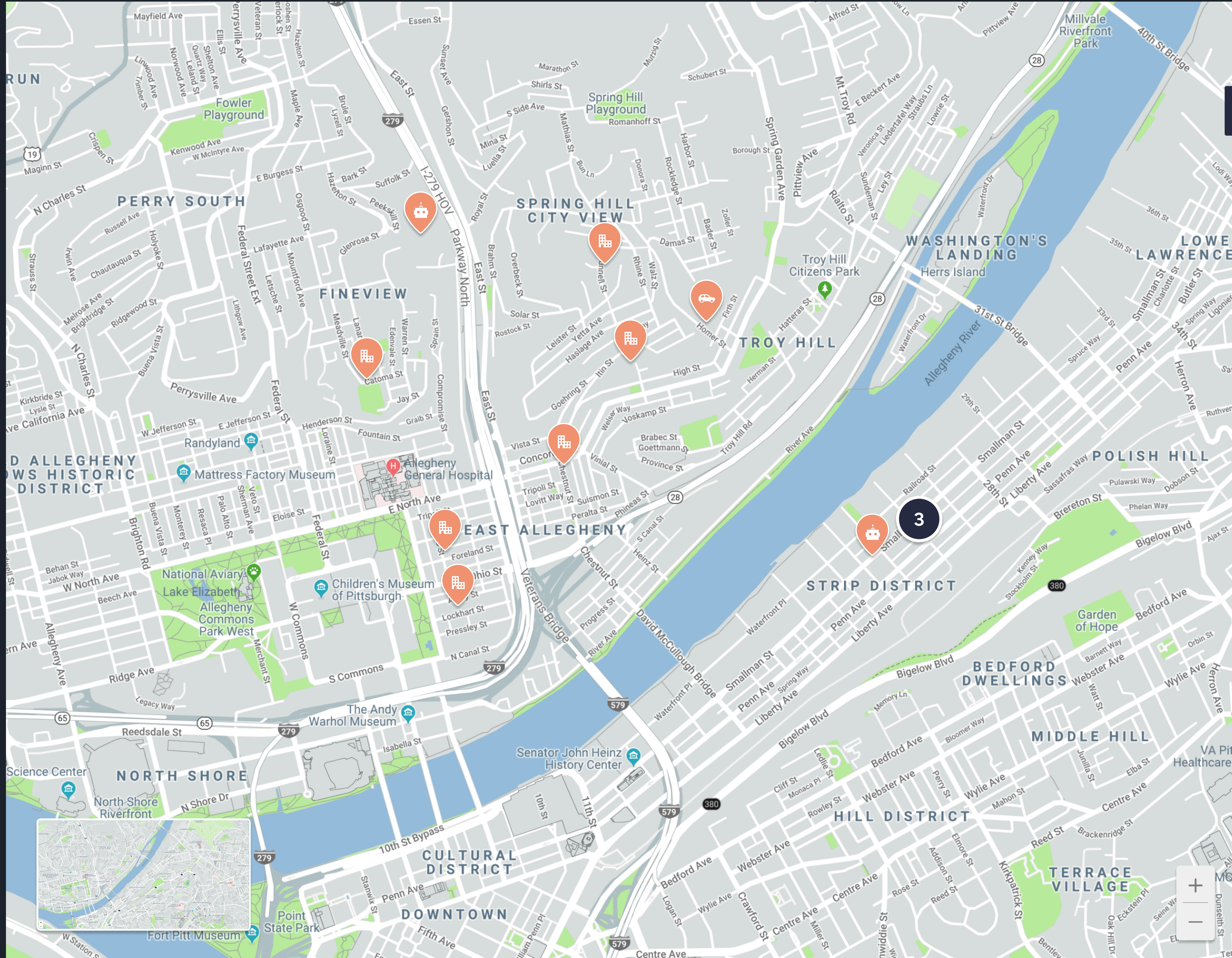**FILTER BY**   Reset

Status

ACTIVE   NEEDS TRIAGE

REVIEWING   CLOSED
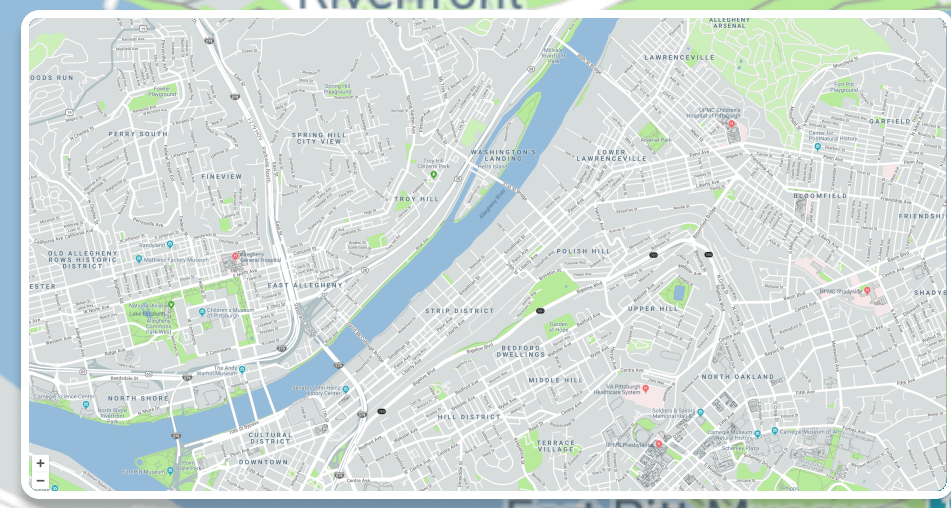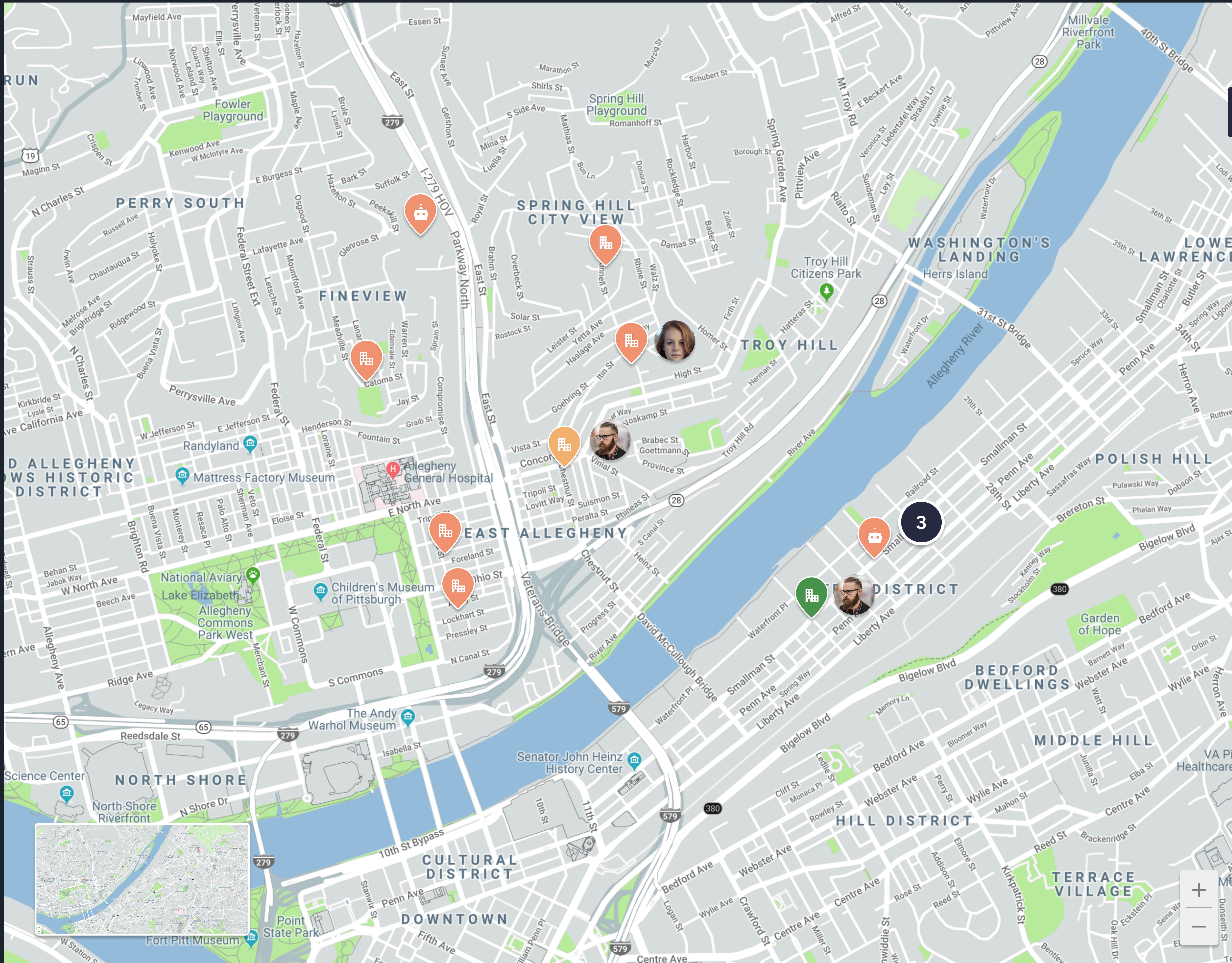
Cancel   Apply

3

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue

Lane Gap

Lane Gap

Lane Gap

Lane Gap

Lane Gap

ISSUE DETAI

SORT BY

Issue: A - Z

Issue: Z - A

Status: A - Z   ✓

Status: Z - A

Date Created: Most Recent

Date Created: Most Distant

FILTER BY   Reset

Status

ACTIVE   NEEDS TRIAGE

REVIEWING   CLOSED

Cancel   Apply

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues

TO DO   COMPLETE

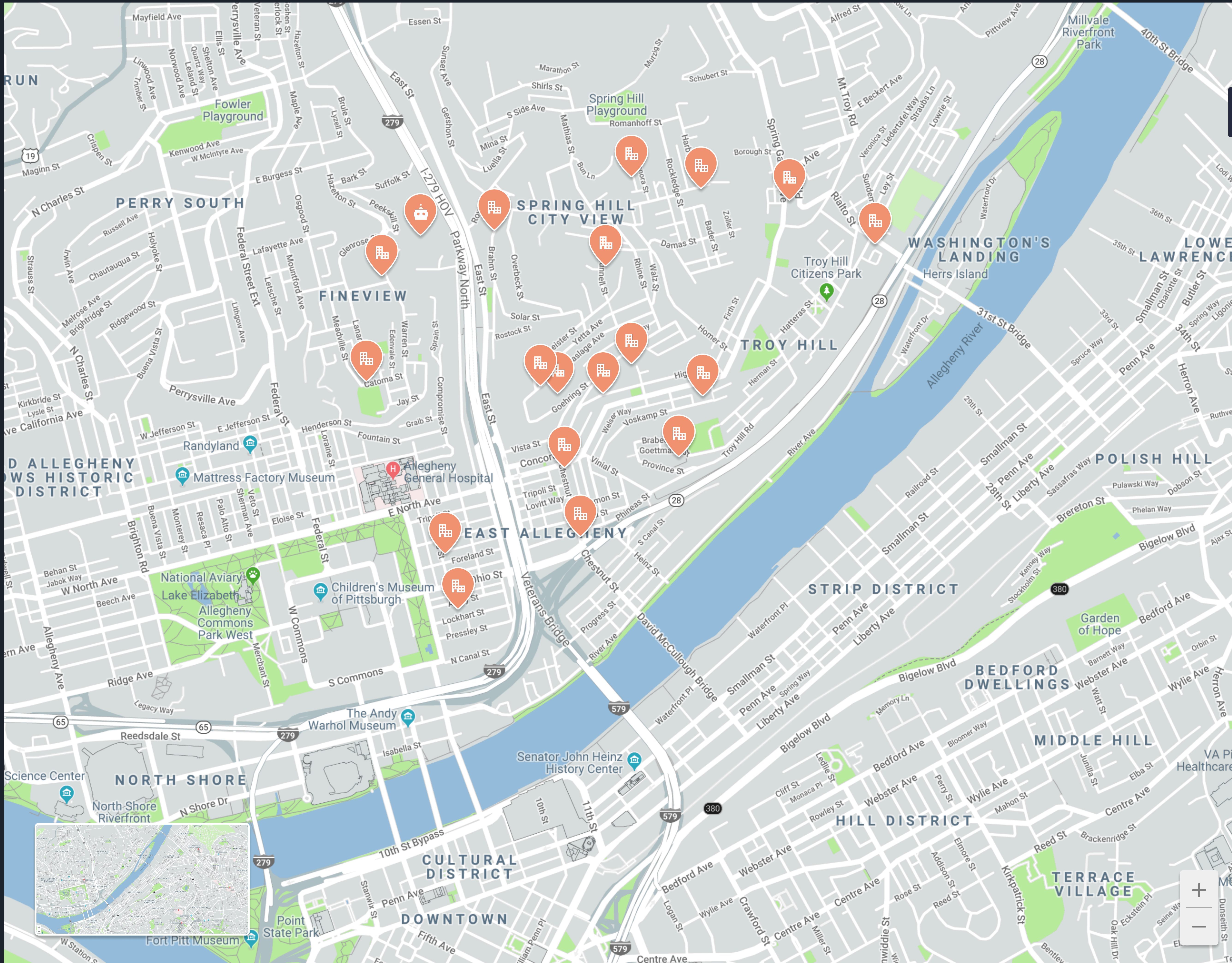| Issue	Status	Date Created
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	REVIEWING	09/23/2019 11:11 AM
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

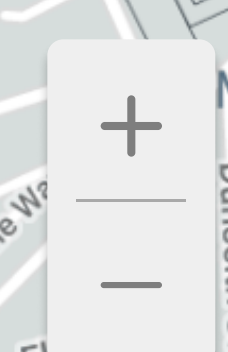Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

MapExplorer
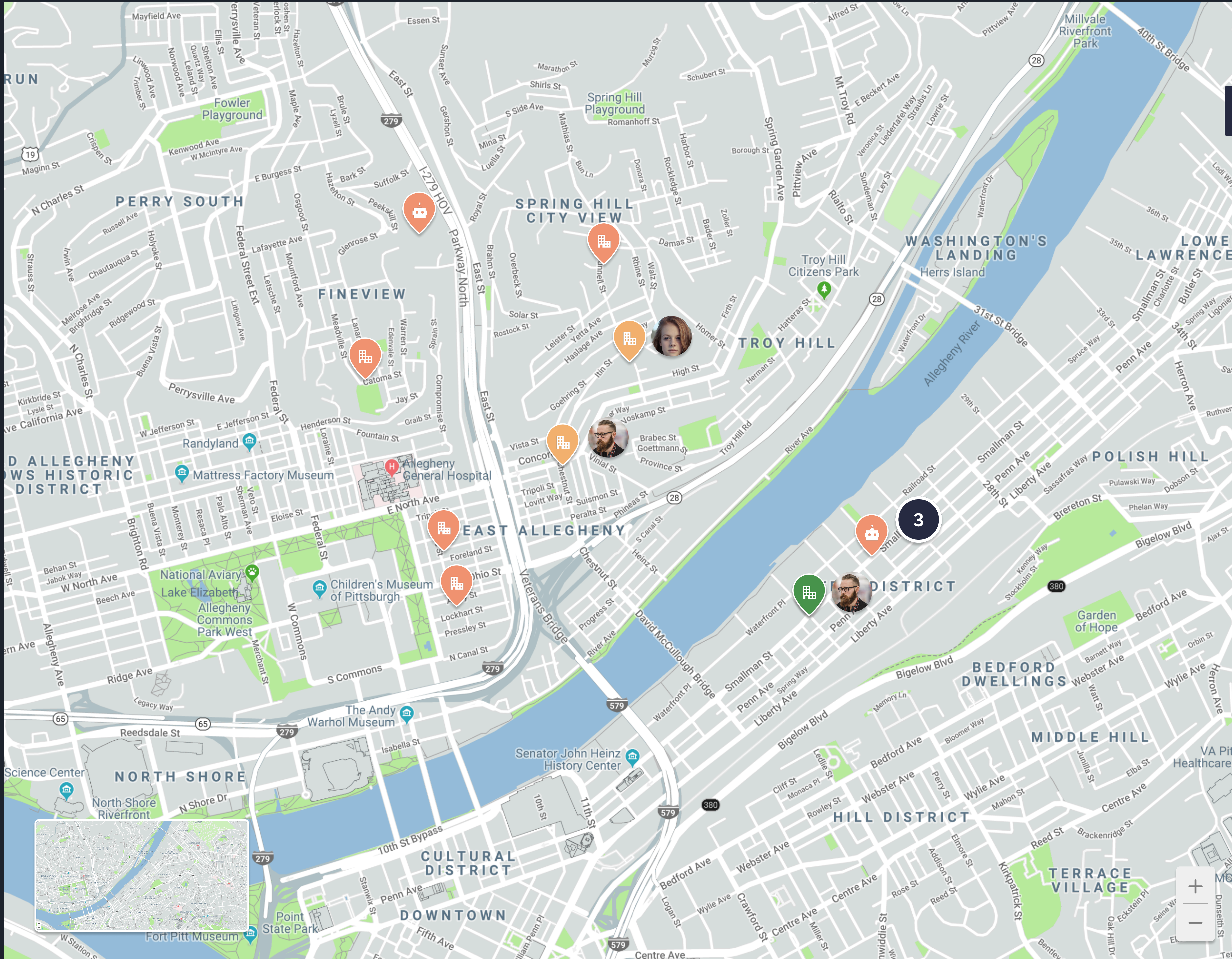
PIT Pittsburgh, PA

40.4406° N, 79.9959° W

PIT Release 2019.189.0 (10.01.19) | Production | Most Recent ▾

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue

Lane Gap
Lane Gap
Lane Gap
Lane Gap
Lane Gap

ISSUE DETAIL

SORT BY

Issue: A - Z

Issue: Z - A

Status: A - Z   ✓

Status: Z - A

Date Created: Most Recent

Date Created: Most Distant

FILTER BY   Reset

Status

ACTIVE   NEEDS TRIAGE

REVIEWING   CLOSED

Cancel   Apply

MapExplorer

ISSUES LIST | LAYERS | EVIDENCE | PANO

22 of 99 Issues | RESET FILTER

Issue	Status	Date Created
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS | PRIORS VIEWER | SUMMARY

Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

MapExplorer

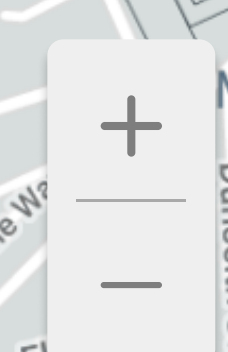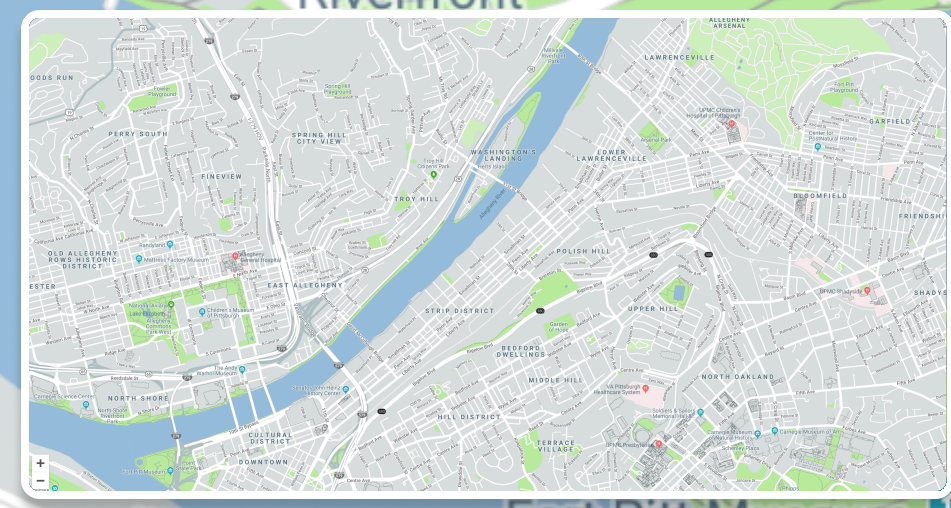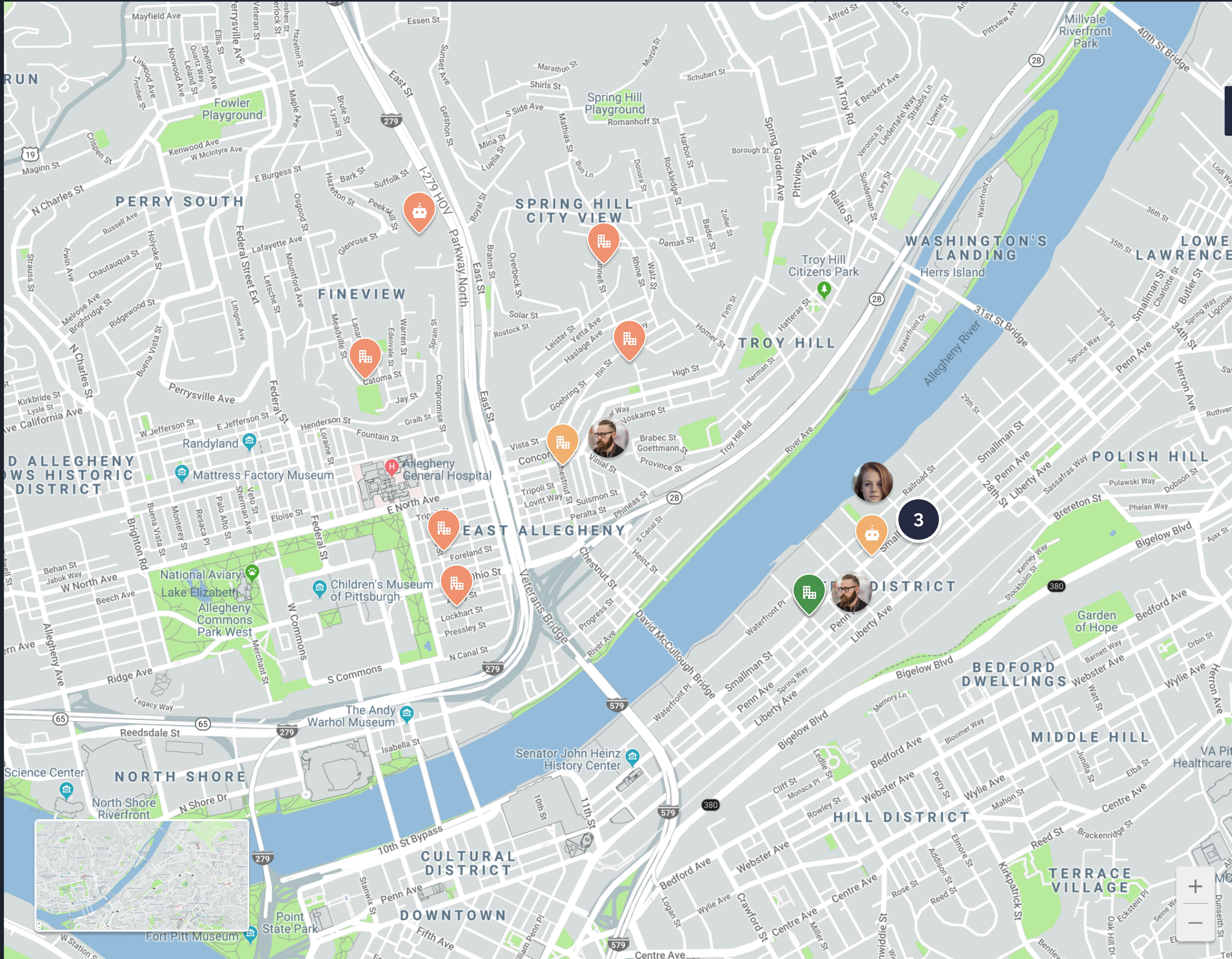ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues ⚙ ∧   TO DO   COMPLETE

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

Mark Duplicate

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues

TO DO   COMPLETE

Issue		Status	Date Created
Lane Gap		REVIEWING	09/23/2019 11:11 AM
Lane Gap		ACTIVE	09/23/2019 11:11 AM
Lane Gap		ACTIVE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues ▾

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue   🤖 Automation Event
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

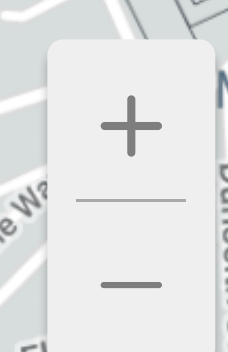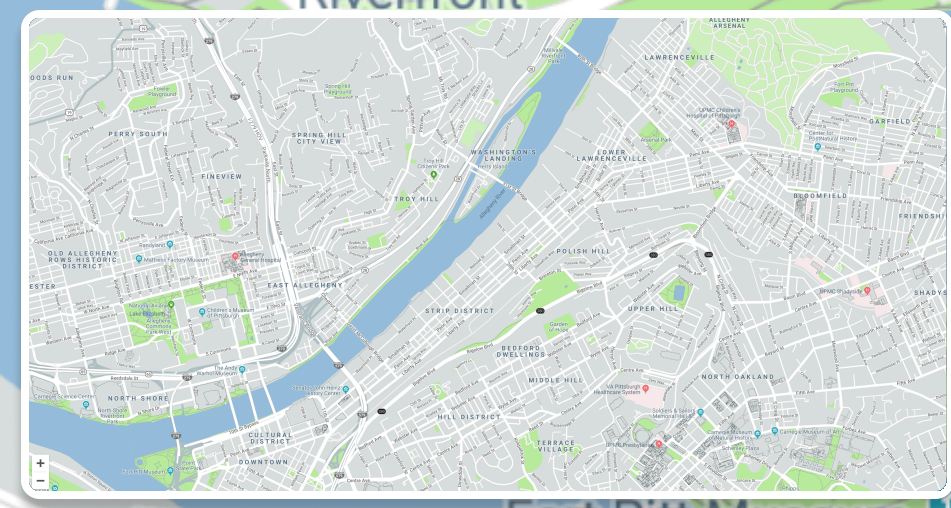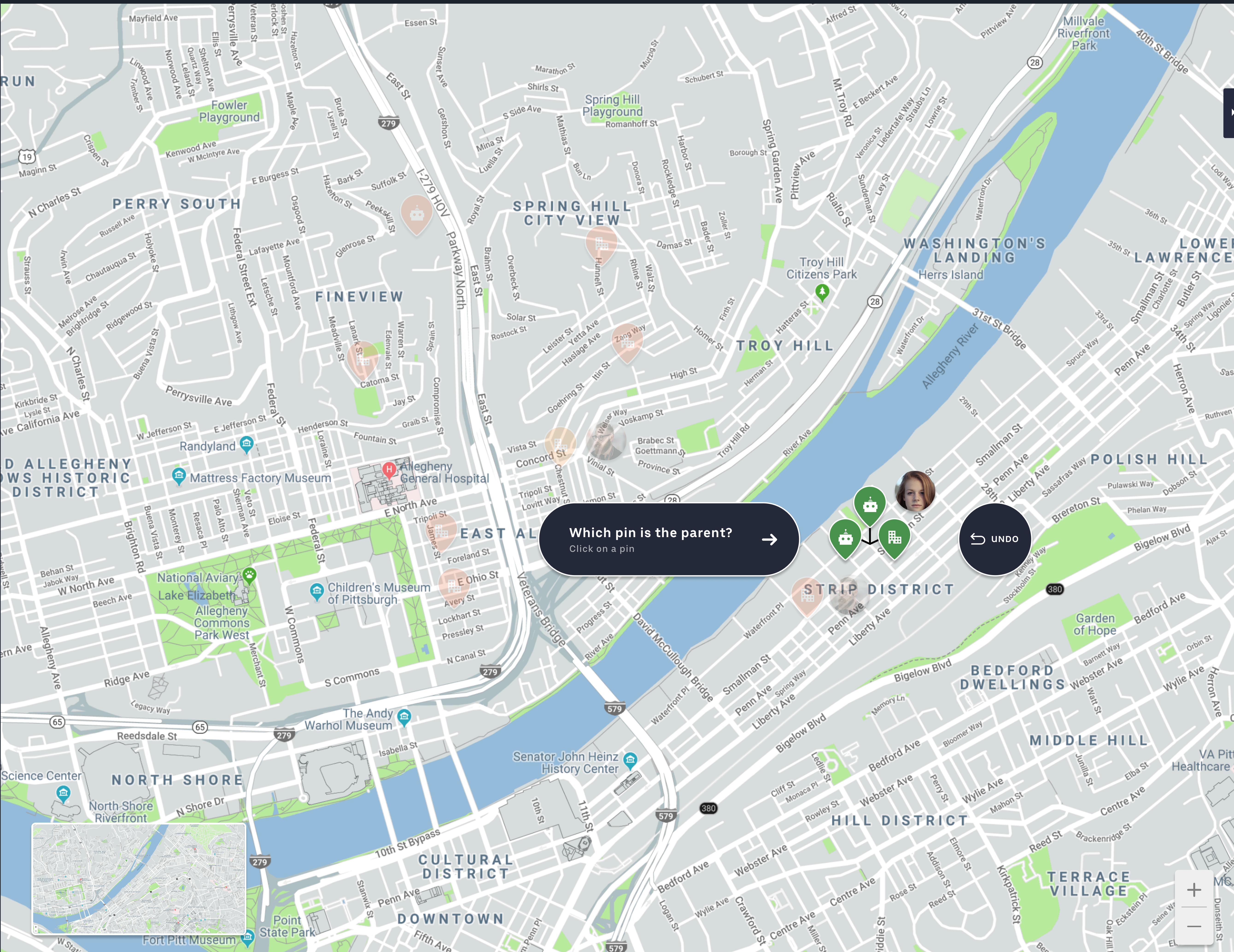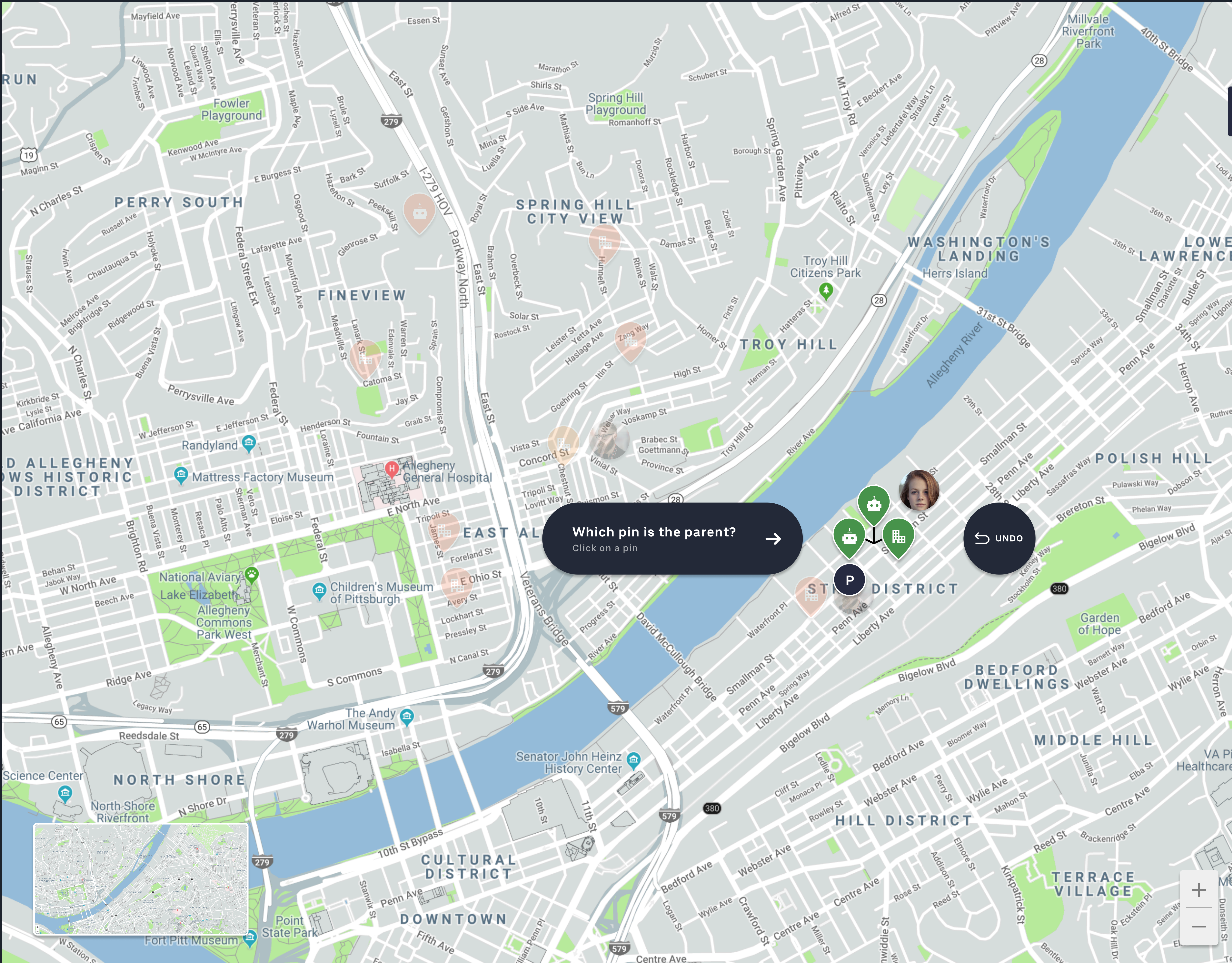★ Real Issue   ▣ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

Your Comments...

CANCEL   ➤ SUBMIT

Map context menu:

★ REAL ISSUE
▣ MARK DUPLICATE
✕ CLOSE ISSUE
⊘ VALID, WON'T FIX
❚❚ PAUSE ISSUE

MapExplorer

RUN

PERRY SOUTH

FINEVIEW

SPRING HILL CITY VIEW

TROY HILL

WASHINGTON'S LANDING

LOWER LAWRENCE

OLD ALLEGHENY ROWS HISTORIC DISTRICT

EAST AL

POLISH HILL

Which pin is the parent?
Click on a pin →

↩ UNDO

STRIP DISTRICT

BEDFORD DWELLINGS

NORTH SHORE

MIDDLE HILL

CULTURAL DISTRICT

DOWNTOWN

HILL DISTRICT

TERRACE VILLAGE

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues ▾

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue 🤖 Automation Event   ⏸

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
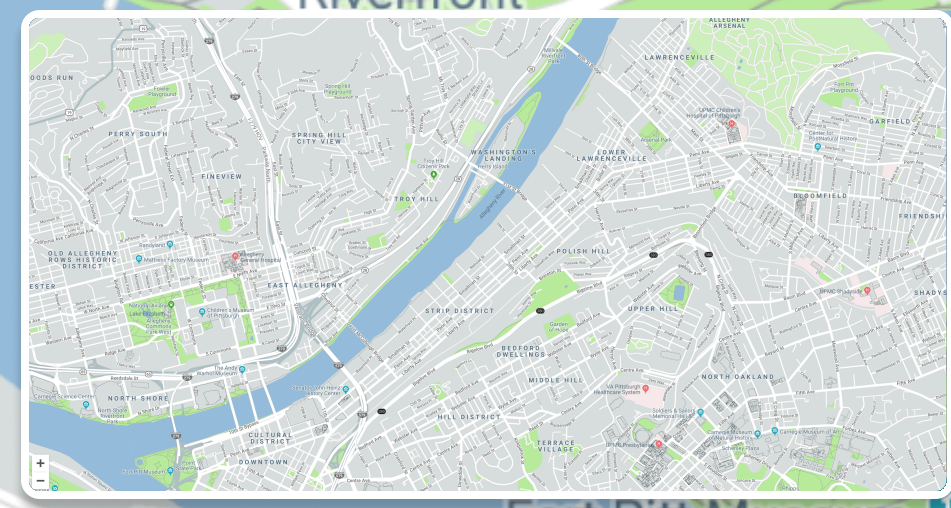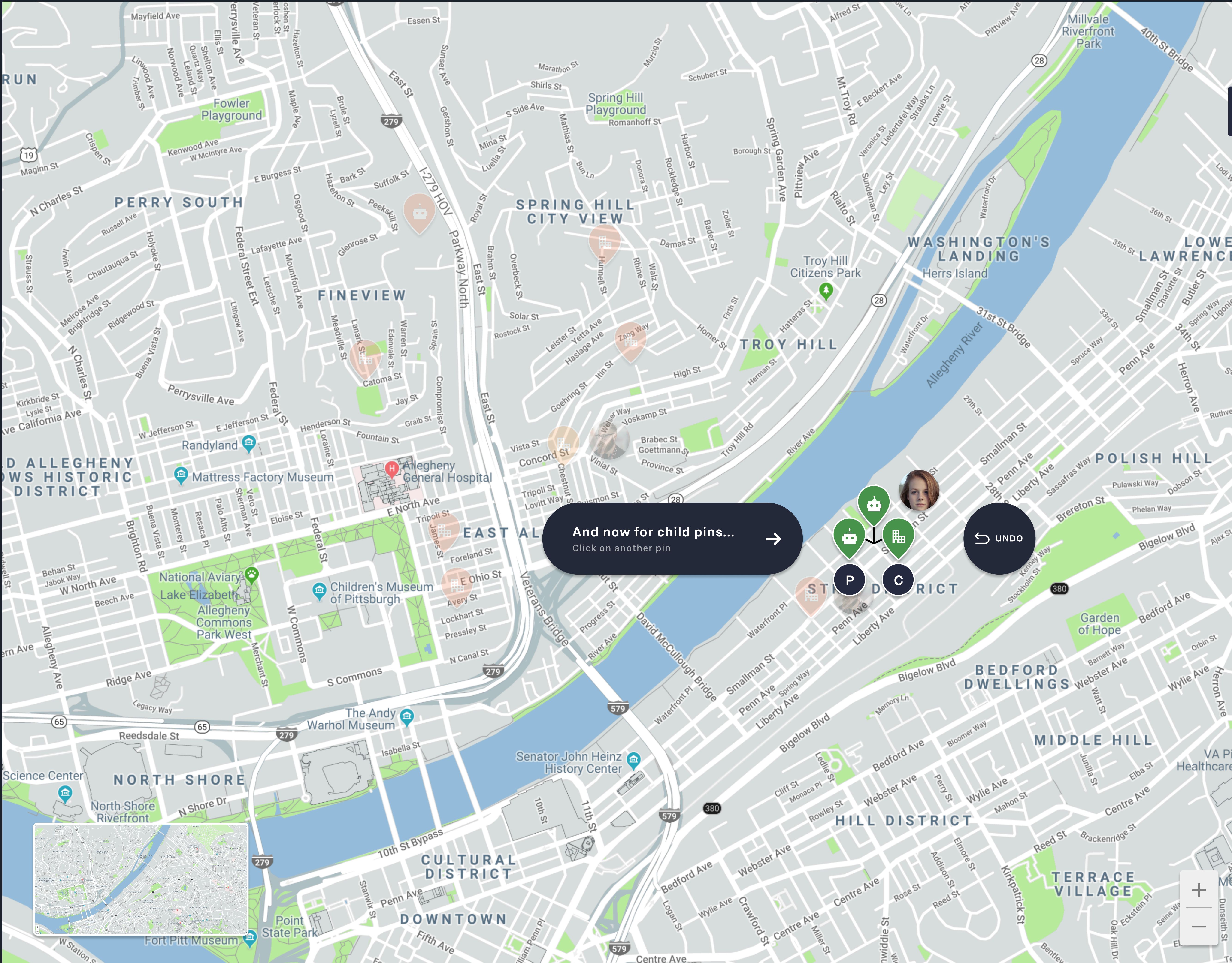Added to map issue at 12:02 pm

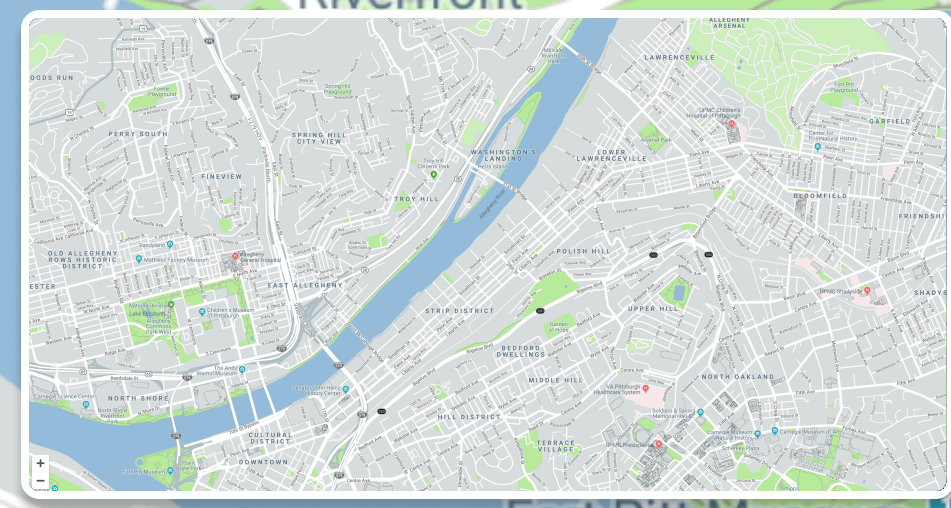★ Real Issue   ▣ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

Your Comments...

CANCEL   ➤ SUBMIT

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

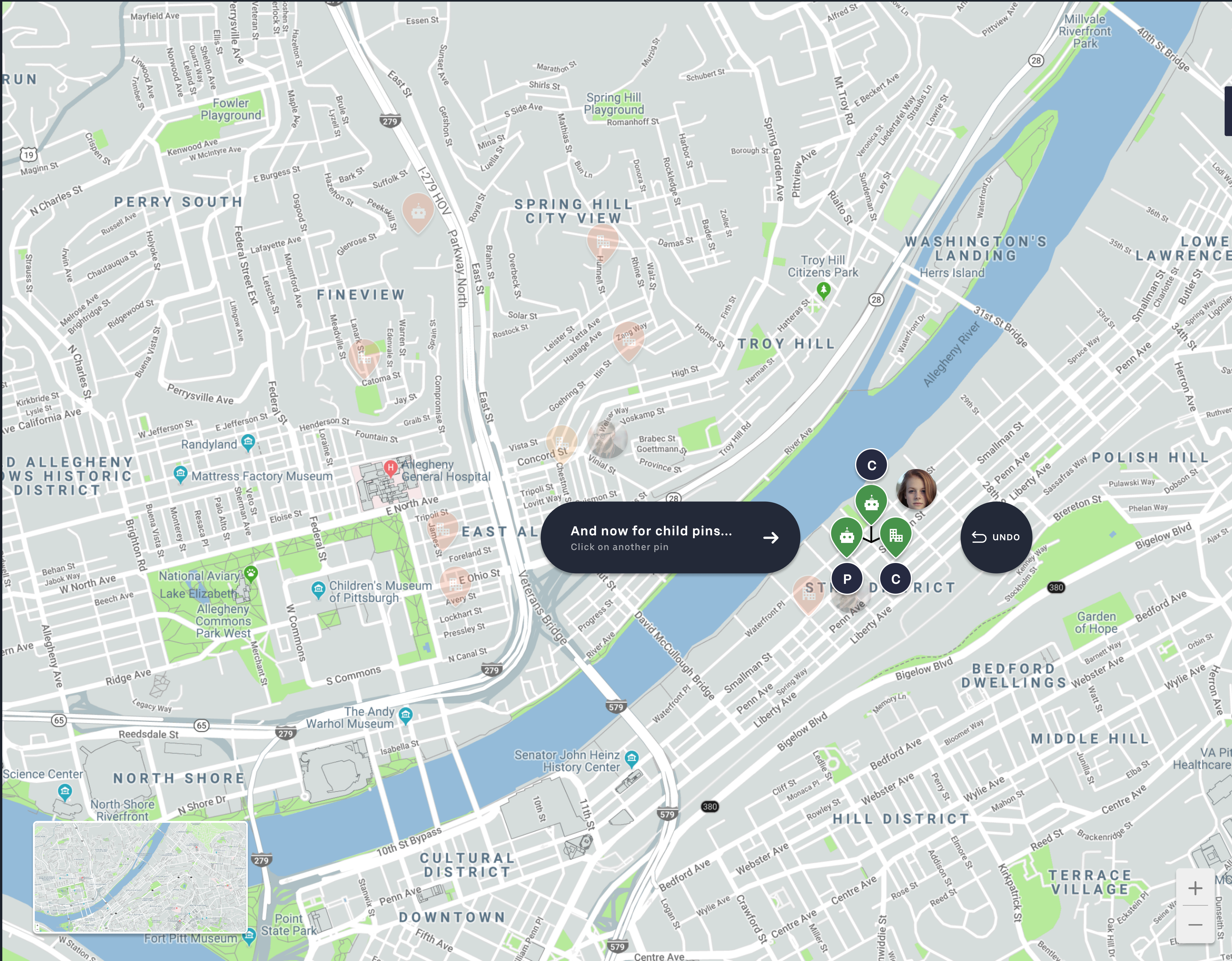| Feature ID:	dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type:	Verified
Lat/Lon:	-79.575848/104.2039
Lane Gap:	Yes

Issue   Automation Event

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

[★ Real Issue]   [▣ Mark Duplicate]   [✕ Close Issue]   [⊘ Valid, Won't Fix]

Your Comments...

[CANCEL]   [➤ SUBMIT]

Which pin is the parent?
Click on a pin →

UNDO

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue   Automation Event
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
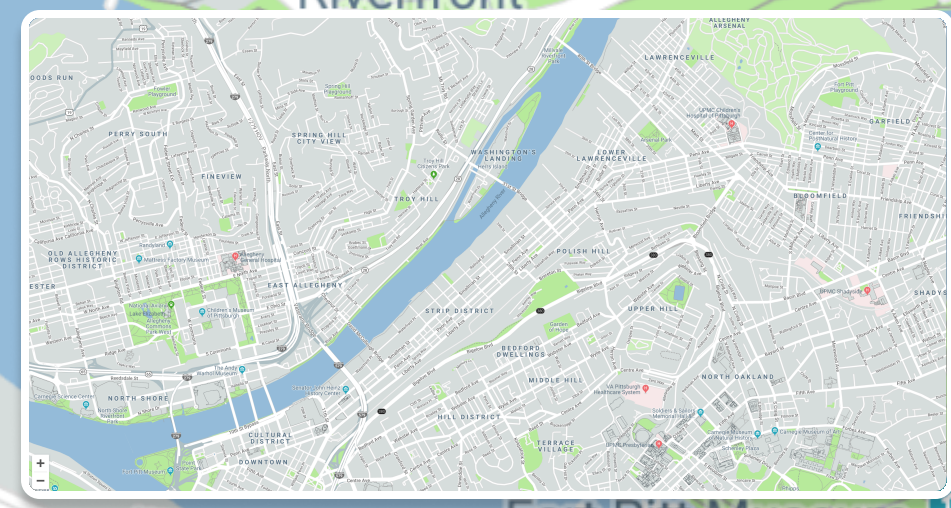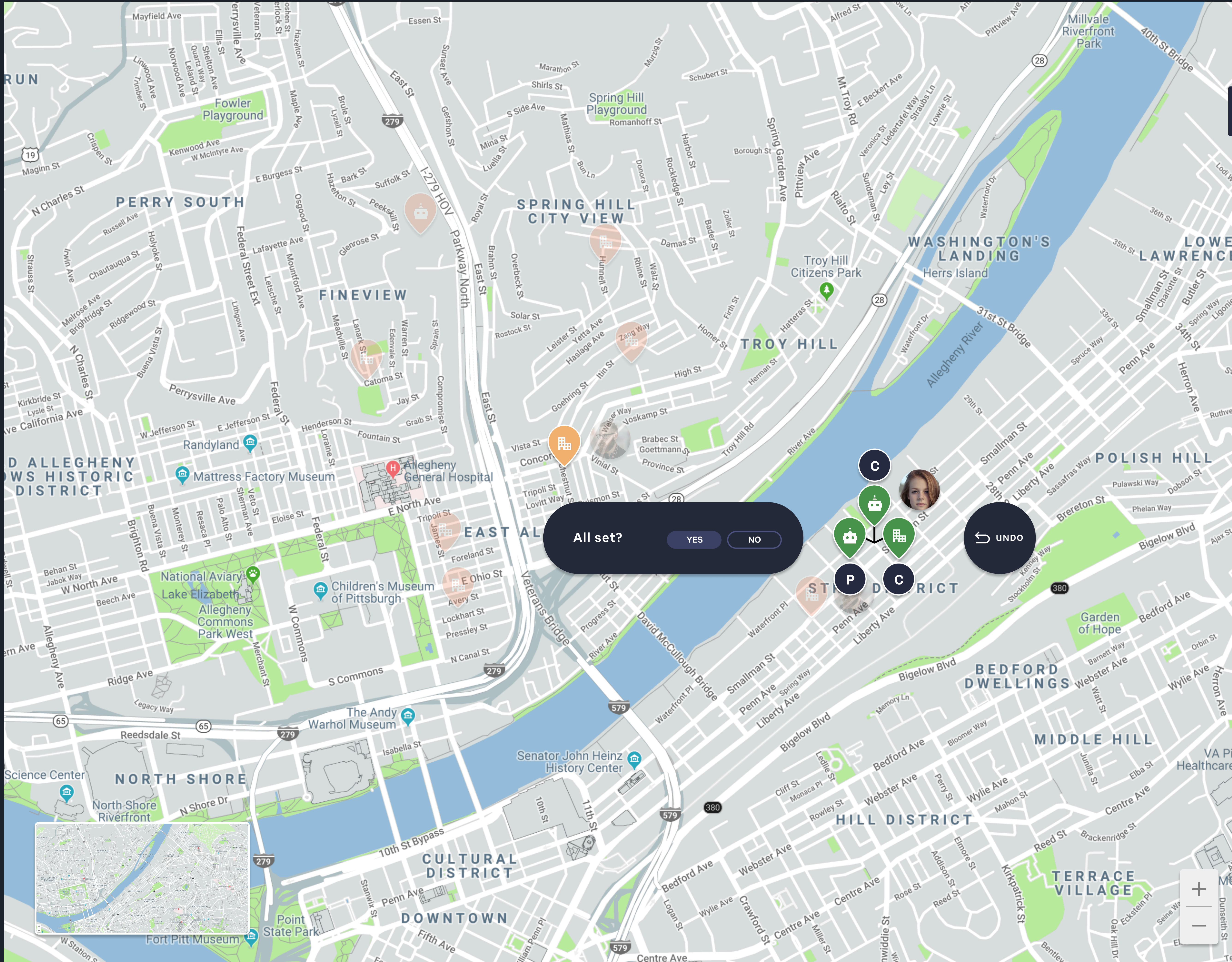Added to map issue at 12:02 pm

Real Issue   Mark Duplicate   Close Issue   Valid, Won't Fix

Your Comments...

CANCEL   SUBMIT

And now for child pins...
Click on another pin →

UNDO

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue   Automation Event

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"

Added to map issue at 12:02 pm

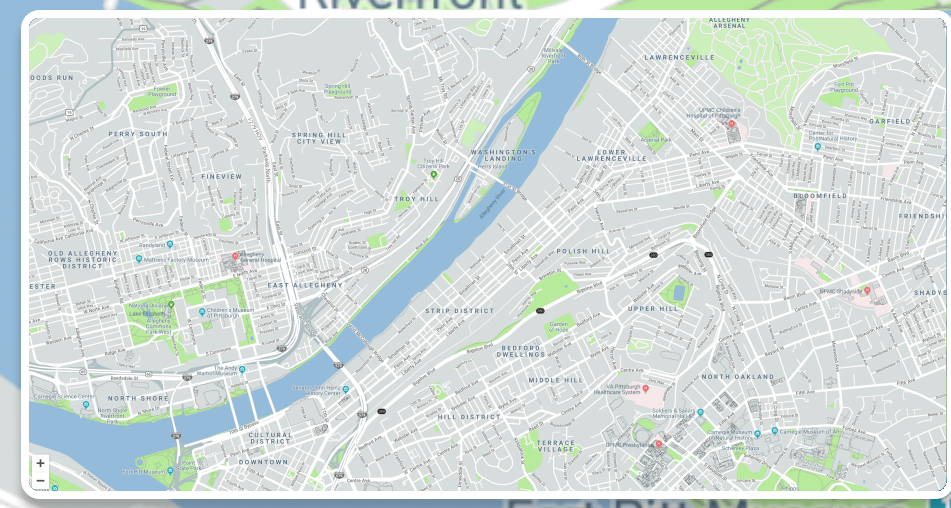Real Issue   Mark Duplicate   Close Issue   Valid, Won't Fix

Your Comments...

CANCEL   SUBMIT

All set?   YES   NO   UNDO

PIT Pittsburgh, PA

40.4406° N, 79.9959° W

PIT Release 2019.189.0 (10.01.19) Production Most Recent

ISSUES LIST   LAYERS   EVIDENCE   PANO

99 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

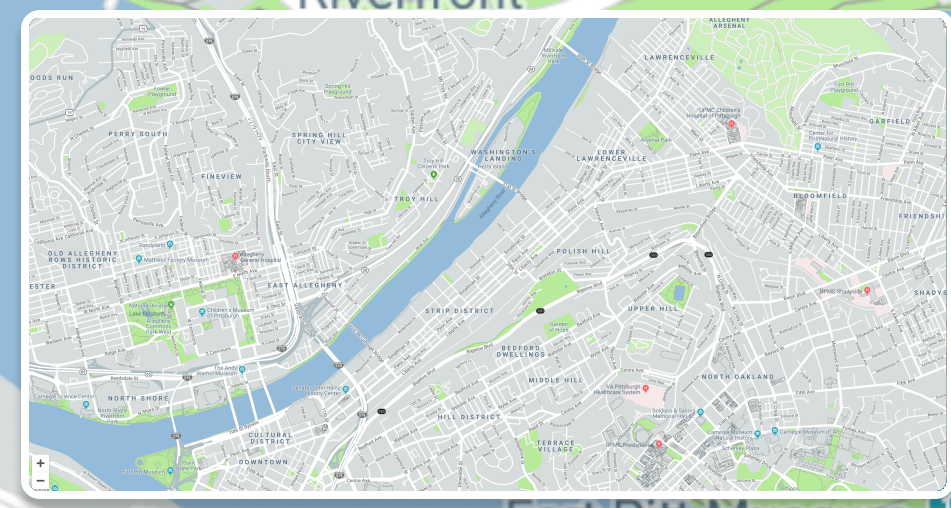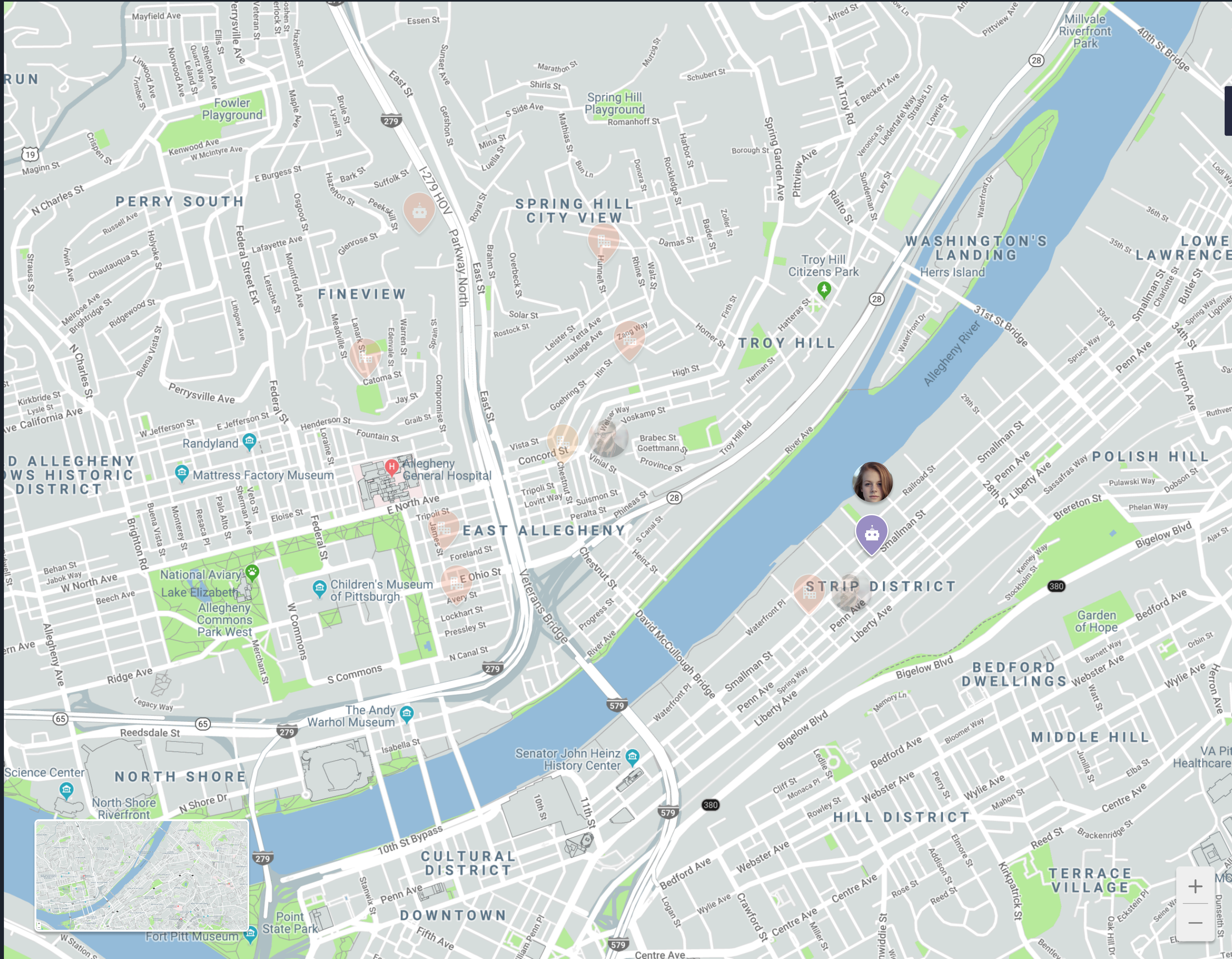Issue   Automation Event
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the
intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

Real Issue   Mark Duplicate   Close Issue   Valid, Won't Fix

Duplicate entries in the same lat/lon. Duplicate issues noted.

CANCEL   SUBMIT

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO
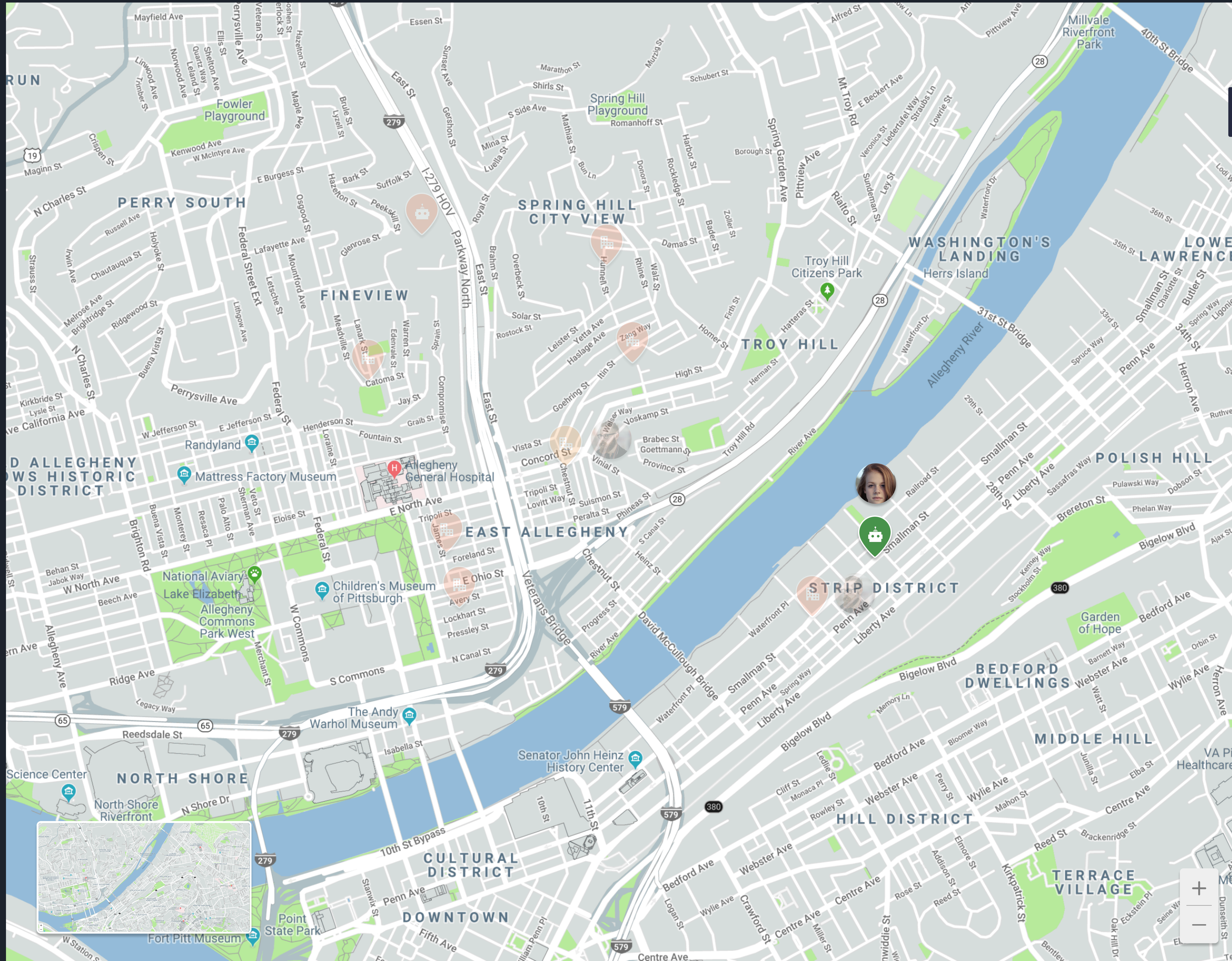
96 Issues

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   ✎ Edit

Feature ID:	dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type:	Verified
Lat/Lon:	-79.575848/104.2039
Lane Gap:	Yes

Issue   🤖 Automation Event   💬 Mark Duplicate

ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap

"Duplicate entries in the same lat/lon. Duplicate issues noted."

▶ Triaged Issue sent to MTO at 1:23 pm

"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

Re-Open Issue   JIRA: 987654

We saved your changes!   ↩ Undo

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

96 Issues   TO DO   COMPLETE

Issue		Status	Date Created
Lane Gap		ACTIVE	09/23/2019 11:11 AM
Lane Gap		REVIEWING	09/23/2019 11:11 AM
Lane Gap		ACTIVE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List
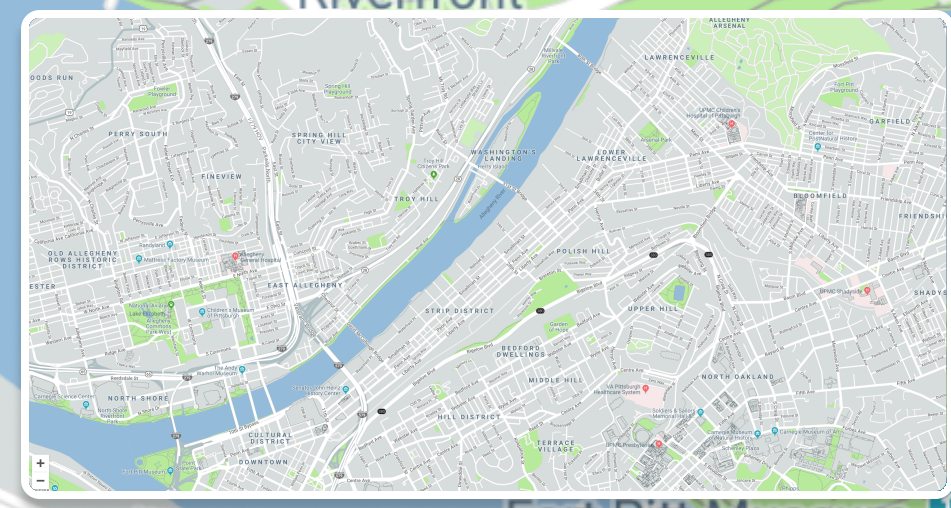to see Issue Details and Attributes.

MapExplorer

PIT Pittsburgh, PA

40.4406° N, 79.9959° W

PIT Release 2019.189.0 (10.01.19) Production Most Recent

4 Issues

TO DO   COMPLETE

Issue		Status	Date Created
Lane Gap		REAL ISSUE	09/23/2019 11:11 AM
Lane Gap		DUPLICATE	09/23/2019 11:11 AM
Lane Gap		DUPLICATE	09/23/2019 11:11 AM
Lane Gap		DUPLICATE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

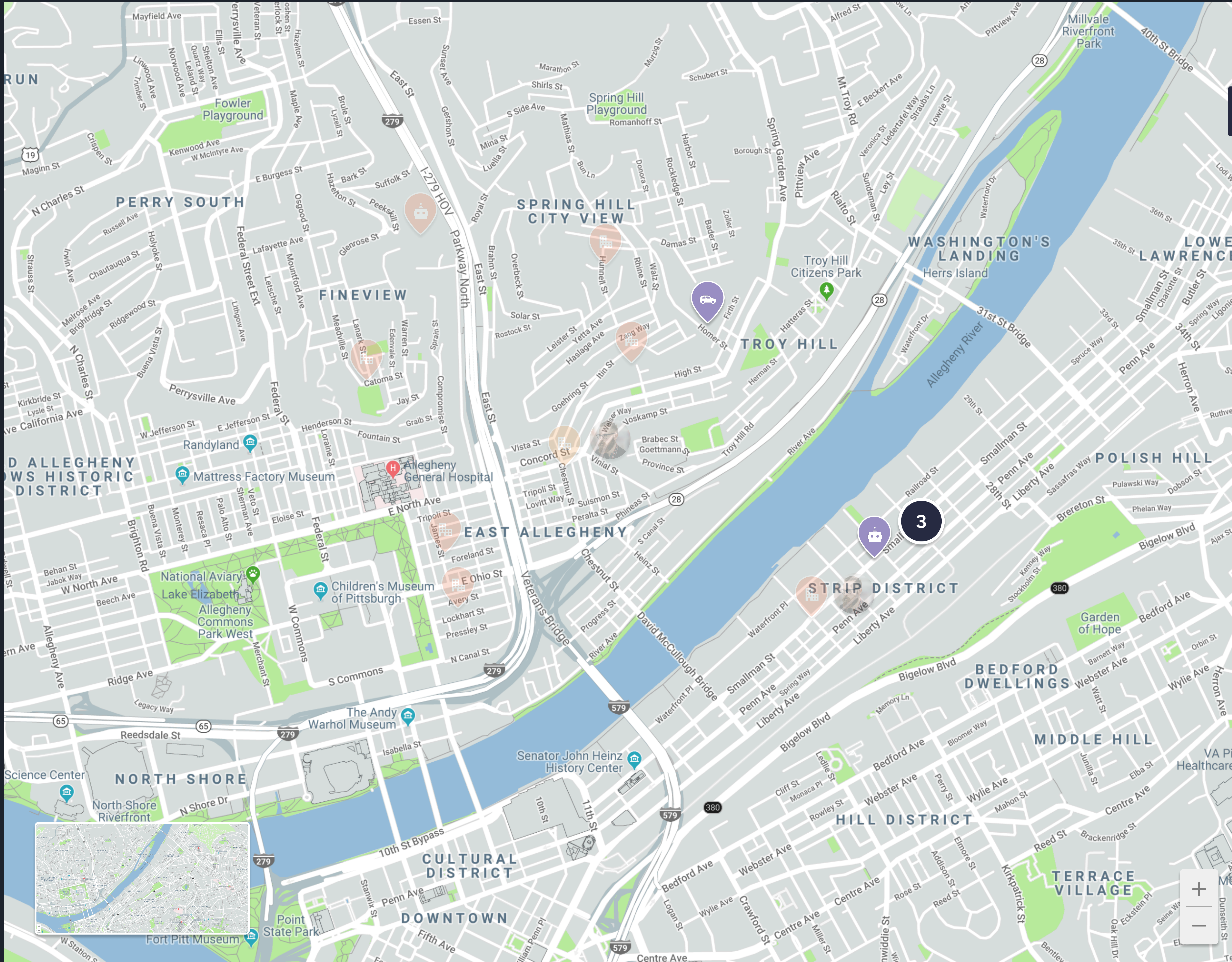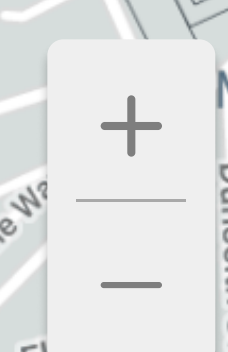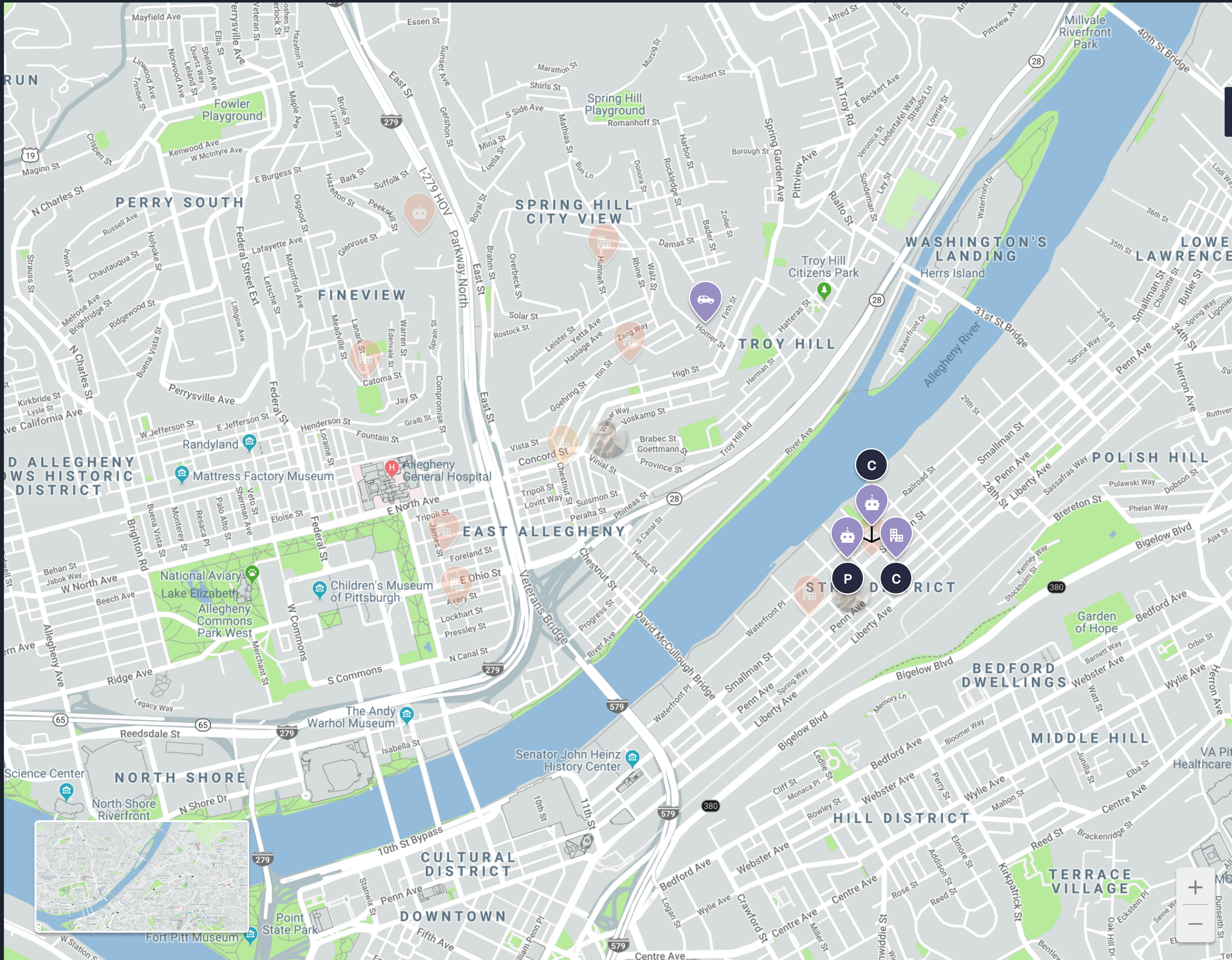Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

Full Screen View

Change Map View

MapExplorer

PIT   ✕

Production (18)   Release (20)

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.189.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.93.0
1234-dgadad-3423-gadb-joij-3

ISSUES LIST   LAYERS   EVIDENCE   PANO

96 Issues   ⚙ ︿   TO DO   COMPLETE

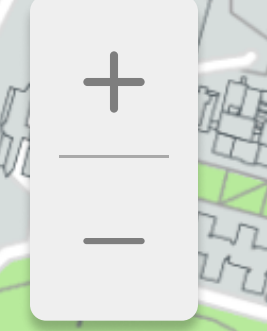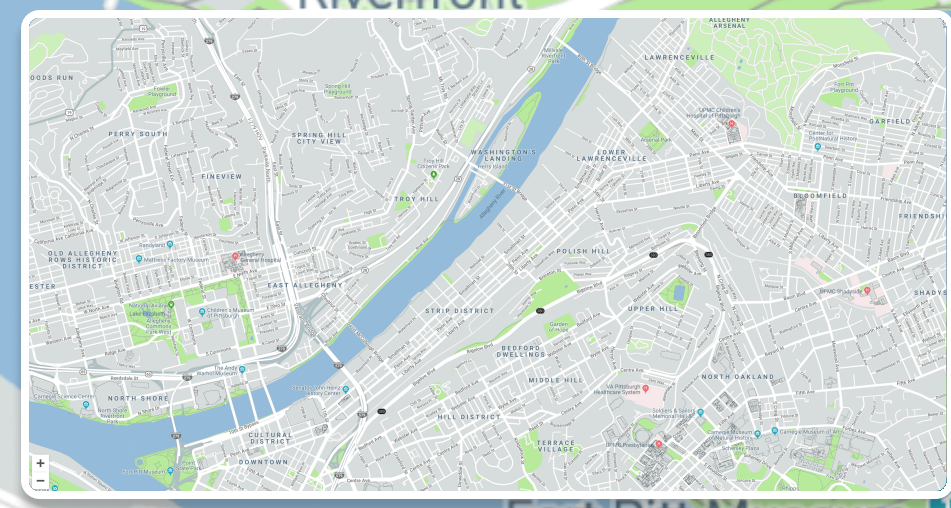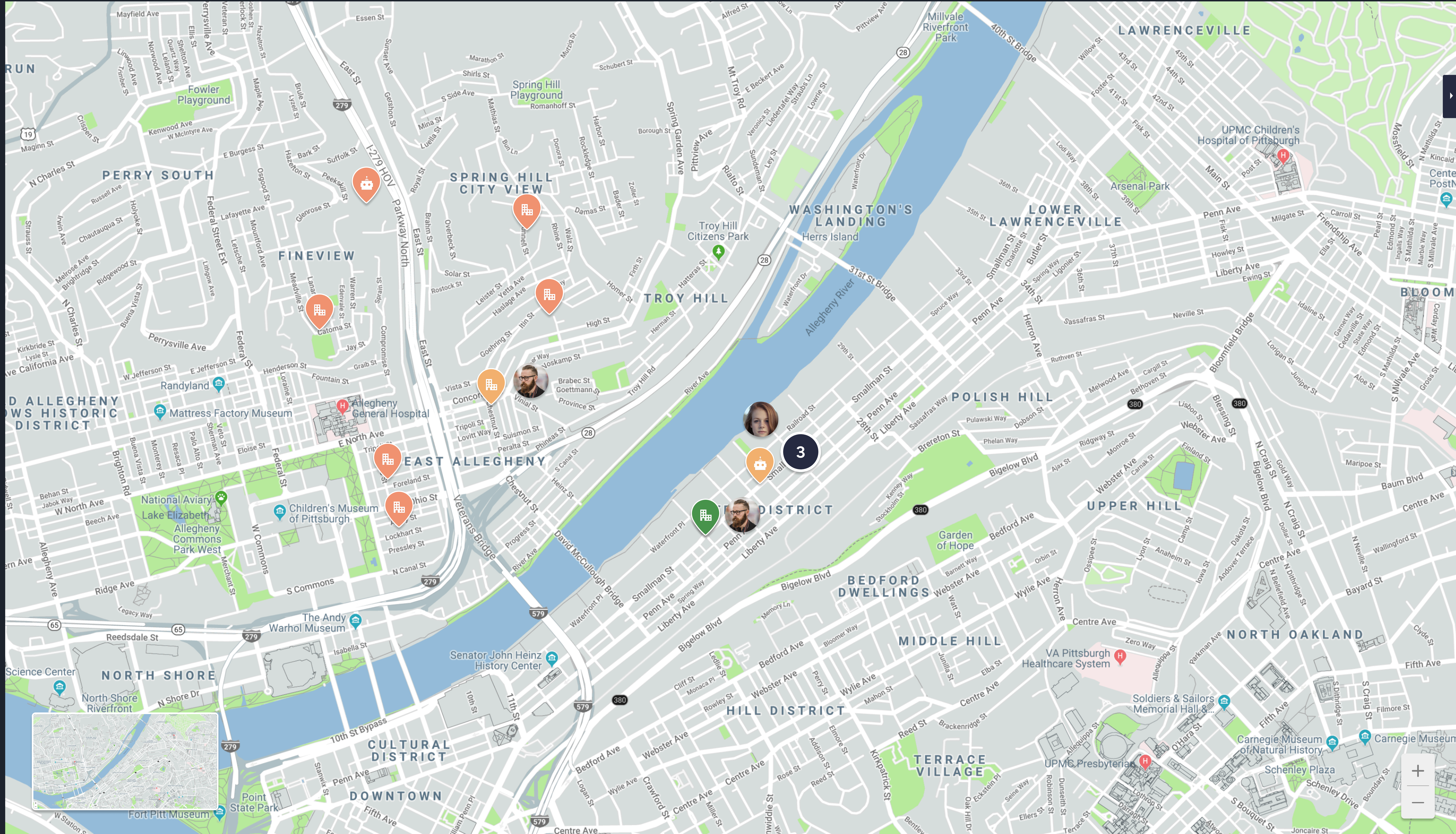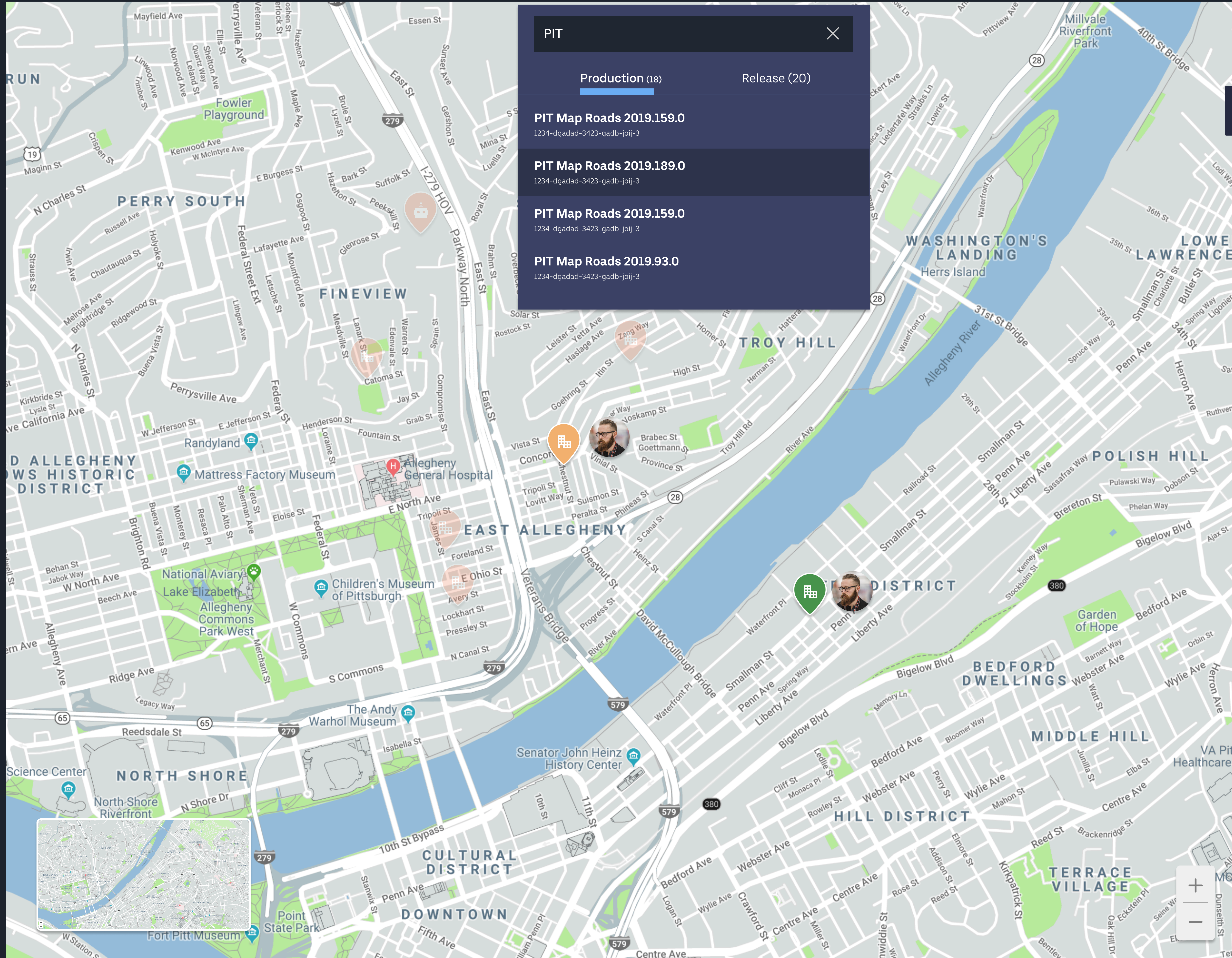| Issue		Status	Date Created	
Lane Gap		ACTIVE	09/23/2019	11:11 AM
Lane Gap		REVIEWING	09/23/2019	11:11 AM
Lane Gap		ACTIVE	09/23/2019	11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019	11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019	11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019	11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List
to see Issue Details and Attributes.

MapExplorer

PIT

Production (18)	**Release** (20)

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.189.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.159.0
1234-dgadad-3423-gadb-joij-3

PIT Map Roads 2019.93.0
1234-dgadad-3423-gadb-joij-3

ISSUES LIST   LAYERS   EVIDENCE   PANO

96 Issues   TO DO   COMPLETE

Issue	Status	Date Created
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	REVIEWING	09/23/2019 11:11 AM
Lane Gap	ACTIVE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Click on an issue in the Map View or Issues List
to see Issue Details and Attributes.

MapExplorer

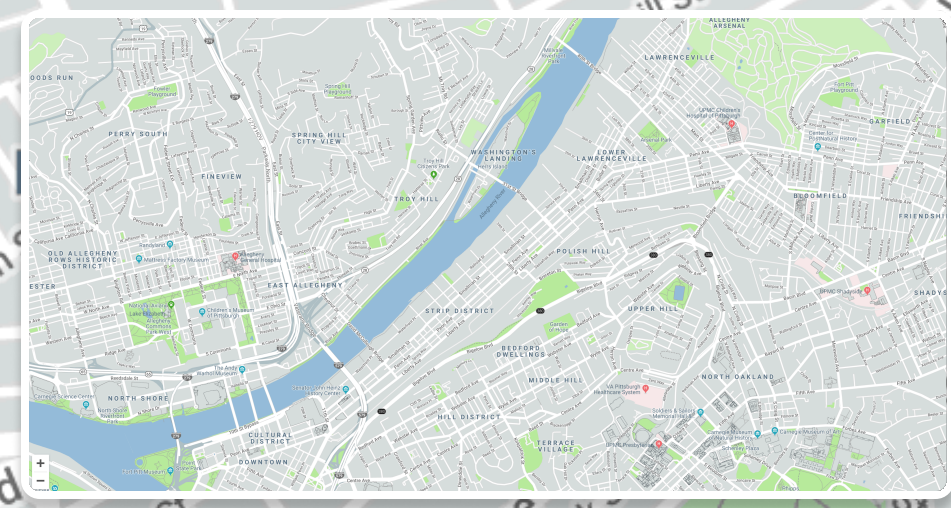**PIT** Pittsburgh, PA | 40.4406° N, 79.9959° W | PIT Release 2019.93.0 (10.01.19) Production Most Recent

ISSUES LIST   LAYERS   EVIDENCE   PANO

18 Issues

TO DO   COMPLETE

Issue	Status	Date Created
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap	NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

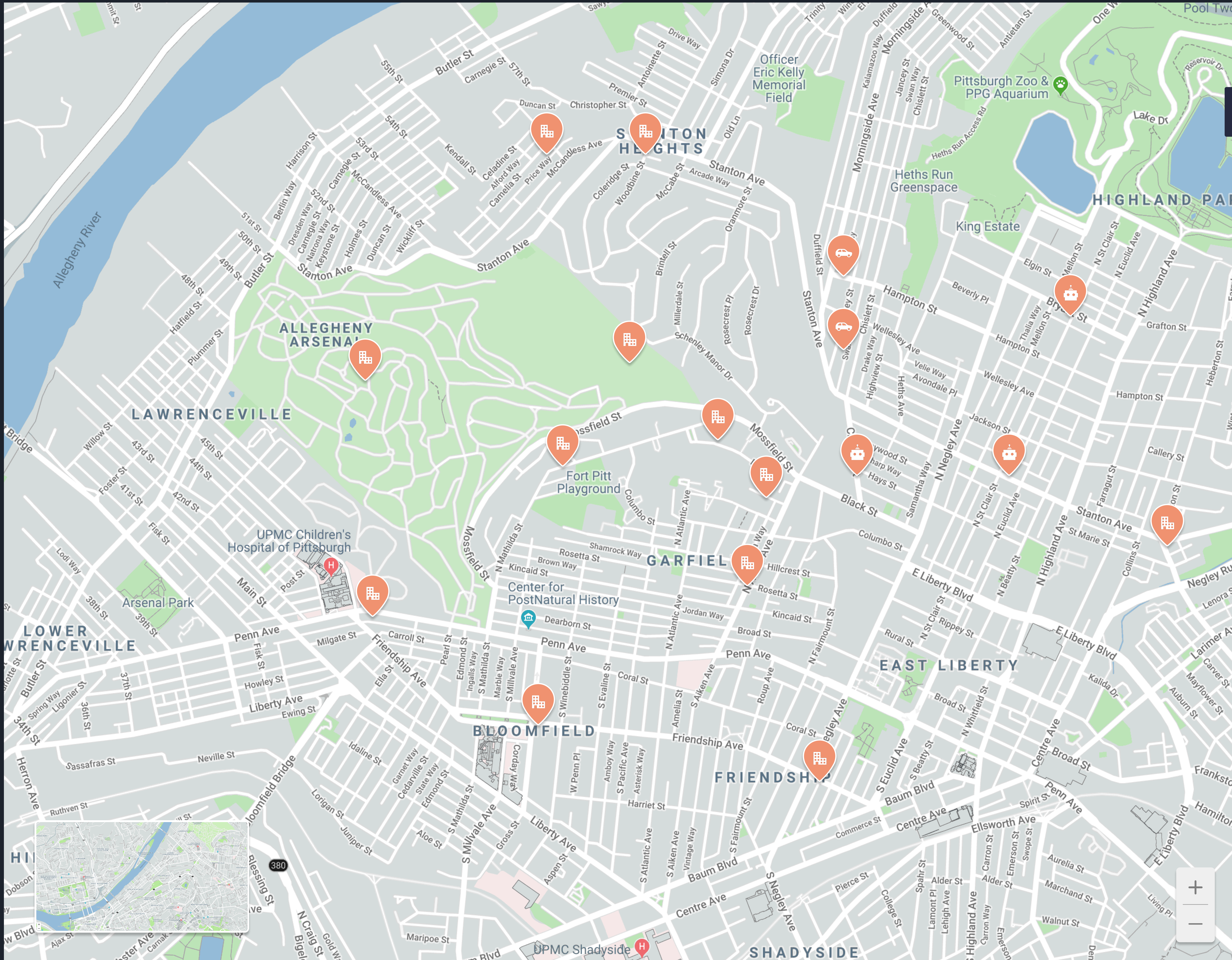Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

Pause In-Map

MapExplorer

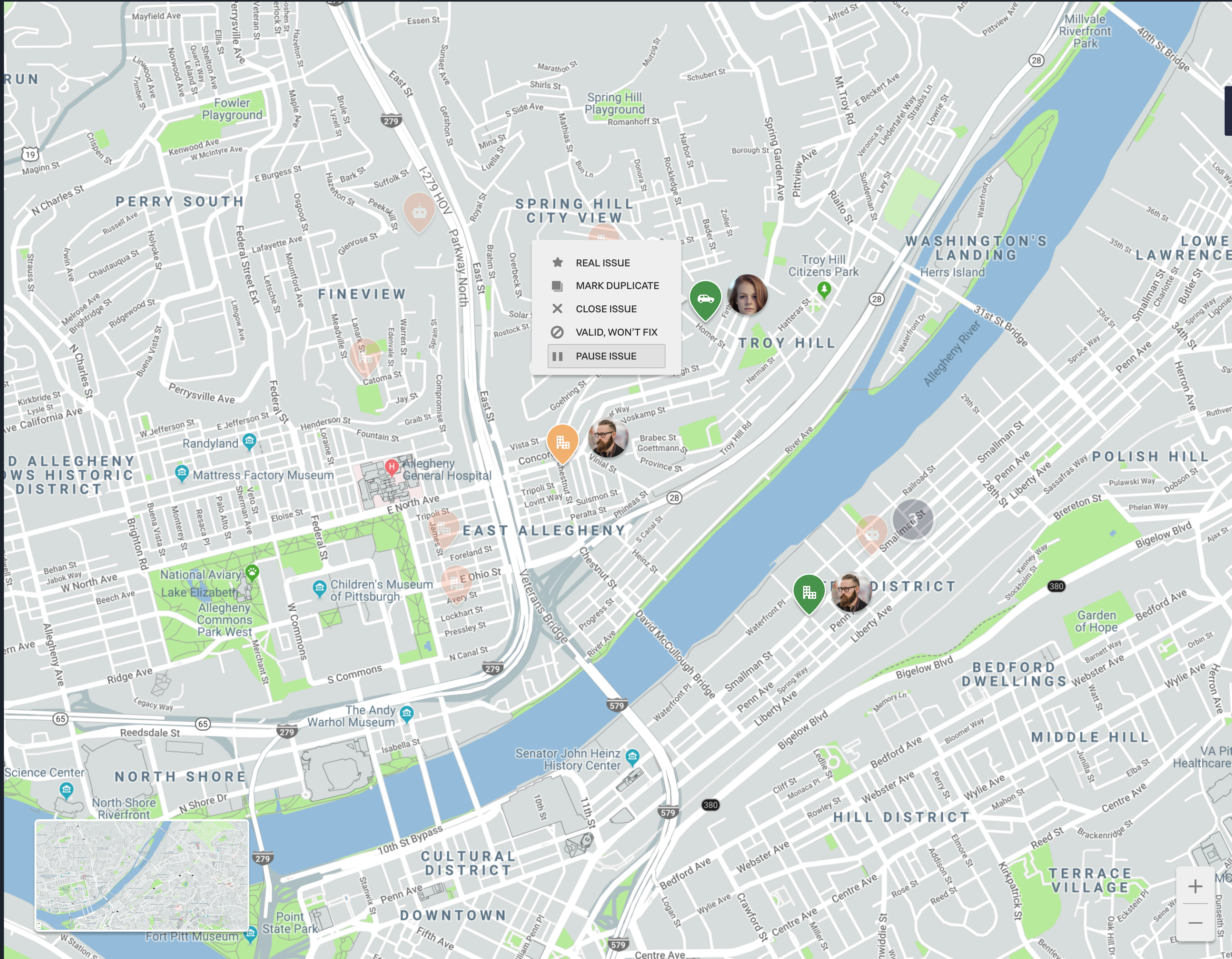**PIT** Pittsburgh, PA

40.4406° N, 79.9959° W

PIT Release 2019.189.0 (10.01.19) | Production | Most Recent ▾

100 Issues ⇅ ⌃

TO DO | COMPLETE

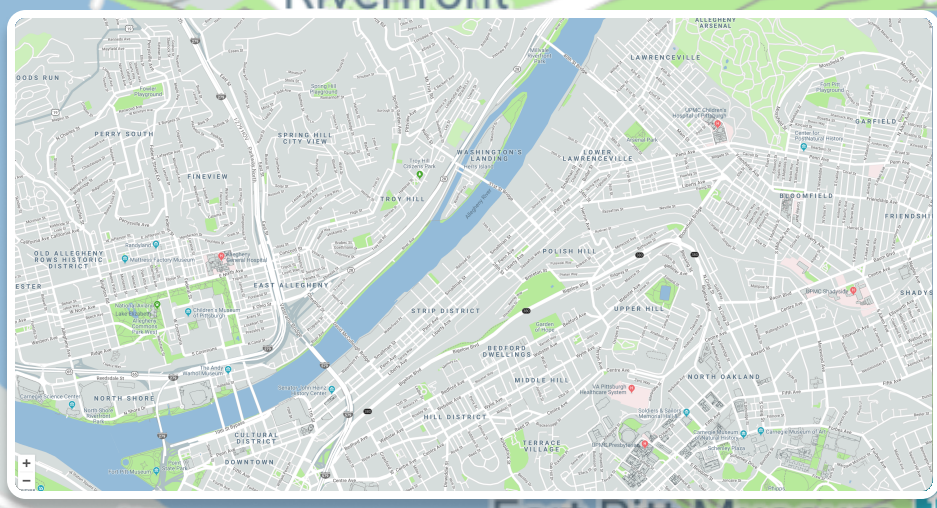| Issue		Status	Date Created
Lane Gap		REVIEWING	09/23/2019 11:11 AM
Lane Gap		REVIEWING	09/23/2019 11:11 AM
Lane Gap		ACTIVE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM
Lane Gap		NEEDS TRIAGE	09/23/2019 11:11 AM

ISSUE DETAILS · PRIORS VIEWER · SUMMARY

Click on an issue in the Map View or Issues List to see Issue Details and Attributes.

★ REAL ISSUE

▬ MARK DUPLICATE

✕ CLOSE ISSUE

⦸ VALID, WON'T FIX

⏸ PAUSE ISSUE

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue	Status	Date Created
Lane Gap	PAUSED	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
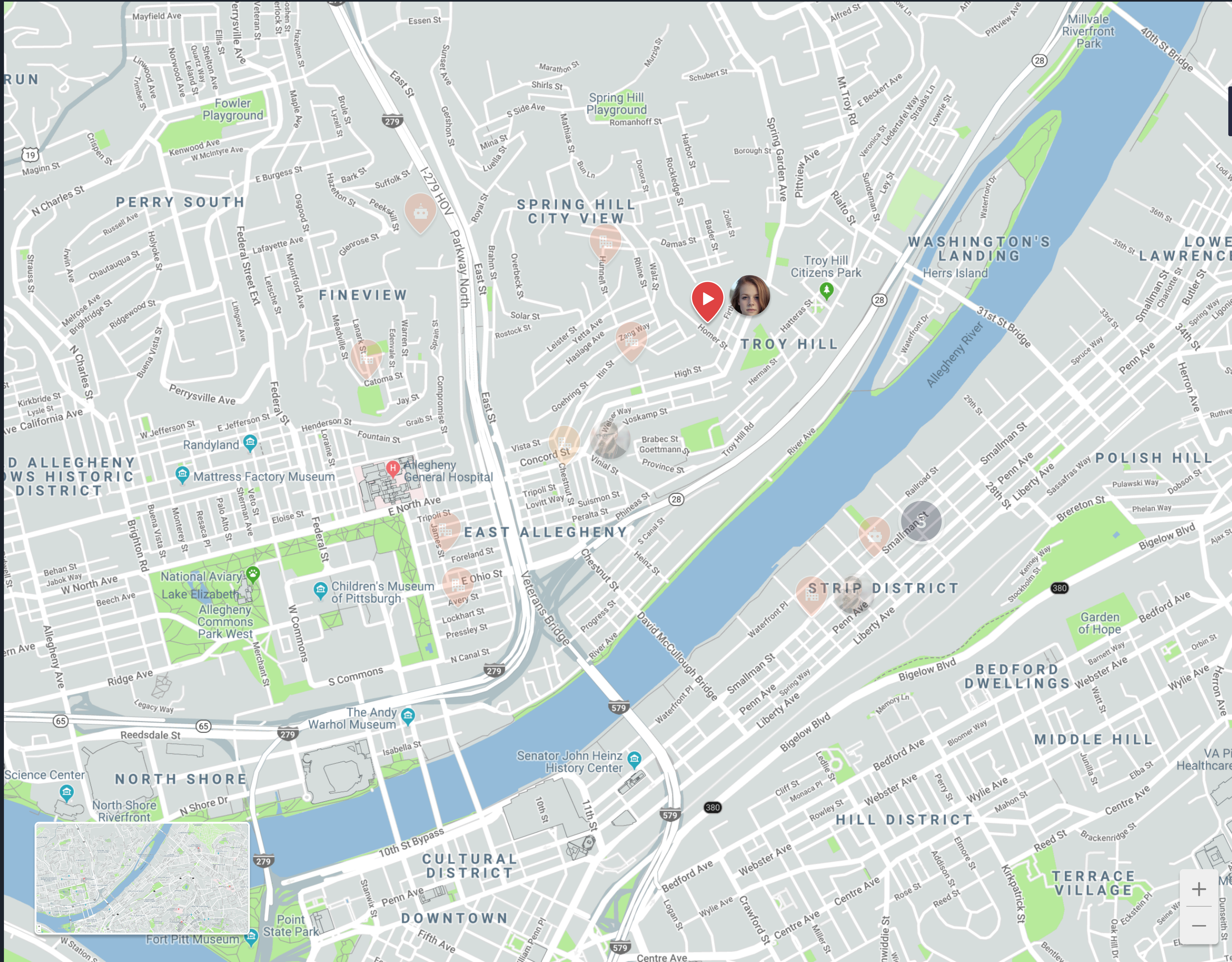**Lat/Lon:** -79.575848/104.2039
Lane Gap: Yes

Issue   Road QA Event
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

★ Real Issue   ▢ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues

Issue	Status	Date Created
Lane Gap	PAUSED	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
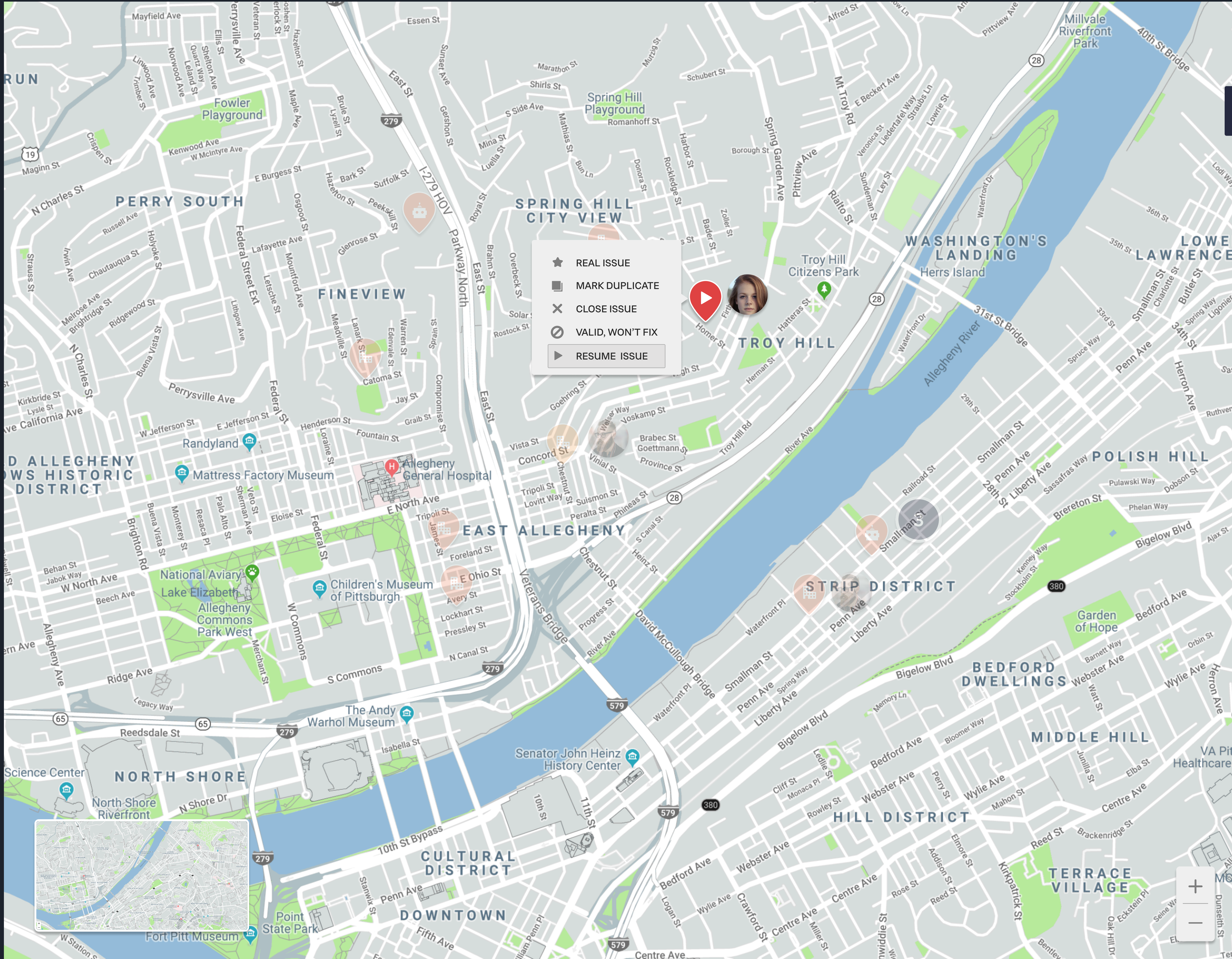**Lat/Lon:** -79.575848/104.2039
Lane Gap: Yes

Issue 🚗 Road QA Event ▶
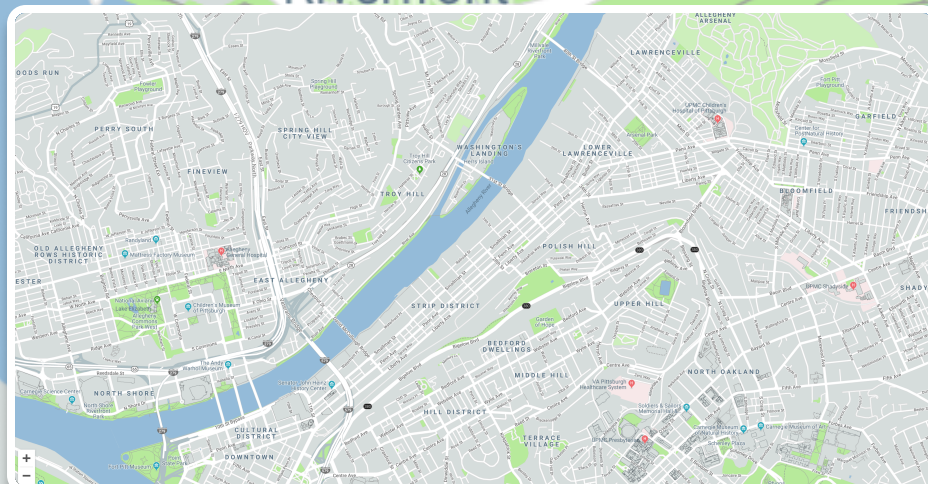
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

★ Real Issue   ▣ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

---

Map context menu:
- ★ REAL ISSUE
- ▣ MARK DUPLICATE
- ✕ CLOSE ISSUE
- ⊘ VALID, WON'T FIX
- ▶ RESUME ISSUE

MapExplorer

ISSUES LIST   LAYERS   EVIDENCE   PANO

100 Issues ⌄

Issue	Status	Date Created
Lane Gap	REVIEWING	09/23/2019 11:11 AM

ISSUE DETAILS   PRIORS VIEWER   SUMMARY

🚗 Selected: Lane Gap   ✎ Edit

Feature ID: dje93jdjeiu-diuejejkduedj-jeudjdd
Path Type: Verified
Lat/Lon: -79.575848/104.2039
Lane Gap: Yes

Issue 🚗 Road QA Event   ⏸
ID: 1234-5678-9123-4567-8912-3456-7895

Lane Gap
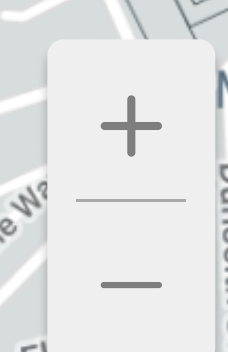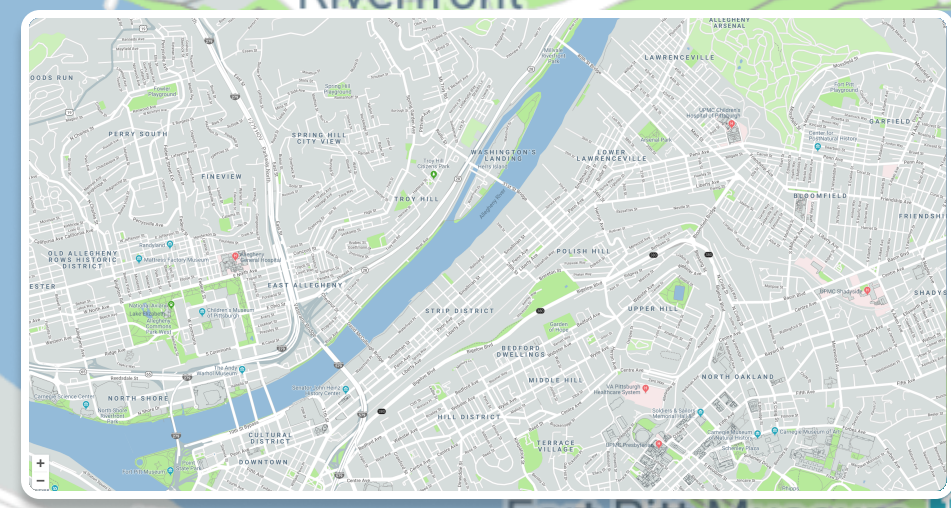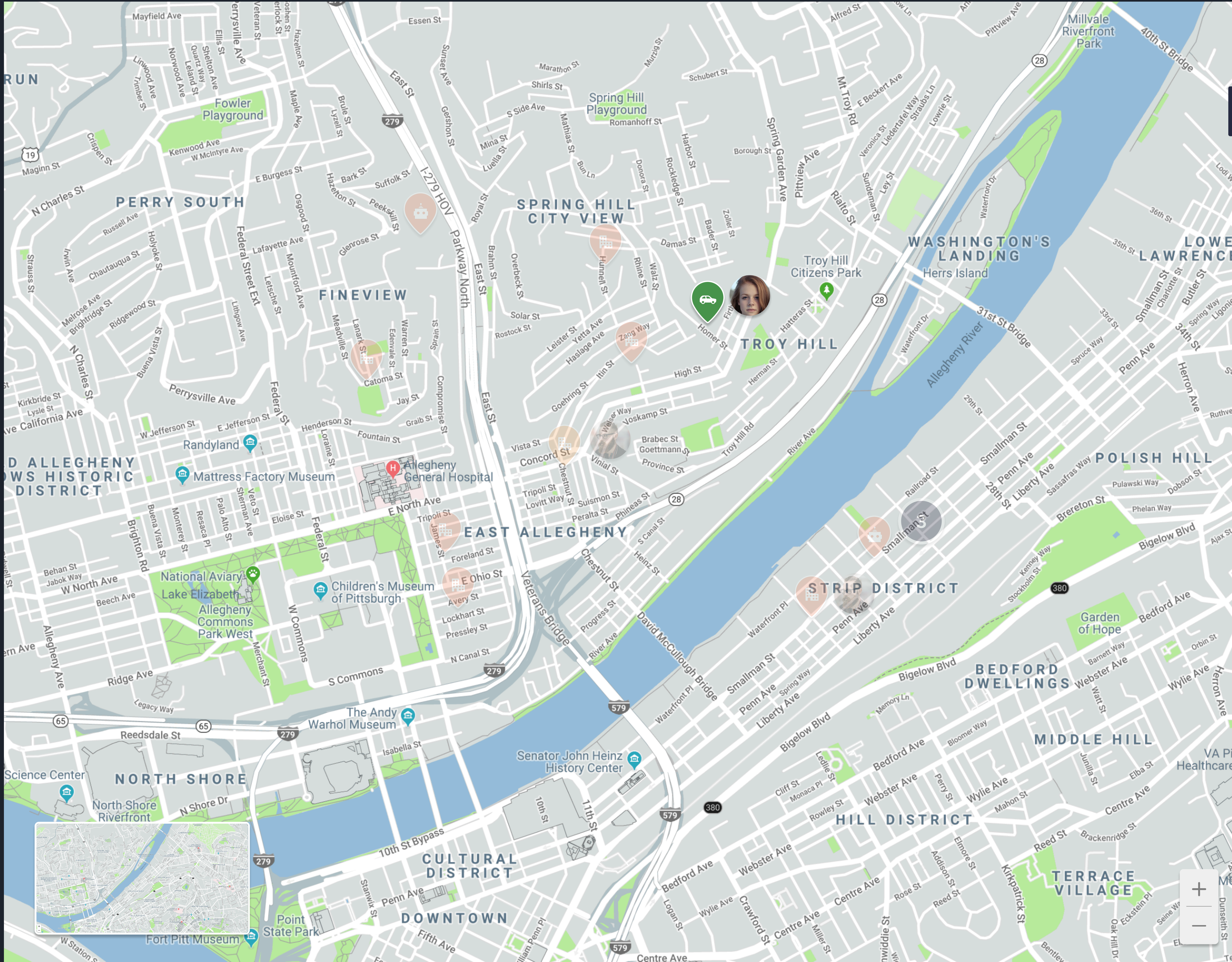"Far left lane missing SW on Liberty at the intersection of 28th ST Heading: Southwest"
Added to map issue at 12:02 pm

★ Real Issue   ▣ Mark Duplicate   ✕ Close Issue   ⊘ Valid, Won't Fix

Thank you for reading!