



MEMORANDUM

Date: September 14, 2020

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator 

Re: **COVID-19 Update # 9 – Emphasis on Geographic Dynamic of COVID-19 Infections**

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Introduction

The last update on COVID-19 was a more comprehensive update. This update will provide information on certain dynamic relationships associated with the COVID-19 pandemic and the geographic shifting of the distribution of infection, a shift from fixed location testing to mobile testing, a reemphasis on enforcement actions and a comprehensive discussion on in-person school instruction. Finally, a comparison of the COVID-19 infection rate occurring in County employees to the general population is made.

Geographic Dynamic Distribution of COVID-19 Infections

In the immediate last COVID-19 update dated August 24, 2020, I provided the Board with a table on the monthly COVID-19 infections and deaths due to COVID-19. The current pace associated with infection rate and deaths is better than the months of June, July and August, but not nearly as low as March, April and May. At the present rate, if we sustain this average infection rate and do not see any significant spikes due to certain activities, we are on track to have less than 3,000 infections in the month of September, compared to approximately 4,800 in August, 7,800 in July and 5,700 in June.

If the daily numbers generally stay the same, we hope to have less than 3,000 COVID-19 infections for September, which is a significant improvement from the previous months, but not nearly as good as the beginning of the pandemic impact in Pima County.

We have provided the Board of Supervisors, jurisdictional Mayors and City Managers with weekly maps showing the geographic COVID-19 infections throughout the community. Over time, these infection volumes and rates have shifted within the geographic area of eastern Pima County.

Attachments 1-A through 1-O show the weekly geographic distribution of COVID-19 infections. Earlier maps are more reliable than later maps as we have previously indicated to you that data shifts generally in the last two weeks of a reporting period.

We began this weekly geographic analysis to ascertain in a relatively short period of time if there is any significant geographic shift in COVID-19 infections occurring in the community. The graphics provided in Attachments 1-A through 1-O show this changing dynamic. The most significant shift has been that a relatively high infection concentration in the southern area of the metropolitan area between north of Valencia Road, east of Interstate 19 and south of Interstate 10 has significantly shifted to a concentration of infections in the vicinity of the University of Arizona. This shift is primarily attributed to COVID-19 infections among younger, healthier individuals on college campuses, including fraternities, sororities, dormitories and off-campus student housing.

This information demonstrates why it is important to geographically track COVID-19 infections rates on a weekly basis to allow our public health agency to shift resources to hotspot infections such as the University of Arizona, its sororities, fraternities, dormitories and off-campus housing. We have mobilized our testing concentrations over the last 10 days for these particular institutions.

It is extraordinarily important to identify these individuals who are infected to effectuate appropriate isolation to protect the surrounding general community from collateral infection.

COVID-19 PCR Testing Shifts to Mobile Activities to Test in Locations Where Infections are Occurring

Our COVID-19 PCR testing was primarily concentrated at fixed testing sites such as at our Kino Event Center, Udall Recreation Center and the Ellie Towne Flowing Wells Community Center. In addition, we have participated with federal agencies and the Arizona Department of Emergency and Military Affairs in specific drive-thru testing. The identification of present infection locations now requires a significantly different, flexible approach that facilitates the geographic targeting of testing into particular settings where transmission is ongoing. In the case of the University of Arizona area, these are the sororities, fraternities, dormitories and off-campus housing locations.

We will continue to operate and collaborate with fixed testing sites to ensure broad testing availability; however, the absolute number and location of these of sites may shift in response to the changing infection patterns and could even be reduced in the future.

The Table 1 below provides the weekly average of daily tests at each location as well as the weekly average positivity rate for each location.

Table 1: Fixed Site COVID-19 Testing Sites

Location	Week	Weekly Average of daily tests	Weekly Average Positive	Weekly Average Positivity Rate (%)
Kino Event Center	07/20 - 07/26	465.4	63.4	13.6%
	07/27 - 08/02	493.5	71.1	14.4
	08/03 - 08/09	413.8	55.2	13.4
	08/10 - 08/16	251.5	42.5	16.9
	08/17 - 08/23	194.4	26.1	13.4
	08/24 - 08/30	172.7	24.4	14.1
	08/31 - 09/06	178.8	25.8	14.4
Udall Recreation Center	08/03 - 08/09	69.8	1.7	2.4%
	08/10 - 08/16	109	6.8	6.2
	08/17 - 08/23	120.8	5.5	4.6
	08/24 - 08/30	120.7	5.43	4.5
	08/31 - 09/06	131.5	6	4.6
Ellie Towne Flowing Wells Community Center				
	07/27 - 08/02	228	7.5	2.5%
	08/03 - 08/09	276.3	11.5	4.2
	08/10 - 08/16	193.3	6.67	3.5
	08/17 - 08/23	161	5	3.0
	08/24 - 08/30	174.3	4.67	2.7
	08/31 - 09/06	191.5	7	3.7

As you can see, the Kino Event Center continues to lead all sites regarding average number of individuals tested per day as well as the identification of infection rate. Other sites lag behind the Kino Event Center. It is likely, in the near future that one or more of the other testing sites will be discontinued in favor of expanding mobile hotspot testing, which is a more efficient allocation of scarce resources and responds directly to the location of infection outbreaks.

Mobile locations have represented one component of the County’s total testing effort. These were deployed in rural and remote settings, as well as other community locations with a

focus on vulnerable and low-income communities. These efforts are detailed in prior memoranda to the Board. (August 24, 2020 COVID-19 Pandemic Update Memorandum) Efforts specifically to provide drive-through testing have delivered this service to 2282 residents in the communities of Ajo, Three-Points, Green Valley, Sahuarita, Vail Marana and Catalina, additional urban sites included the Rodeo Grounds, Sunnyside High School, and Rillito Park with a positivity rate of 1.3 percent. Other recent efforts have delivered 705 tests to vulnerable and low-income residents with testing provided at various houses of worship and low-income housing locations. Although well-received the positivity in these locations has been approximately 1.6 percent.

Our public health agency has led the effort to mitigate the impact of the COVID-19 outbreaks associated with the University of Arizona in testing to contain that are occurring on the campus, including sororities, fraternities, and more importantly in high-concentration student housing locations. For this reason, we have concentrated our mobile testing for the next several weeks at these locations. The reason for this decision is obvious and based on examining Attachments 1-A and 1-B, which shows a complete shift of COVID-19 infections in a relatively short period of time between the south side to now around the University of Arizona. It is likely this representation around the University is significantly understated, primarily because while the County's contractors are directly connected to the State reporting system, other are not, including the University of Arizona's antigen testing outside of the campus health center. Hence, the COVID-19 infections shown in Attachments 1-A and 1-B are an actual underrepresentation of infections for the period.

University of Arizona Cooperation with the County's Public Health Agency in Controlling the COVID-19 Pandemic Amongst University Students

The University of Arizona, through President Dr. Robert Robbins, has selected Dr. Richard Carmona (former Surgeon General) to assist in their transition back to in-person learning and student occupation of the campus. In addition, the University has formed a Public Health Campus Advisory Team, which is made up of a number of professionals from the College of Public Health. Included in the Advisory Team is Pima County's Public Health Director, Dr. Theresa Cullen. The purpose of the Advisory Team is to provide the President and Dr. Carmona with professional, public health advice regarding all matters related to COVID-19 and University of Arizona activities. The Team has formulated a series of options that should be considered by the President for implementation. It should be noted that due to the dynamic nature of COVID-19 infections and the spread of COVID-19, these options and/or recommendations will vary over time.

Dr. Cullen is in constant communication with the University's Public Health Campus Advisory Team and also provides direct input on the status of the COVID-19 pandemic throughout Pima County as well as within the State of Arizona.

Mobile Testing Accelerated due to Increasing COVID-19 Infections

In response to accelerating COVID-19 infections, mobile testing began before Labor Day and will continue through the end of December 2020. Concerns have been expressed to the University regarding accelerating COVID-19 infections. Initially, the University of Arizona

tested all students who reside on campus upon entering the University grounds. We are now finding that many of the students who tested negative on entry are now testing positive, particularly in a number of dormitories. In addition, we have found significant infection rates in a number of sororities and fraternities as well as off-campus housing locations in the vicinity of the University. The County has three contractors involved in testing off-campus student housing locations, sororities, fraternities, and dormitories, as necessary. The University continues to provide testing for on-campus housed students.

Off-campus housing COVID-19 PCR testing is being delivered by a variety of entities including our contractor, Paradigm Laboratories, and the City of Tucson contractor, Rescue Me Wellness. University of Arizona sorority and fraternity COVID-19 antigen testing is being provided by Pima County contractor, ArcPoint. In all these settings, mobile teams have been deployed to facilitate efficient testing to facilitate isolation decisions for these congregate settings.

The Table 2 below lists the date of the Greek housing sites as well as the number of students tested at each event and the results. To date 278 tests have been performed with collective positivity rate of 21.6 percent.

Table 2: University of Arizona Greek Houses

Date & Location	Total	Positive	% Positive
3-Sep			
Sigma Alpha Mu	20	8	40%
Tau Kappa Epsilon	29	5	17.2
8-Sep			
Sigma Alpha Mu	21	10	47.6
Sigma Kappa	25	15	60
Tau Kappa Epsilon	30	19	63.3
9-Sep			
Alpha Epsilon Phi	23	0	0
Alpha Phi	23	0	0
Kappa Alpha Theta	19	0	0
Pi Beta Phi	35	1	2.8
Sigma Tau Gamma	6	0	0
10-Sep			
Chi Omega	47	2	4.2
Grand Total	278	60	

Table 3: Off Campus Student Housing

Location	Date	Total Tests	Positive	% Positive	Testing Provided by:
Aspire 950 N Tyndall Ave.	09/03/20	63	3	4.7%	Pima County Paradigm Labs
North Pointe – 850 E. Wetmore	09/09/20	29	1	3.4	Pima County Paradigm Labs
Hub/Oliv, Sol y Luna	08/28-29/20	240	29	12	City of Tucson Rescue Me Wellness
Hub/Oliv, Sol y Luna	09/08/20	190	46	24.2	City of Tucson Rescue Me Wellness
The Cottages at Tucson- 1000 E. 22 nd Street	09/09/20	116	Results not available as of September 14,2020		
Sahara Apartments 919 N. Stone Ave.	09/10/20	75	Results not available as of September 14,2020		
The Seasons – 811 E. Wetmore	09/10/20	75	Results not available as of September 14,2020		
District on 5 th – 550 N. 5 th Avenue	09/11/20	113	Results not available as of September 14,2020		

Drive-thru Testing with the Arizona Department of Emergency and Military Affairs

We have received approval for a second round of mobile, drive-thru testing sites. These will be conducted at the sites listed below on the dates indicated.

Table 4: Second Round Mobile Drive-thru Testing

Location	Date	Planned Number of COVID-19 Tests
Pantano Christian Church	09/16/20	400
Green Valley Presbyterian Church	09/18/20	700
Green Valley Presbyterian Church	09/19/20	700
Rillito Racetrack	09/23/20	400
Coronado K-9 School	09/26/20	400
Pantano Christian Church	09/30/20	400

Some of these sites are repeats from the first round of drive-thru testing, particularly where we had significant demand for testing. Additional sites in the neighborhoods surrounding the University have been proposed but at this point are pending approval from DEMA. Likewise, we have requested authority to transfer testing kits and processing capacity to our Community Health Center partners. This request is also pending approval.

Proposed Enforcement in Response to the COVID-19 Cases in the University of Arizona Area

Dr. Cullen and our entire public health agency have been highly engaged with the University for the last two months in response to the increasing number of COVID-19 viral infections that appear to be associated with the return of students to the campus. While many students have been adherent to the public health recommendations promulgated by the University of Arizona and the Health Department, the number of confirmed COVID-19 infections continues to increase. It is now clear that a portions of the student community is disregarding current guidance from the Health Department and campus officials regarding limitations on the size of social gatherings and poor compliance with mask wearing. This has created an urgent situation that threatens the safety of our community.

Over the last three weeks, accelerated viral transmission of COVID-19 has occurred within the University of Arizona student population. Currently, the r-value, which represents the infectivity rate, is 2 in certain areas around the University. This means that every infected student is potentially infecting 2 more individuals. If this trend continues, illnesses and hospitalizations within the community will continue to increase, jeopardizing UA students, staff, and the broader Tucson community. The Health Department has been working closely with leadership at the University of Arizona to mitigate this transmission, despite this cooperative effort the number of cases continues to increase.

As a result of the current COVID-19 infection activity around the University Campus, the Pima County Health Department is either taking or strongly recommending the University take the following steps:

1. A shelter-in-place self-quarantine recommendation is issued immediately to last for 14 days for University of Arizona students who are living on and off campus within the defined geographical area. The defined geographic area is bounded on the west 6th Avenue, on the east by Campbell Avenue, on the south 10th Street, and on the north by Helen Street. Students may leave their homes to attend essential classes as defined by the University of Arizona, work, obtain food, medical care, medicine or supplies that are needed to sustain or protect life and are not available via delivery. We recommend that students use home delivery methods when available to decrease their movement. This recommendation will end September 29, 2020. Sustained transmission beyond this 14-day period may result in an additional period of time for this recommendation.
2. University of Arizona students who test positive for COVID-19 and live off campus will be offered the option of isolating within the isolation dormitories on campus if space is available.
3. Apartment buildings or communal residences having more than 10 unrelated residents, located within the geographic area and where the majority of residents are University of Arizona students must comply with the following during the next 14 days:
 - a. Close pools and spas;

- b. Close recreation, game and/or fitness rooms or gyms; and
 - c. Prohibit gatherings of more than 10 individuals
4. Voluntary quarantines will be in effect for individuals residing in Greek houses where more than 10% of residents test positive for COVID-19.
5. The University of Arizona will make available to Pima County residents the current metrics that are being used to assess the pandemic on campus.

If these steps fail to reduce the rate of transmission then more formal, legal quarantine measures will be taken.

The County's Role in School Opening Decisions

The decision to return to in-person instruction is solely that of the Governor and the respective school district board. The Governor's Executive Order 2020-51 directs each school district and charter school to consider the recommendations of the Arizona Department of Health Services and the "guidance of county health officials" along with other factors to "determine when in-person, teacher-led classroom instruction can safely be made available." This consultation and technical assistance process began by formally engaging public school superintendents beginning in March. The Back to School Committee further formalized and enlarged this process by including the Pima County Superintendent for Public Schools, all the public school district superintendents, as well as representatives of Charter and Private schools.

The role of the County has been to make advisory recommendations and to work with school districts and schools to bring children back into a school environment that mitigates the COVID-19 infection risks to students, faculty, staff and families. Our position during the Back to School Committee meeting on September 14, 2020 was that we believed based on the available data that a safe return to hybrid instruction was possible by October. Our position remains the same and our public health agency will make recommendations to public school district; however, the decision as to when and how to return to in-person learning remains that of the public school district.

Facilitating a Safe Return to School

The Pima County Health Department has been deeply engaged providing detailed training and technical assistance to public, charter, and private schools regarding COVID-19 mitigation strategies and guidance for reopening. Webinars are held weekly, one on Tuesdays from 9-9:45 for charter and private schools, and the other on Thursdays from 11-11:45 for public schools. These webinars help ensure school staff are up to date on all local, state, and federal guidance about safely returning to school. This includes discussions on how to handle symptomatic students, isolation and quarantine guidelines, and reporting positive COVID cases to the Health Department.

The Health Department has also set up an emergency operations e-mail account specific to schools as well as a telephone workgroup number which is routed to the Schools Liaison team members. These avenues allow school staff and administrators direct access to the liaison team for any questions, clarifications on guidance, review of mitigation plans, or requests for training and resources. Resources, such as printed signage, as well as infographics and flow charts to simplify reopening processes, are available to all schools as well. 56 technical assistance calls were logged from 3/18/2020 through 8/26/2020.

Finally, our Health Department has developed a process for positive cases that are reported to a school. In the event of a positive case, the school submits a form located on the Back to Schools page of the PCHD website. That form alerts the School Liaison team of a positive case; the school is then contacted by PCHD within an hour of their submission. The school receives a Qualtrics survey whereby the positive case information is collected, and close contacts are identified. This information is shared with contract tracers to help mitigate the spread of the disease. As of September 11, 2020, 32 positive cases have been logged.

The rapid rise of infections around the University of Arizona gives reason to be cautious regarding schools. Although the populations are different, some of the behaviors of children in these settings is likely to mirror that of their older peers. In addition, it should be noted that our public health agency will err on the side of being conservative in their recommendations with the goal of maximizing the protection of the health of Pima County.

That being said, almost all public school districts are now planning to return to in-person learning. Table 5 below is a schedule of when each school district anticipates returning to hybrid learning environment where parents and students will chose whether they remain on online learning or return to full in-person learning.

Table 5: Status of Public School District Instructional Activity

School District	Instructional	Target Date
Ajo Unified	Remote	Pending
Altar Valley Elementary	Remote	Pending
Amphitheater Unified	Hybrid	10/12/2020
Baboquivari Unified	Remote	Pending
Catalina Foothills Unified	Remote	Pending
Continental Elementary	Hybrid	9/10/2020
Flowing Wells	Hybrid	10/5/2020
Marana Unified	Hybrid	10/19/2020
Pima Accommodation District	Hybrid	8/31/2020
Sahuarita Unified	Hybrid	9/17/2020
San Fernando Elementary	In-person	10/12/2020
Sunnyside Unified	Hybrid	10/19/2020
Tanque Verde Unified	Hybrid	10/19/2020
Tucson Unified	Hybrid	10/19/2020
Vail Unified	Hybrid	9/21/2020

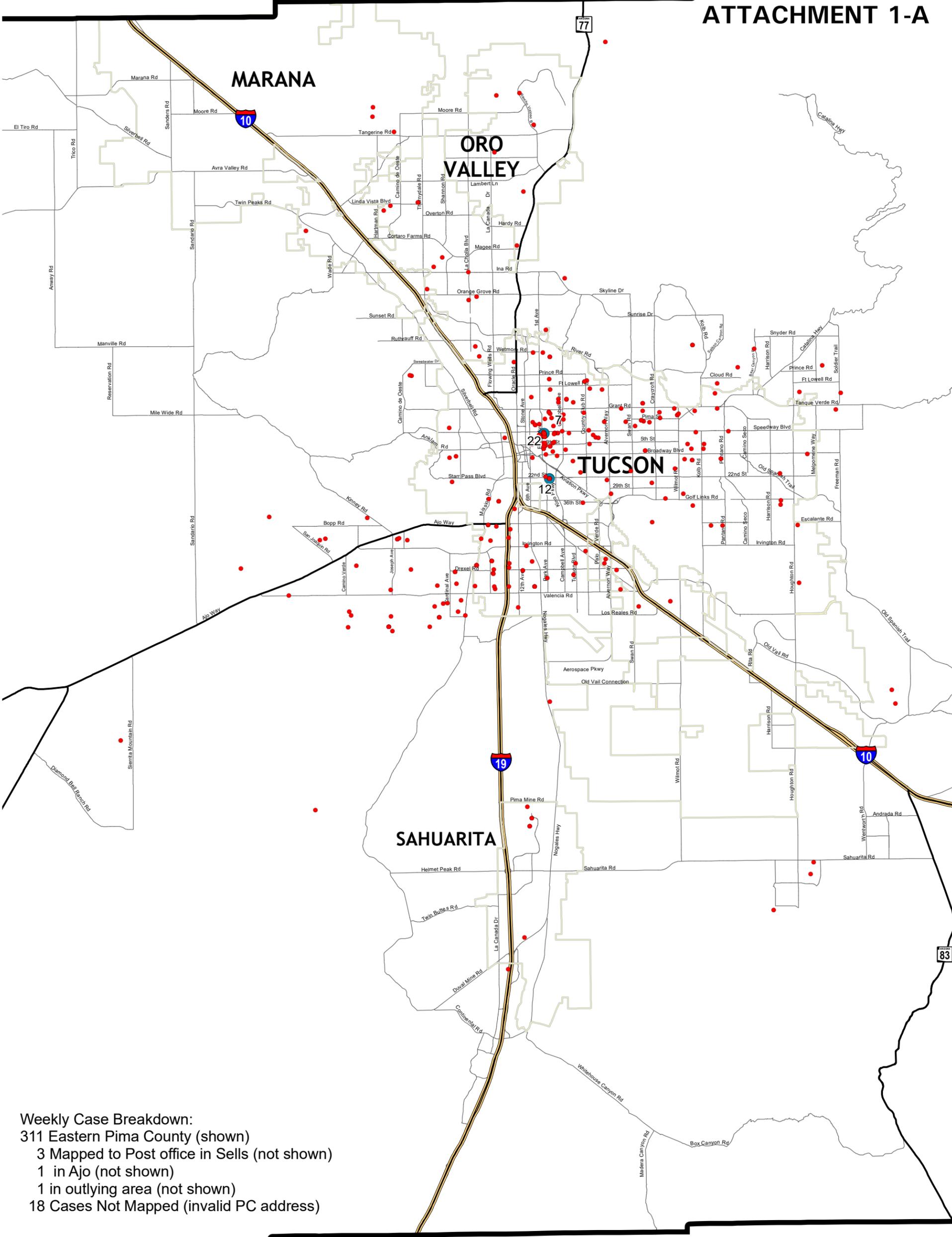
Comparison of Employee COVID-19 Infection Rate versus the General Population

As of last week, 99 employees or approximately 1.4 percent of the County's workforce has tested positive for COVID-19 since the beginning of the pandemic, or early March. Presently, approximately 2.9 percent of the population of Arizona has tested positive for COVID-19. In addition, of the total County population, 2.1 percent of the total population have tested positive during this same period. Given the infection rate of our County employees is half that of the State's infection rate and significantly below the rate for the County, the procedures we have put in place to mitigate the spread of COVID-19 among our employees have been moderately successful. If we review the work locations of the 99 employees who tested positive for COVID-19, we find that 10 percent of those who have tested positive were telecommuting. Of those who were telecommuting, 40 percent are from Public Defense Services, 40 percent from the County Attorney's Office and 10 percent from Information Technology. Given the lower infection rate in our employees compared to the infection rate in the general population, it is clear our protection measures are making a difference. These measures include wearing a mask, physical distancing, wellness checks and an ample supply of hand sanitizer.

CHH/anc

Attachments

- c: Jan Leshar, Chief Deputy County Administrator
Francisco García, MD, MPH, Deputy County Administrator & Chief Medical Officer,
Health and Community Services
Terry Cullen, MD, MS, Public Health Director, Pima County Health Department

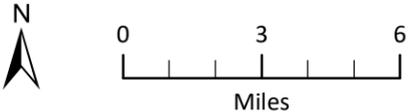


Weekly Case Breakdown:
 311 Eastern Pima County (shown)
 3 Mapped to Post office in Sells (not shown)
 1 in Ajo (not shown)
 1 in outlying area (not shown)
 18 Cases Not Mapped (invalid PC address)

COVID-19

334 Cases by Test Collection Dates between September 6 and September 12

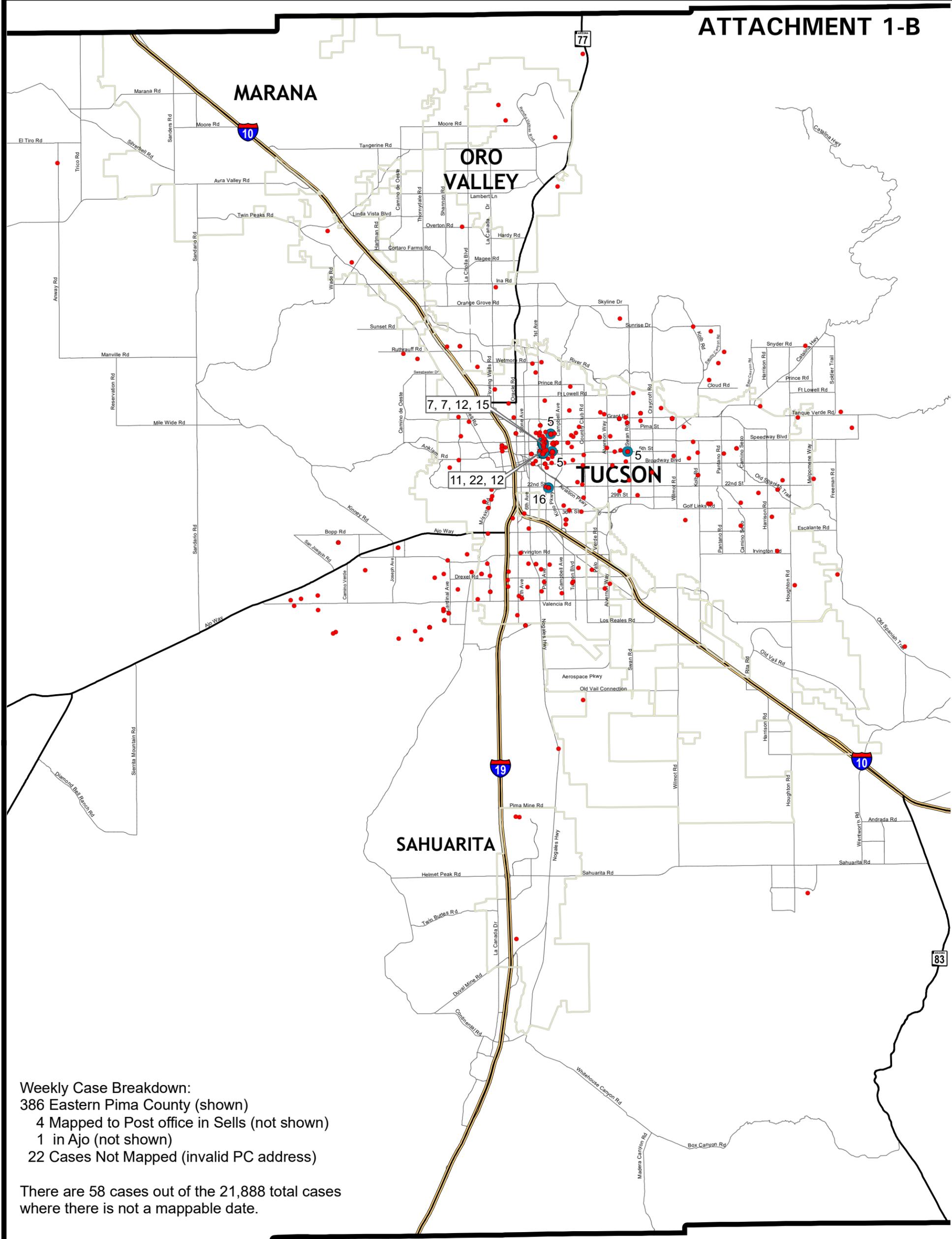
- Case Location
- Locations where Cases \geq 5



GEOGRAPHIC INFORMATION SYSTEMS

Pima County Info. Tech. Dept.
 33 N. Stone Ave., 15th Floor
 Tucson, AZ 85701-1207
 phone: (520)740-6670
 fax: (520)798-3429

9/14/2020



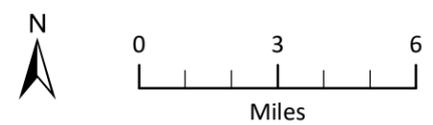
Weekly Case Breakdown:
 386 Eastern Pima County (shown)
 4 Mapped to Post office in Sells (not shown)
 1 in Ajo (not shown)
 22 Cases Not Mapped (invalid PC address)

There are 58 cases out of the 21,888 total cases where there is not a mappable date.

COVID-19

413 Cases by Test Collection Dates between August 30 and September 5

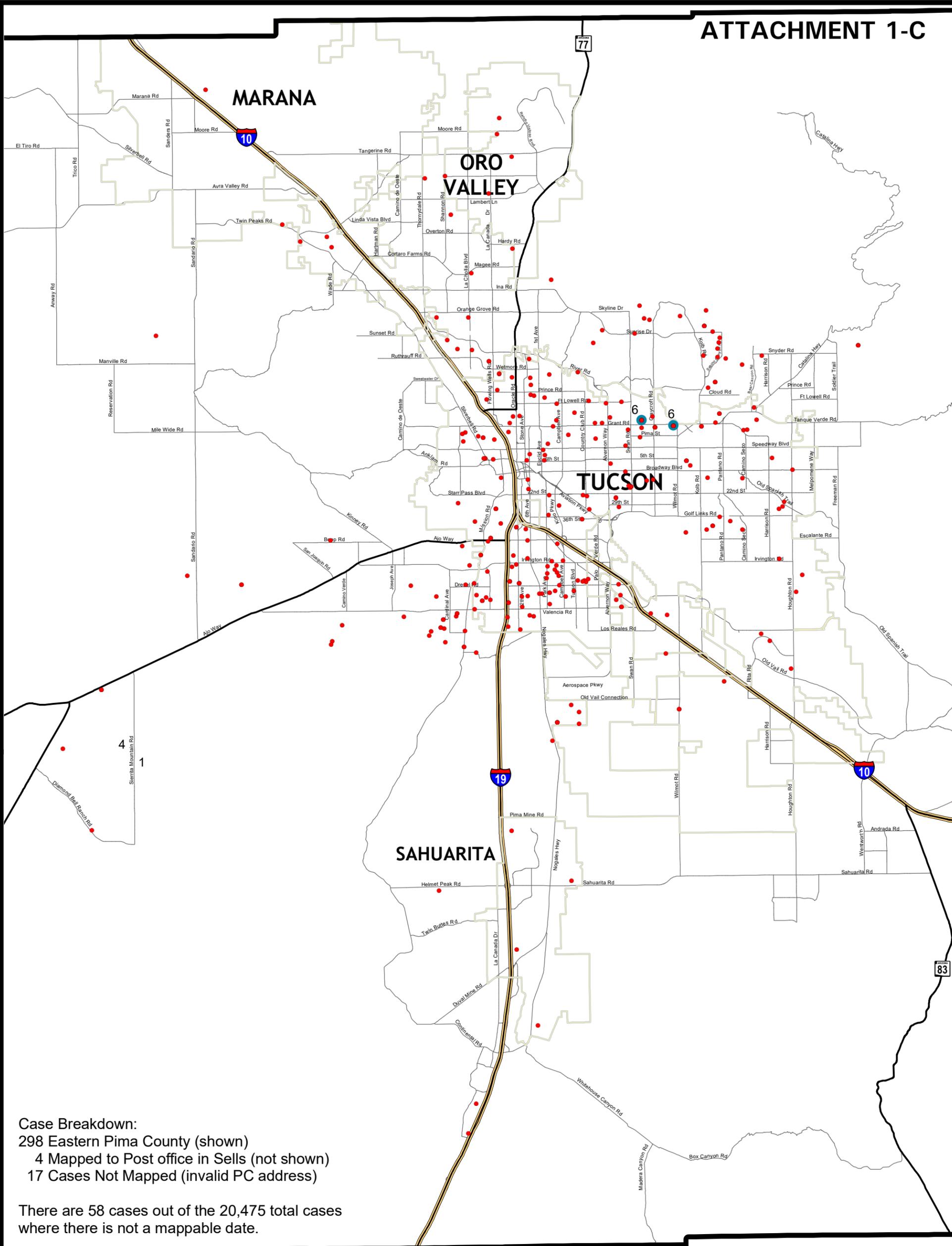
- Case Location
- Locations where Cases \geq 5




PIMA COUNTY
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9/8/2020



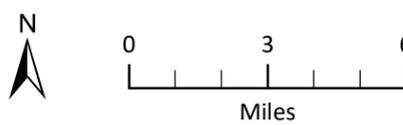
Case Breakdown:
 298 Eastern Pima County (shown)
 4 Mapped to Post office in Sells (not shown)
 17 Cases Not Mapped (invalid PC address)

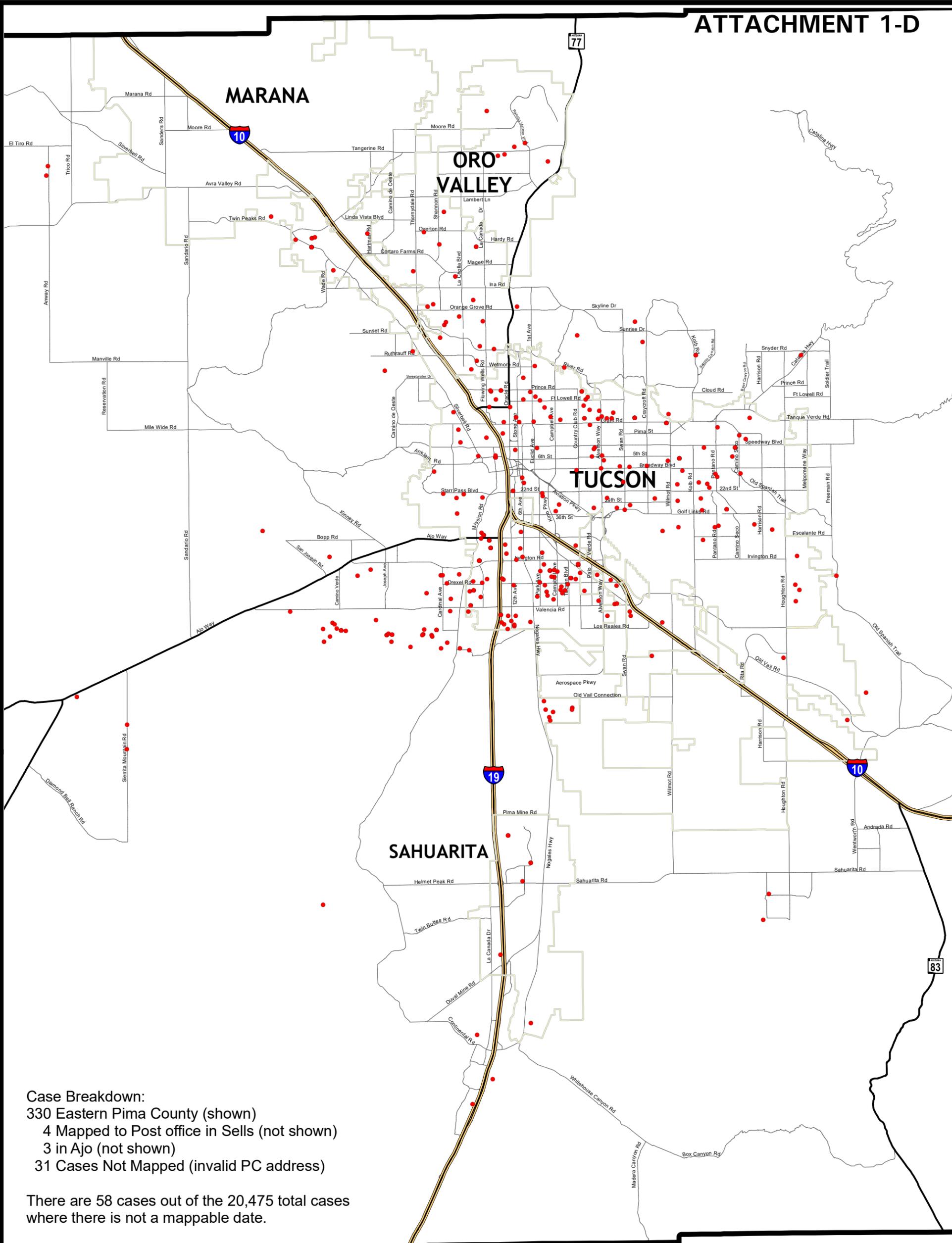
There are 58 cases out of the 20,475 total cases where there is not a mappable date.

COVID-19

319 Cases by Test Collection Dates between August 23 and August 29

- Case Location
- Locations where Cases \geq 5





COVID-19

368 Cases Reported between August 16 and August 22

● Case Location

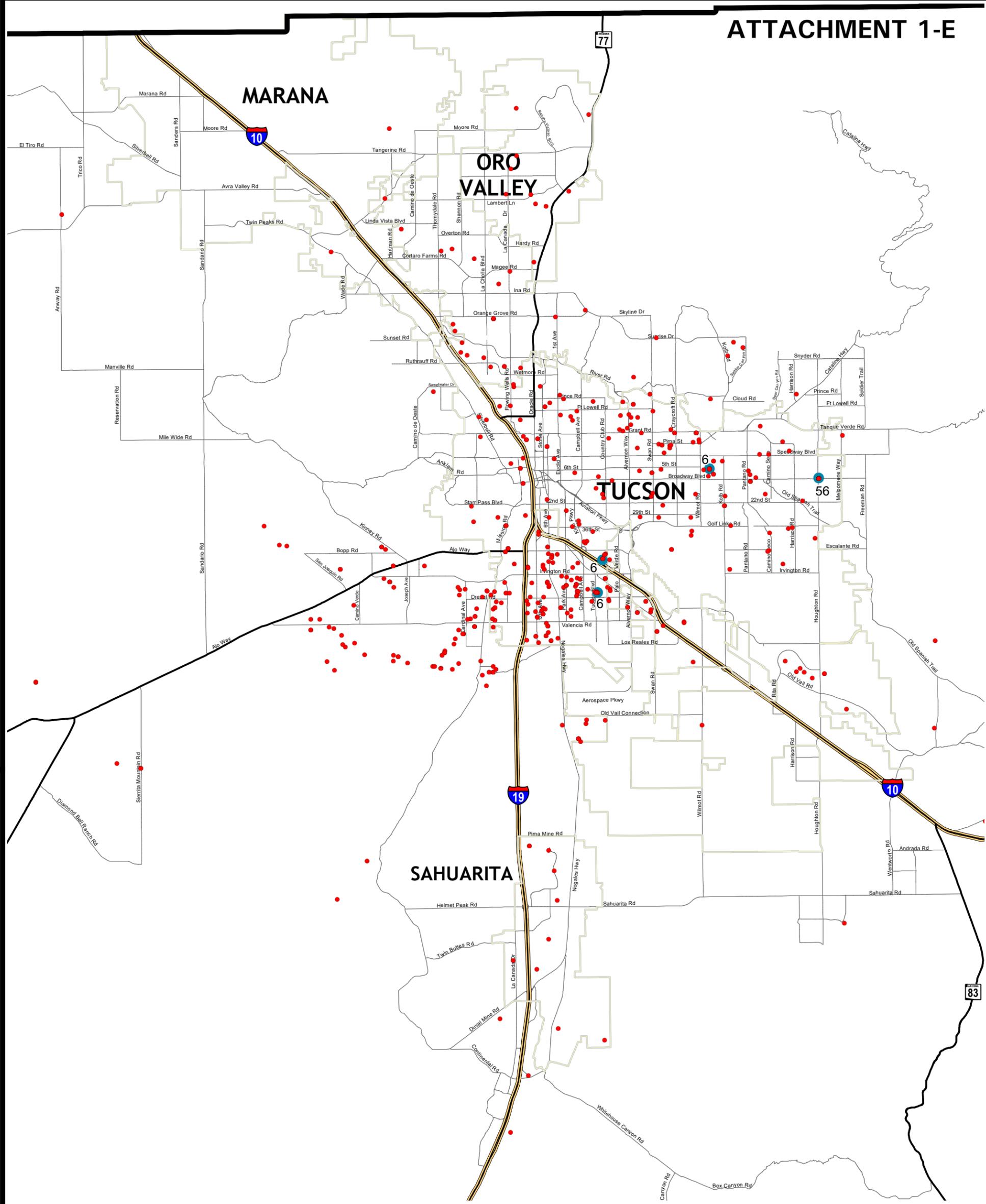
No Locations where Cases \geq 5



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8/24/2020

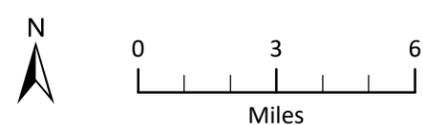


COVID-19

557 Cases by Test Collection Dates between August 9 and August 15

- Cases Reported
- Locations where Cases ≥ 5

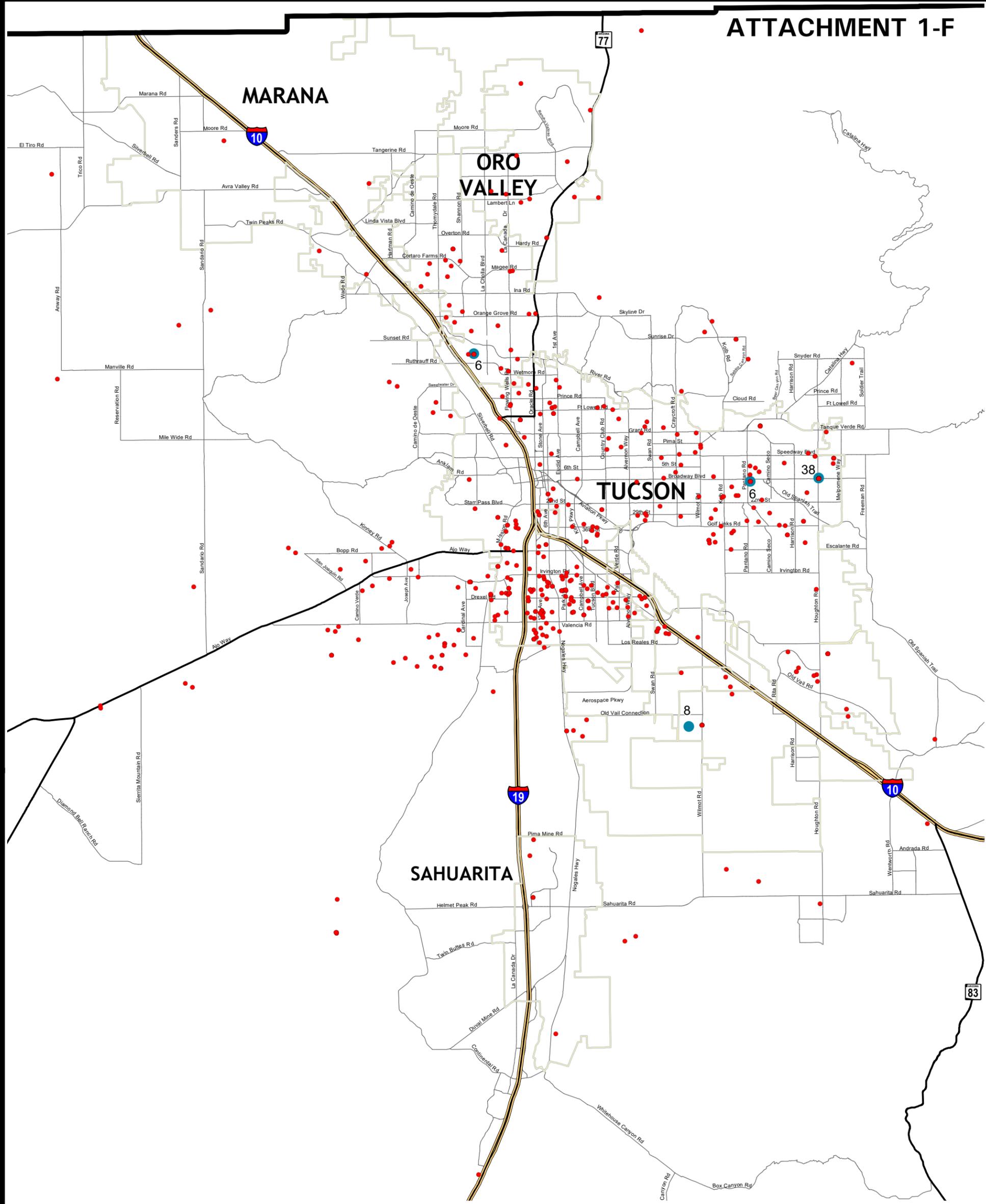
NOTE:
33 Locations not mapped
due to invalid address,
PO Box, Not in Pima County etc.



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8/18/2020



COVID-19

534 Cases by Test Collection Dates

between August 2 and August 8

- Cases Reported
- Locations where Cases \geq 5

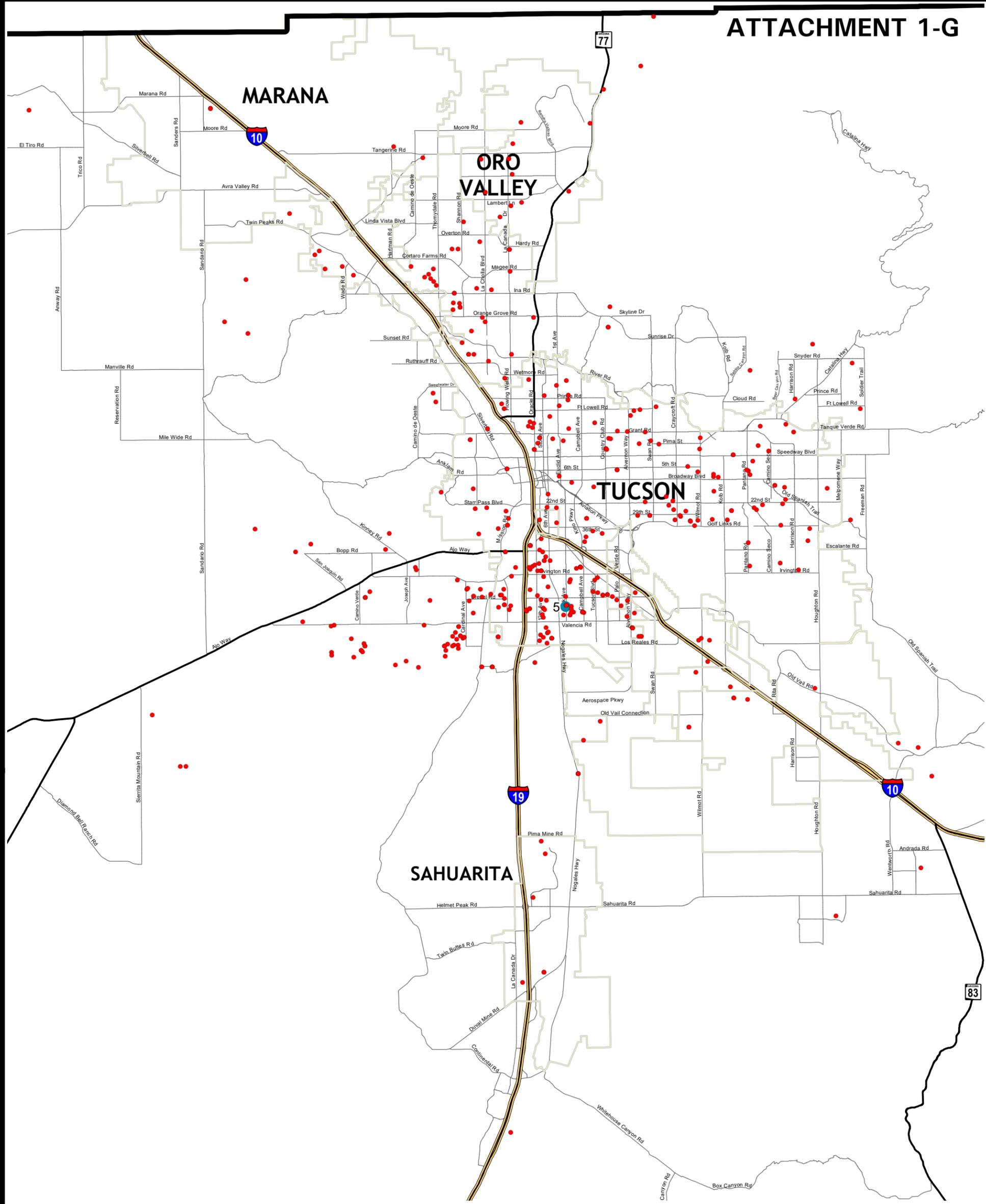
NOTE:
28 Locations not mapped
due to invalid address,
PO Box, Not in Pima County etc.



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8/18/2020



COVID-19

469 Cases by Test Collection Dates

between July 26 and August 1

- Cases Reported
- Locations where Cases \geq 5

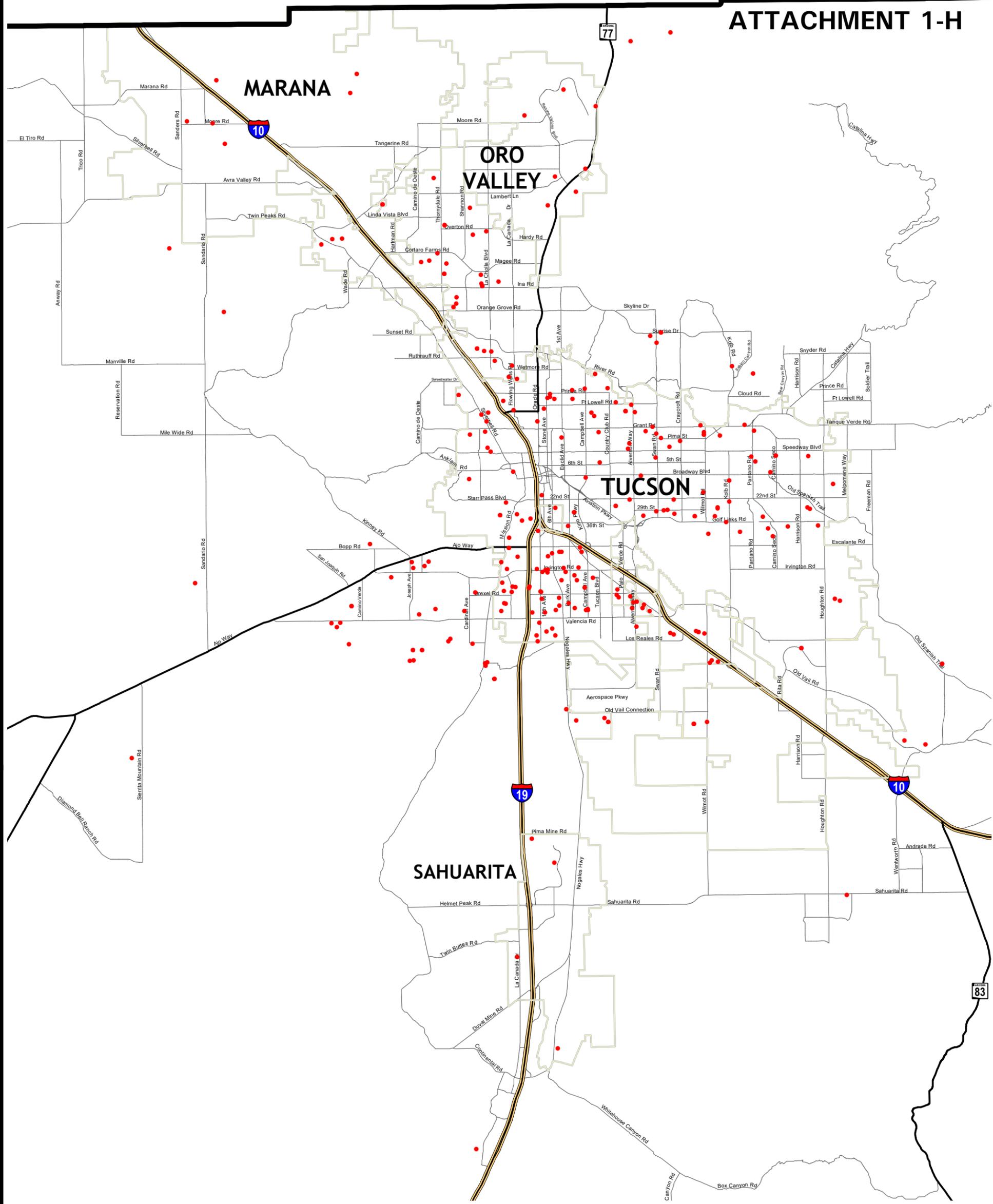
NOTE:
41 Locations not mapped
due to invalid address,
PO Box, Not in Pima County etc.



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8/18/2020



COVID-19

320 Cases by Test Collection Dates between July 19 and July 25

● Cases Reported

No Locations where Cases \geq 5

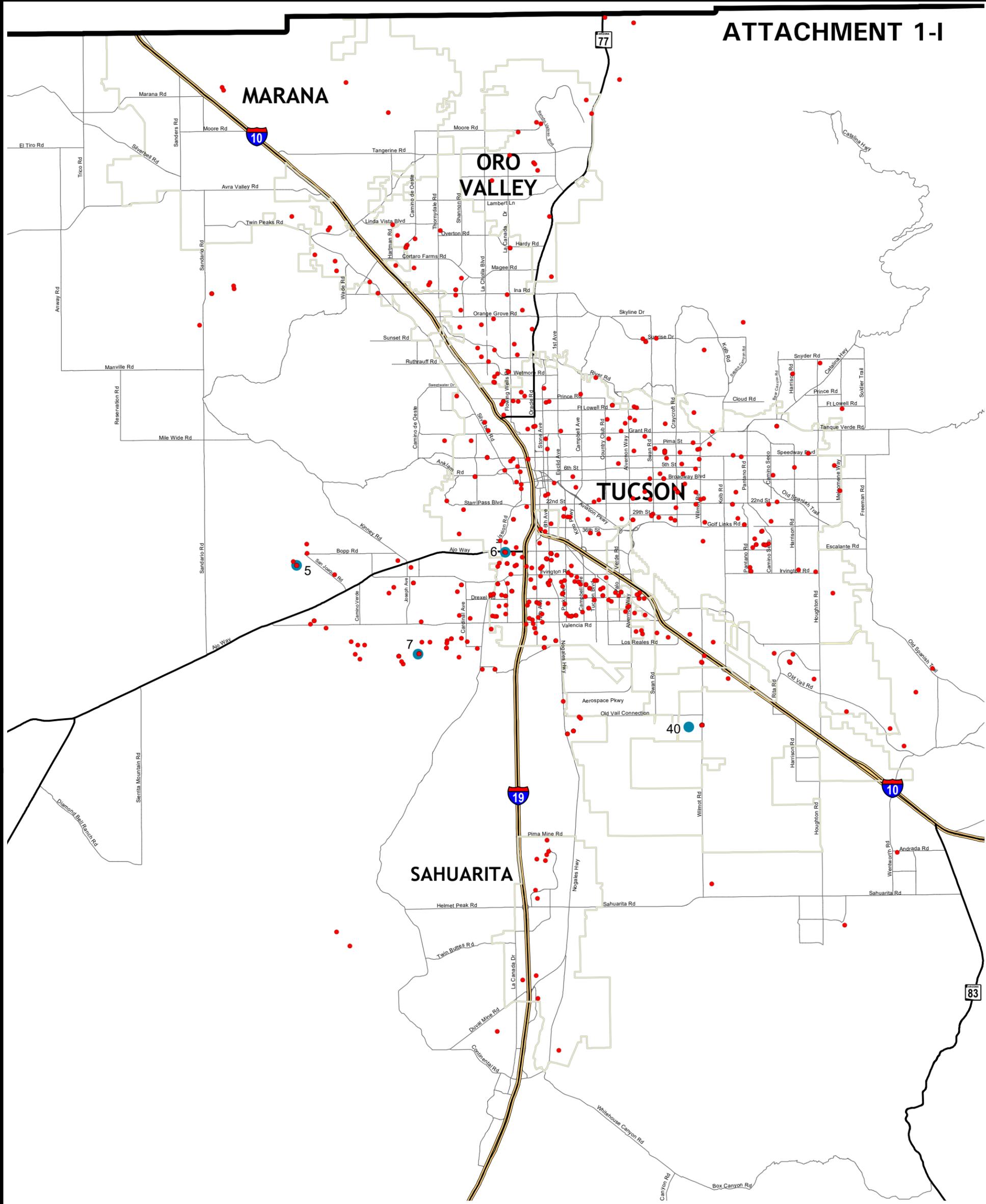
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8/18/2020



COVID-19

587 Cases by Test Collection Dates

between July 12 and July 18

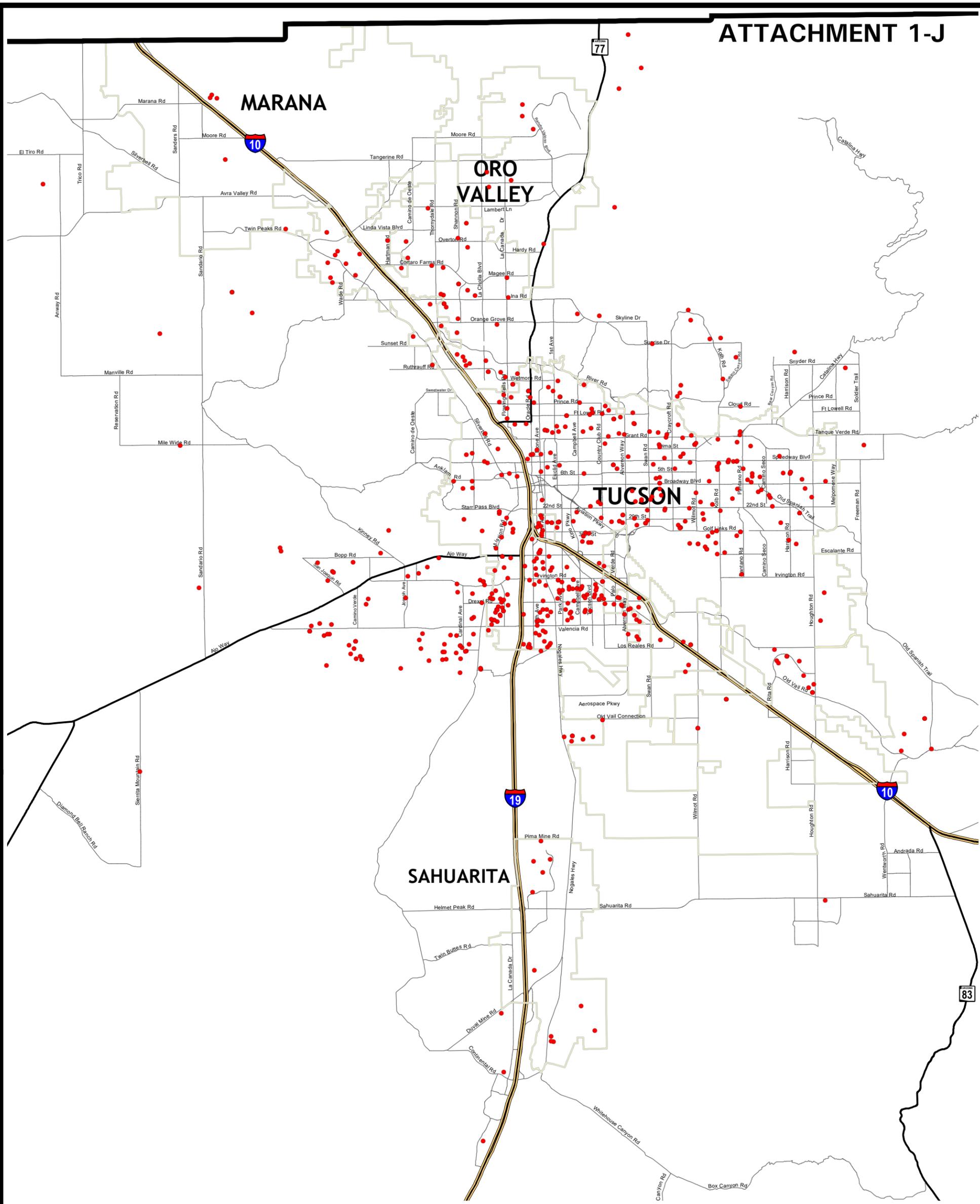
- Cases Reported
- Locations where Cases \geq 5

NOTE:
 49 Locations not mapped
 due to invalid address,
 PO Box, Not in Pima County etc.



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8/18/2020



COVID-19

690 Cases by Test Collection Dates between July 5 and July 11

● Cases Reported

No Locations where Cases \geq 5

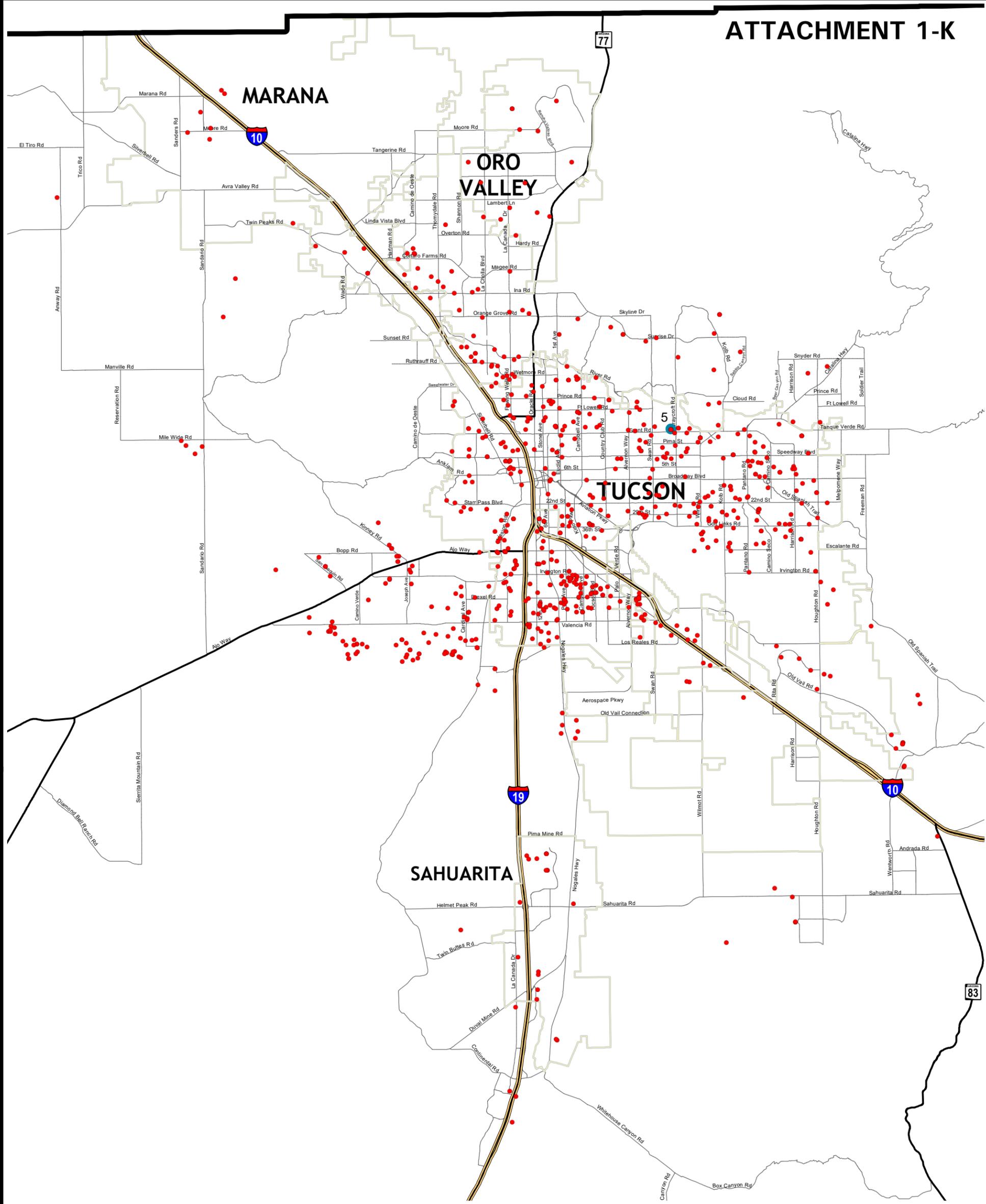
NOTE:
66 Locations not mapped
due to invalid address,
PO Box, Not in Pima County etc.



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8/18/2020



COVID-19 819 Cases by Test Collection Dates between June 28 and July 4

- Cases Reported
- Locations where Cases \geq 5

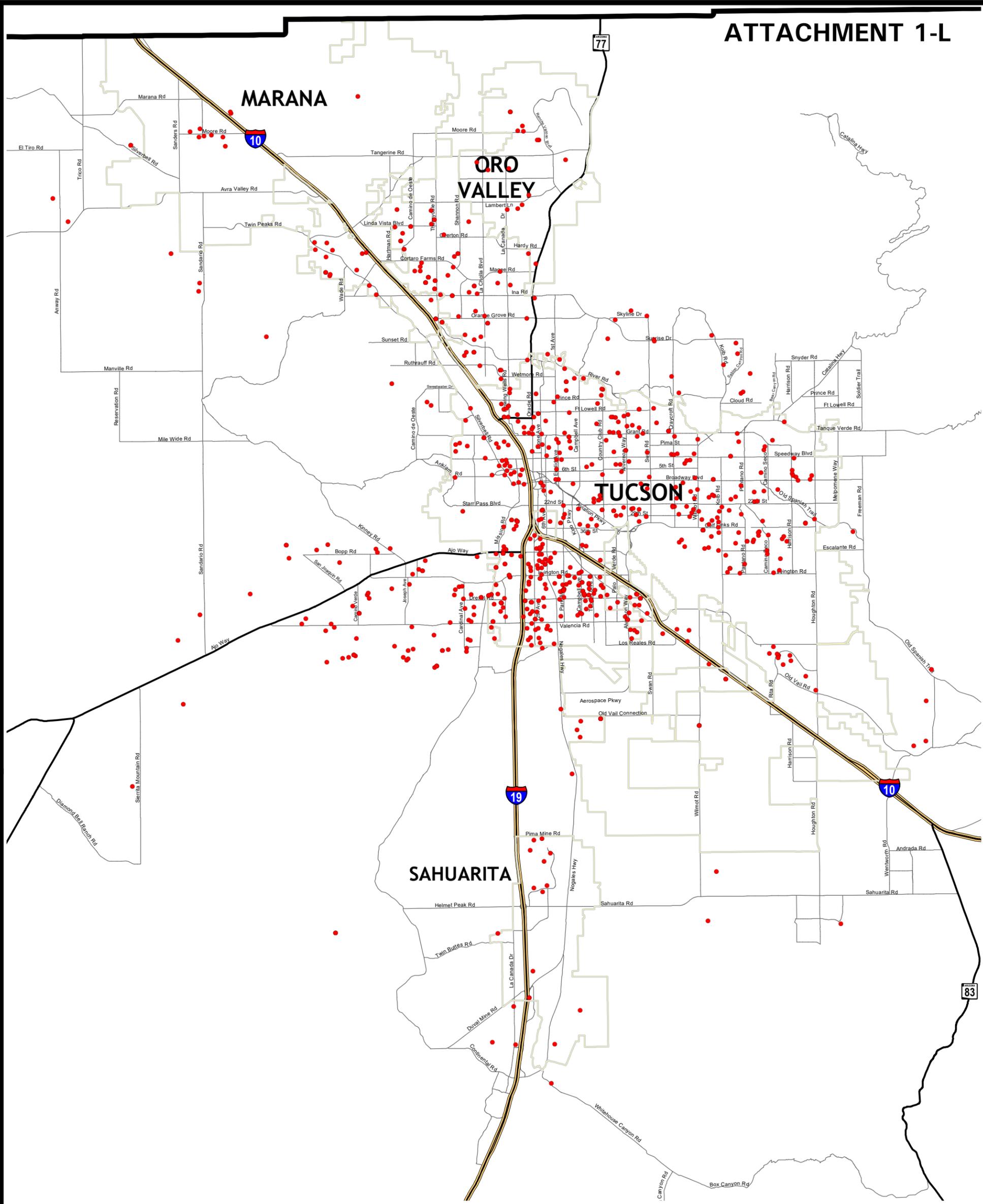
NOTE:
63 Locations not mapped
due to invalid address,
PO Box, Not in Pima County etc.



GEOGRAPHIC INFORMATION SYSTEMS

Pima County Info. Tech. Dept.
33 N. Stone Ave., 15th Floor
Tucson, AZ 85701-1207
phone: (520)740-6670
fax: (520)798-3429

8/18/2020



COVID-19

898 Cases by Test Collection Dates

between June 21 and June 27

● Cases Reported

No Locations where Cases \geq 5

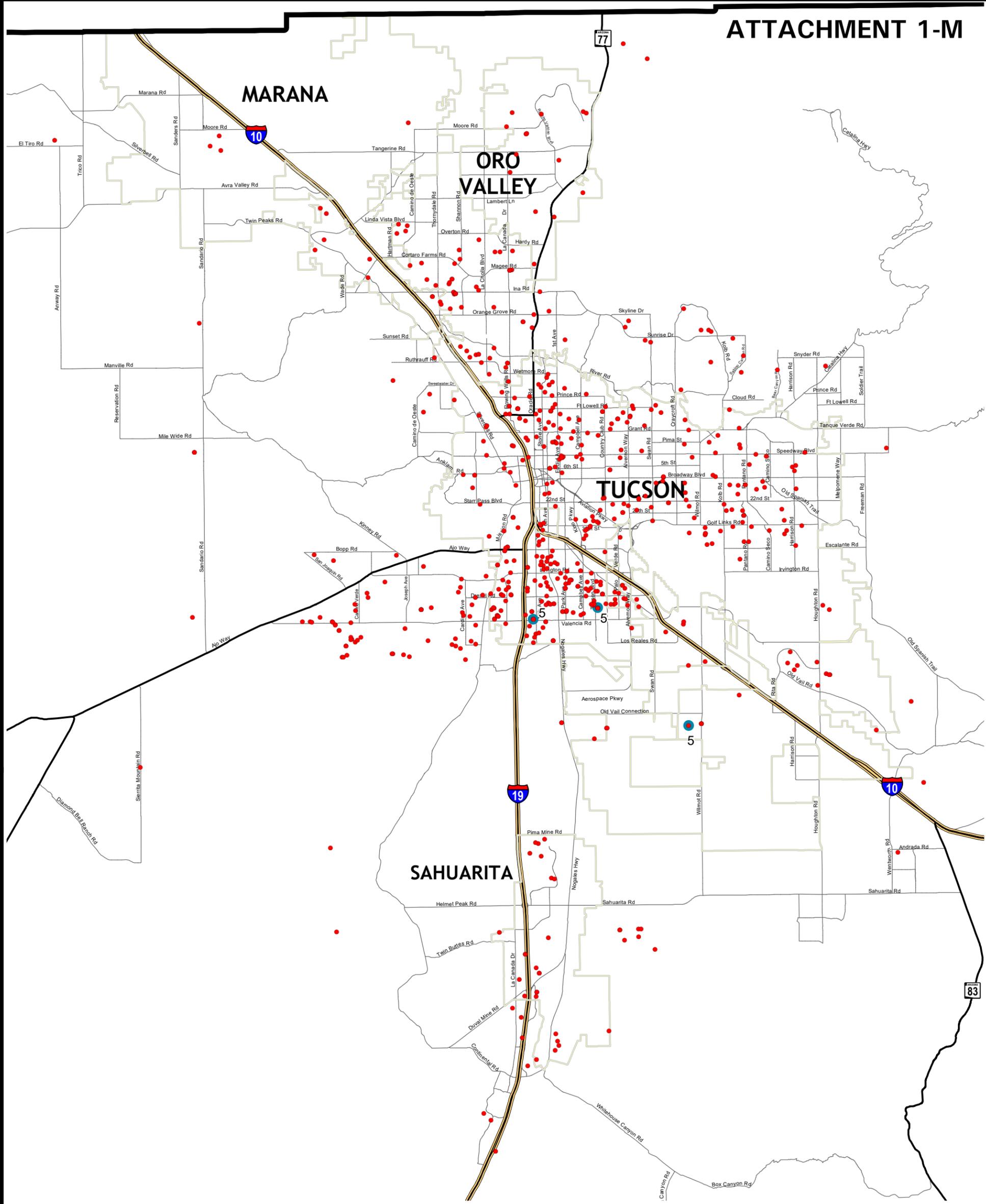
NOTE:
143 Locations not mapped
due to invalid address,
PO Box, Not in Pima County etc.



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8/18/2020



COVID-19

685 Cases by Test Collection Dates

Between June 14 and June 20

- Cases Reported
- Locations where Cases ≥ 5

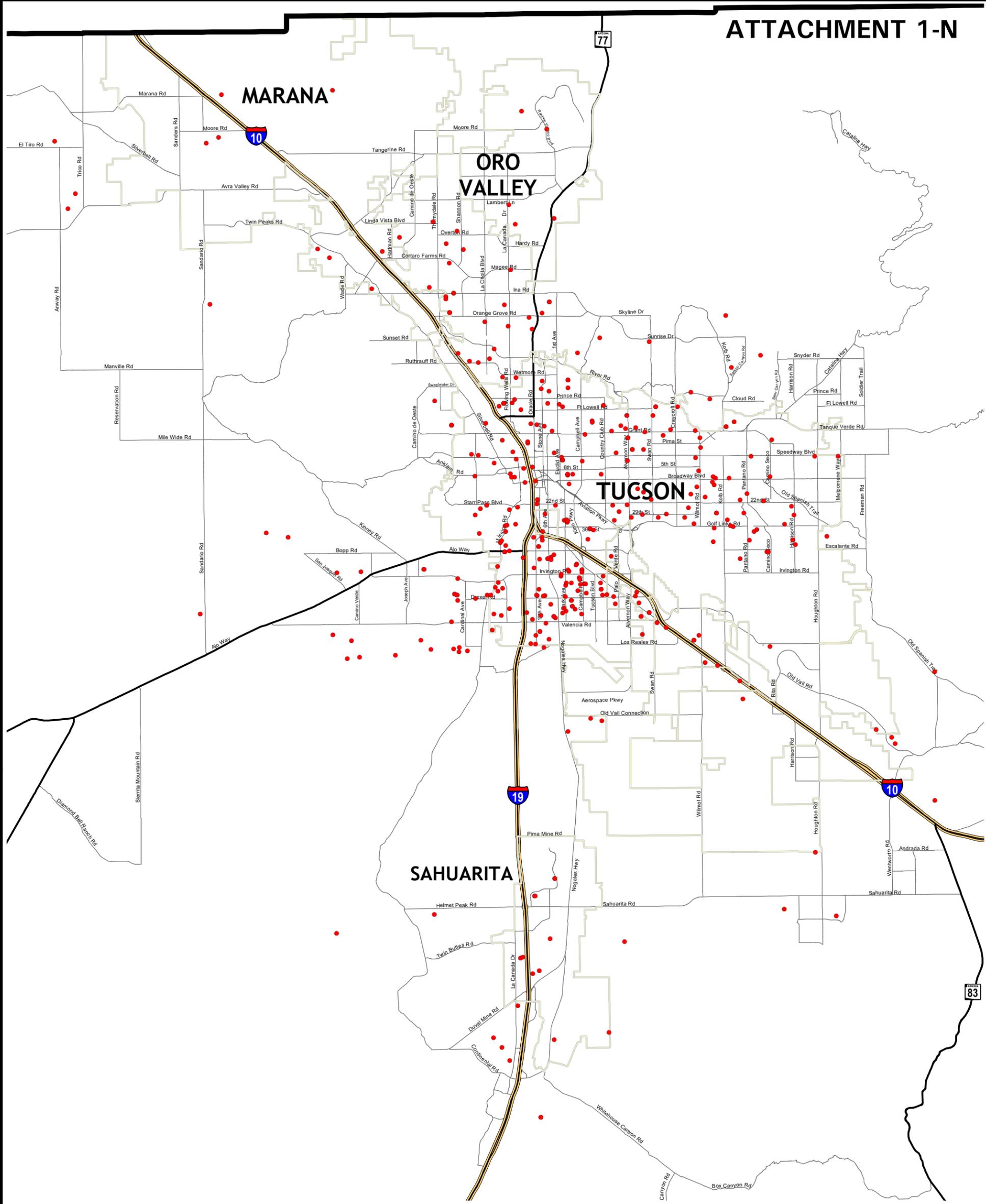
NOTE:
 21 Locations not mapped
 due to invalid address,
 PO Box, Not in Pima County etc.



GEOGRAPHIC INFORMATION SYSTEMS

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8/18/2020



COVID-19

409 Cases by Test Collection Dates

between June 7 and June 13

● Cases Reported

No Locations where Cases \geq 5

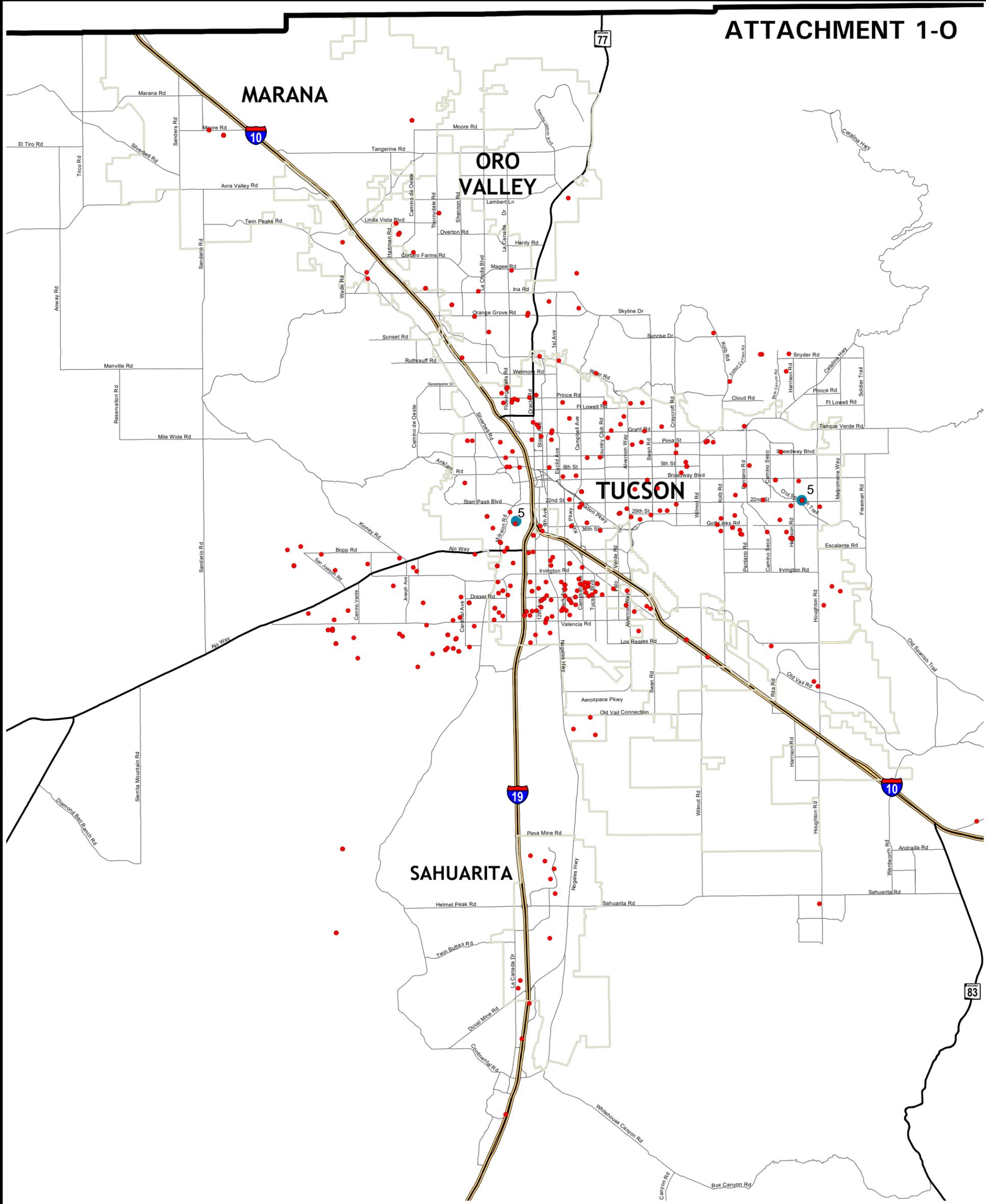
NOTE:
12 Locations not mapped
due to invalid address,
PO Box, Not in Pima County etc.



GEOGRAPHIC INFORMATION SYSTEMS

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8/18/2020



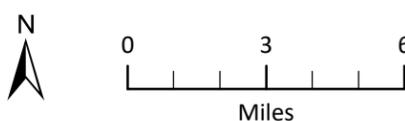
COVID-19

335 Cases by Test Collection Dates

between May 31 and June 6

- Cases Reported
- Locations where Cases ≥ 5

NOTE:
 15 Locations not mapped
 due to invalid address,
 PO Box, Not in Pima County etc.



8/18/2020