

San Diego Hepatitis A Outbreak: An HCH Health Center's Involvement in Disaster Response

Thursday, March 1st

2:00 PM Central



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Presenter

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Disclosures

I have no relevant financial disclosures or conflicts of interest to report.



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Who are you? (Poll)



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Learning Objectives

- Understand the nature of the Hepatitis A virus
- Describe the epidemiology of the Hepatitis A outbreak
- Analyze the community, public health, and Health Center response
- List the causes of the Hepatitis A outbreak

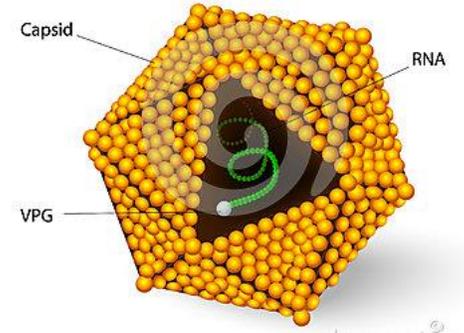


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What is Hepatitis A?



- Viral illness
- Symptoms: nausea, vomiting, abdominal pain, fever, decreased appetite yellow skin/eyes
- Can cause serious liver damage, liver failure, and/or death
- Fecal-oral transmission: contaminated food/water, person-to-person, or physical contact with contaminated environment



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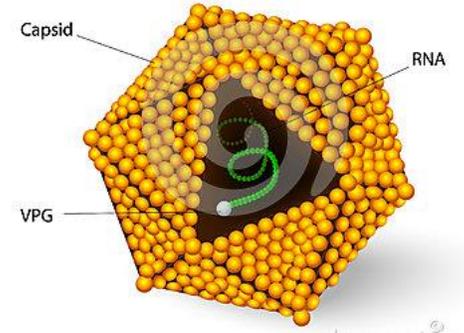
Image Credit: CDC

Source: <https://www.cdc.gov/hepatitis/hav/havfaq.htm#general>



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What is Hepatitis A?



- Incubation period long (14-28 days)
- Infectious 2 weeks before symptoms start & 1 week after symptoms stop
- Common in developing world; children become immune at young age
- Uncommon in the United States since vaccine introduced in 1990s



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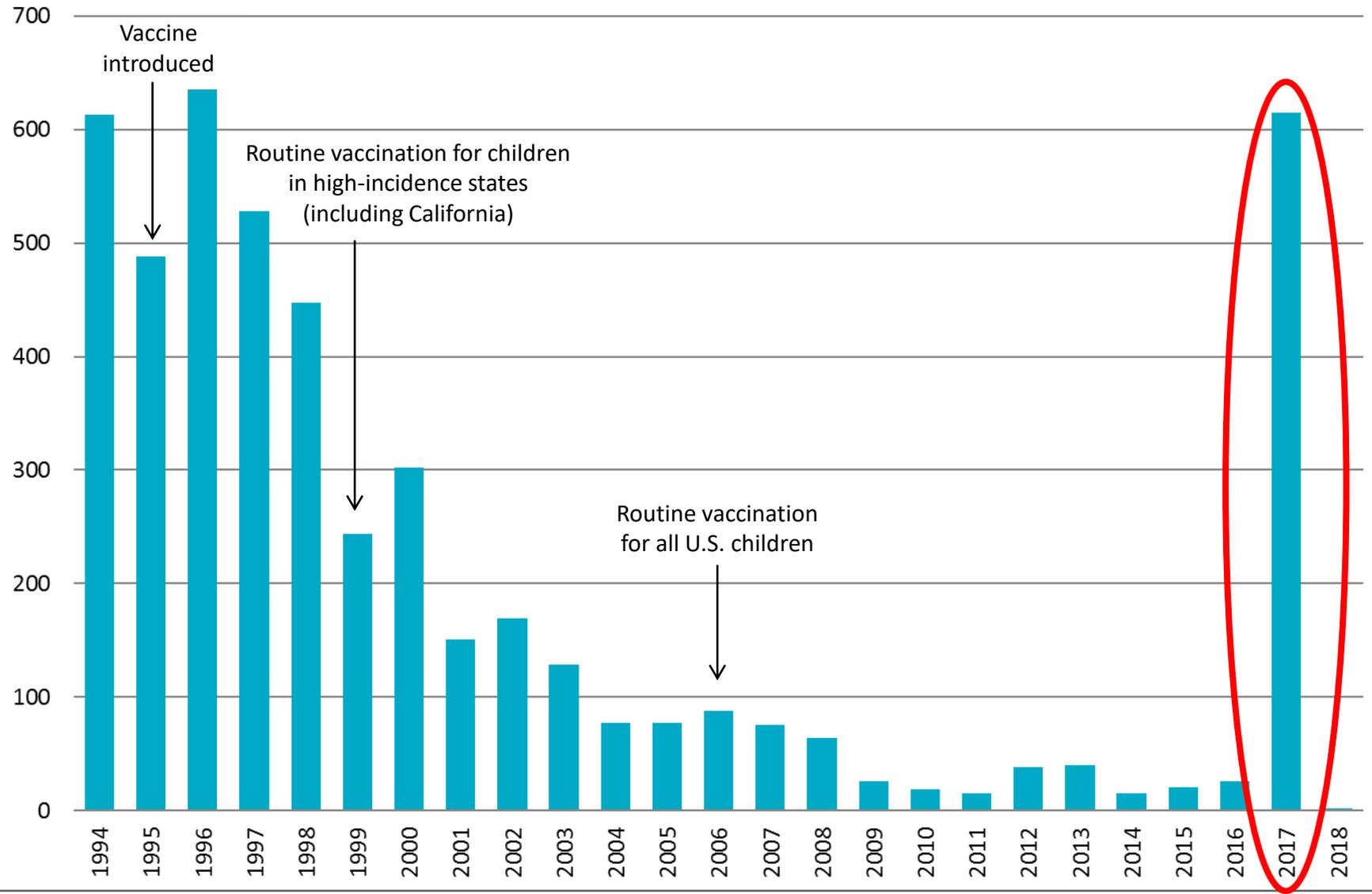
Image Credit: CDC

Source: <https://www.cdc.gov/hepatitis/hav/havfaq.htm#general>



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Hepatitis A Cases, San Diego County 1994 - 2018



Background on Father Joe's Villages & San Diego



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Homelessness in San Diego

- 4th largest population in country
- In 2016, 9,116 individuals on streets (Point in Time Count)
- Homelessness increasing each year
- Driven by:
 - Increasing cost of living
 - Decrease in affordable housing
 - Low vacancy rate (around 2%)
 - Stagnate wages



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Father Joe's Villages

- Large, comprehensive homeless service agency
- Houses over 2,000 people on any given night
- Range of programs: housing, food services, childcare, vocational training, chaplaincy, “Day Center”, wellness activities, substance/alcohol abuse programs, etc.
- Health Center is embedded within the Village



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Father Joe's Villages

Village Family Health Center



- Single site Healthcare for the Homeless FQHC
- Comprehensive services, integrated with rest of Village
- Continuity clinic for Family-Psychiatry Residents from University of California-San Diego
- Serve 2,300 people per year through more than 13,000 visits



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- Largest agency of its kind in country (after Federal Government)
- Serves millions of San Diegans and those in surrounding cities
- In 2016, housing and community development services placed under HHSA



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Outbreak Overview



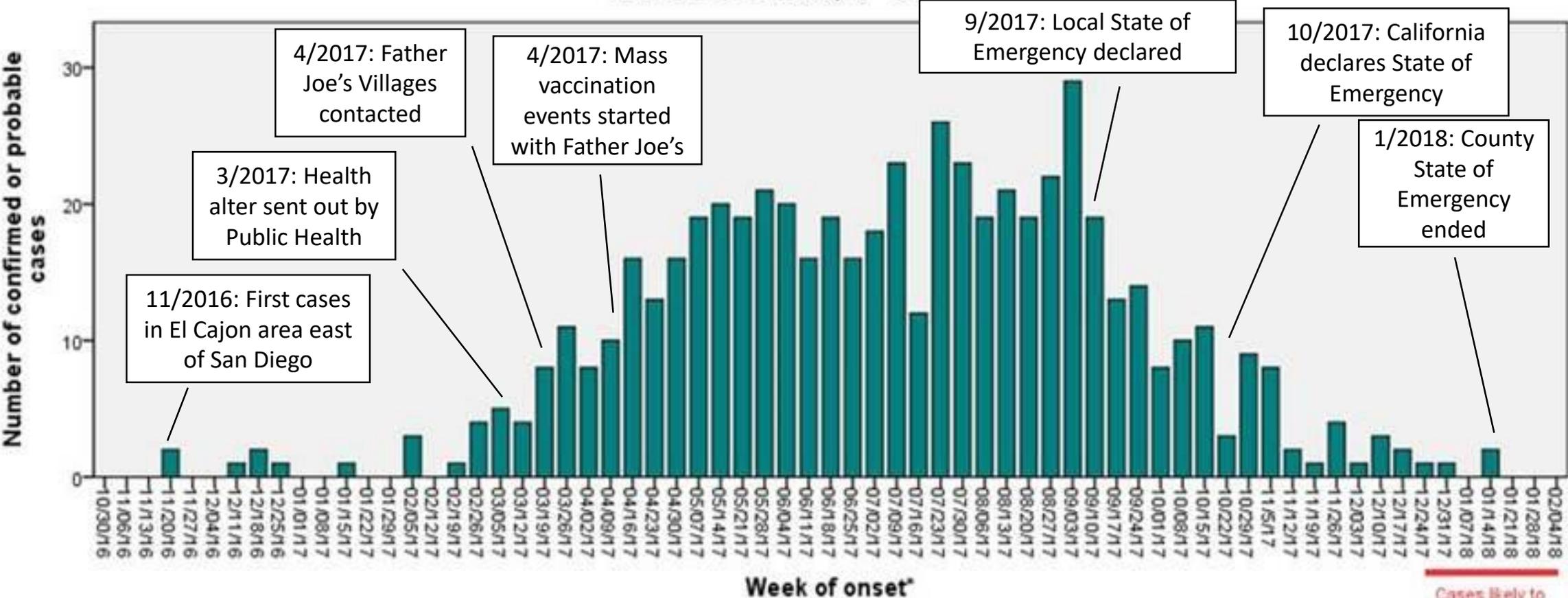
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Outbreak-associated Hepatitis A cases by onset week

11/1/2016-2/8/2018, N = 580*



*Date of specimen collection or report used if onset date unknown; dates may change as information becomes available

Outbreak Statistics

- 580 cases in San Diego County
 - 3.4% (20) died
 - 69% (398) were hospitalized
- Risk factors
 - 62% (358) homeless and/or illicit drug use
 - 17% (81) had hepatitis C
 - 5% (24) had hepatitis B
- 53% of cases had indication to receive Hep A vaccine, but had not received series



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Source: County of San Diego Health Alert, "Update #8: Hepatitis A Outbreak in San Diego County", 2/15/18



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Outbreak

- Outbreak spread to Utah, Kentucky, and other parts of California (LA, Santa Cruz, and Monterey Counties)
- Unique as mode of transmission person-to-person and contact with contaminated physical environment



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Source: County of San Diego Health Alert, "Update #8: Hepatitis A Outbreak in San Diego County", 2/15/18



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Interventions and Efforts to Combat Outbreak

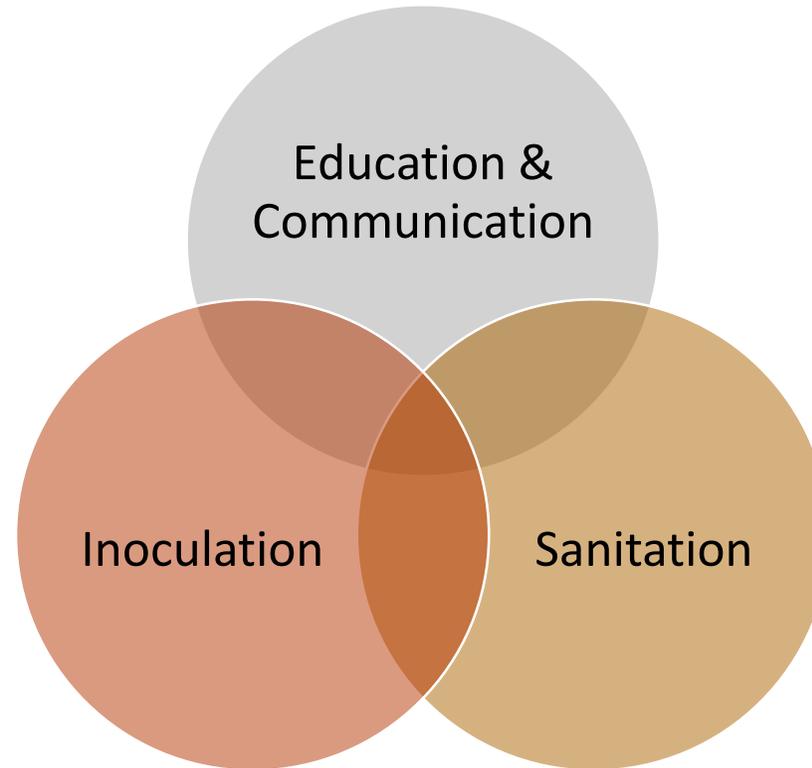


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Three Main Components



Education & Communication: Health Department Response

- Regular press releases
- Educational materials for community members
- Media presentations (new outlets, radio, etc.)
- Regular contact with stakeholders (like FQHCs)



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Education & Communication: Village Response

- Signage
 - For Village residents
 - For Health Center patients
 - At “Day Center” (for those on the streets)



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EDUCATE

A hepatitis A infection is entirely preventable if the right steps are taken. It's important to recognize the symptoms of hepatitis A for early detection and treatment and to prevent the spread of hepatitis A using basic hygiene practices.



What is hep A?

Hepatitis A is a virus spread person-to-person through a "fecal-oral" route.



How is it transmitted?



It's spread person-to-person through contact with fecal contamination, like touching objects or eating food contaminated by the fecal matter of someone with a hepatitis A virus infection.



What are the symptoms?

Symptoms include fever, loss of appetite, fatigue, nausea, dark urine, pale stools, yellowing of the eyes (jaundice), stomach pain, vomiting and diarrhea.



PREVENT

While hepatitis A is typically a mild illness, it is highly contagious. It's important that we prevent the spread of hepatitis A, especially to protect more vulnerable populations, such as people over 50 and people with chronic liver conditions.



GET VACCINATED



WASH YOUR HANDS*



AFTER USING THE BATHROOM



BEFORE PREPARING AND EATING FOOD



BEFORE AND AFTER CARING FOR SOMEONE AT RISK

*If using sanitizer, you must use non-alcohol sanitizer to fight the virus. However, hand washing is most effective.



RESOURCES

If you are at risk of contracting hepatitis A, Father Joe's Villages can help you identify your resources.

Powered by: **Piktochart**

SAN DIEGO DAY CENTER

Information, vaccinations, hygiene packets and more.

299 17th St, San Diego, CA 92101

VFHC - HEALTH CENTER/CLINIC

Vaccinations, health care, information and more.

1501 Imperial Ave, San Diego, CA 92101

HAND WASHING STATIONS

Find a full list at 211sandiego.org/resources/health-wellness/

FJV Campus Stations: Imperial & 15th St. 16th & L St.

Education & Communication: Village Response

- Signage
 - For Village residents
 - For Health Center patients
 - At “Day Center” (for those on the streets)
- Media response
- Regular contact with County Public Health
- Internal meetings held on regular basis
- Participated in State Legislature panel discussions



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Inoculation: Health Department Response

- Recommendation made to vaccinate all homeless and transiently housed individuals
- Vaccine made available free to community partners
- Provided temporary housing to actively infected individuals
- Events:
 - 2,844 events lead to 26,271 individual vaccinated
 - Hired per diem RNs
- 123,392 total vaccines administered in County



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Inoculation: Health Department Response

- Communicating who should get vaccinated
 - “Worried well” phenomenon
 - Ensuring vaccine got to those who needed it
- Supply issues: California State of Emergency ensured access to adequate vaccine supply



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Inoculation: Village Response

- Recommended all patients get vaccinated
- RN standing orders written for vaccination
- Encouraged staff to be vaccinated
- Supported Health Department vaccine events four days a week on-site for months



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Sanitation: Health Department Response

- Street washing with bleach solution
- Handwashing stations on streets
- Portable toilets placed on streets
 - Over a few years, number of toilets had decreased (security and cost concerns)
 - Resulted in increased defecation on streets/sidewalks



Sanitation: Village Response

- Hand sanitation kits
- Clinic hand sanitizer changed to benzalkonium chloride
- Cleaning products changed to ensure kill hepatitis A
- Cafeteria inspected and passed inspection
- Supported placement of handwashing stations by County



Causes of the Outbreak

- Gentrification: concentration of homeless in small part of downtown



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Father Joe's Outreach Map

September 2015 to August 2017

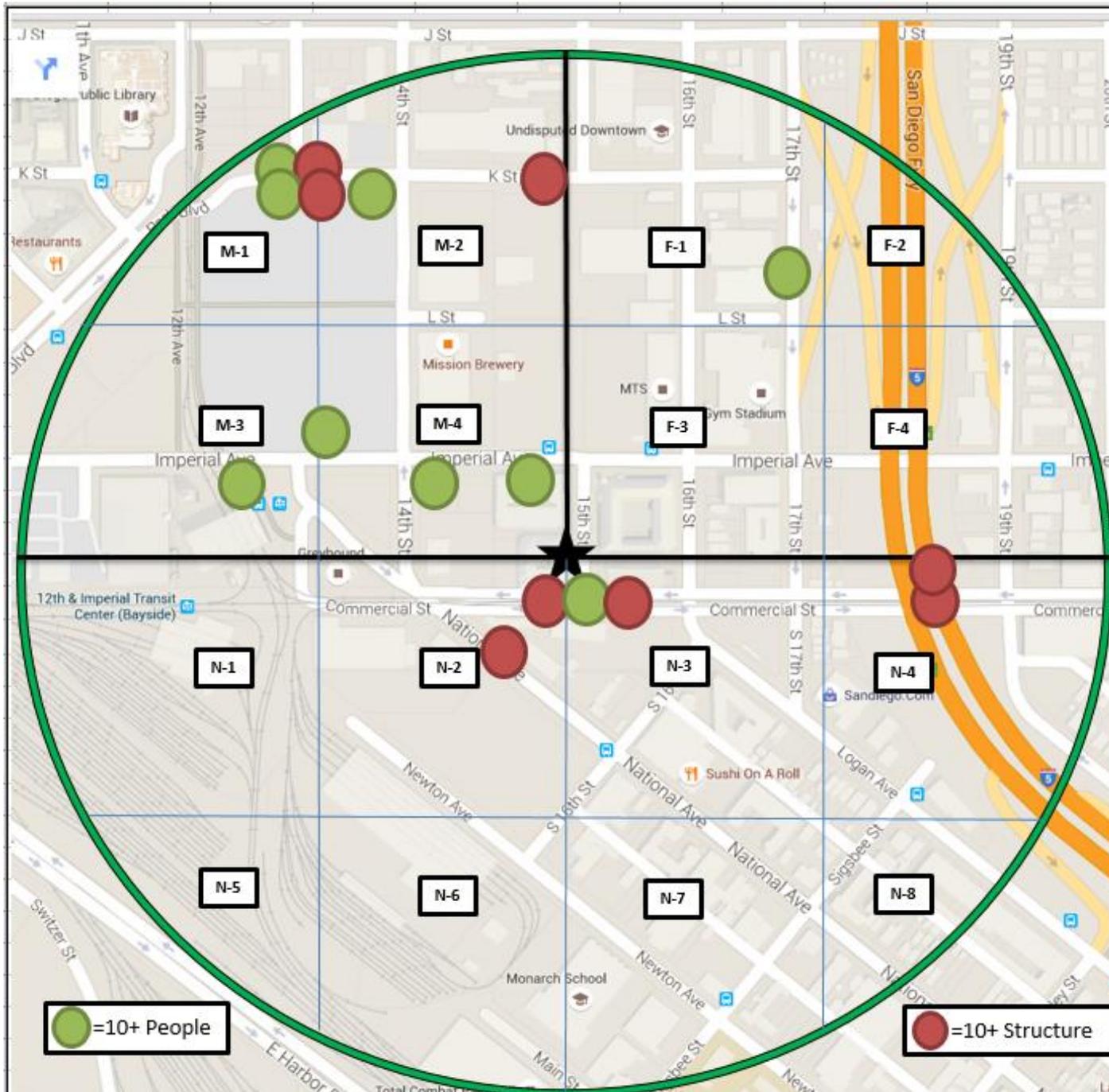
3 Month Intervals



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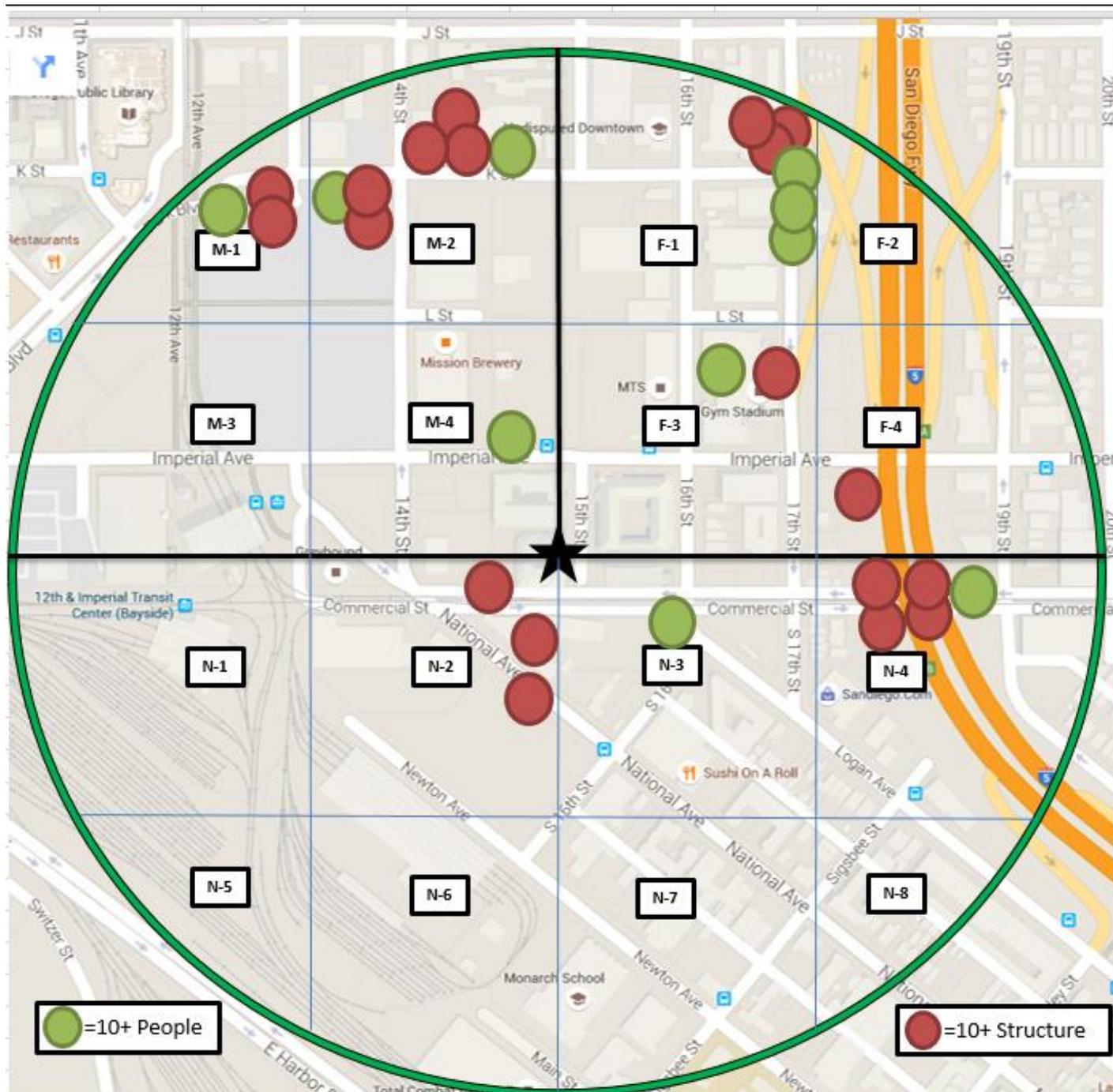
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● =10+ People

● =10+ Structure

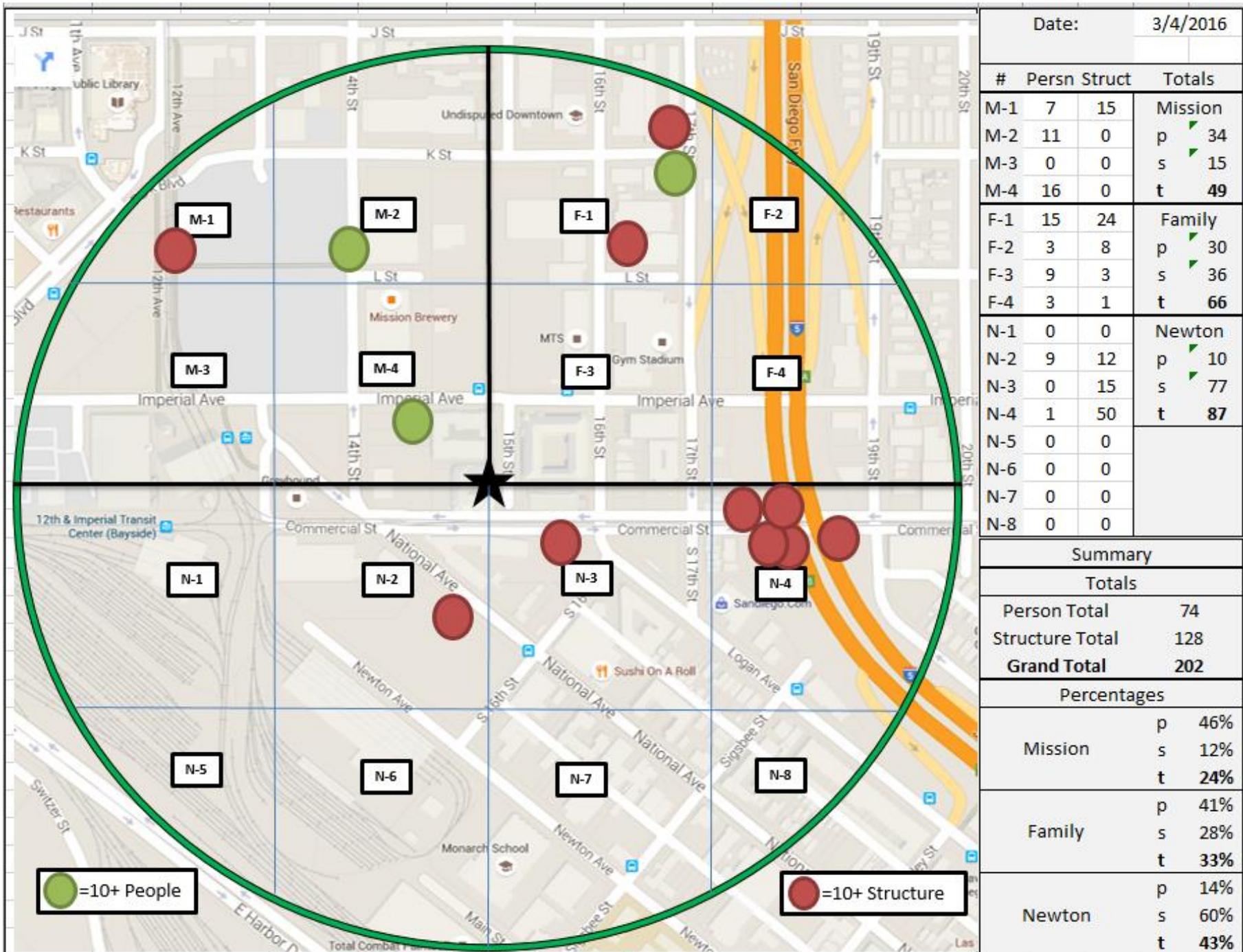
Date:	9/25/2015		
	6		
#	Persn	Struct	Totals
M-1	26	20	Mission
M-2	25	20	p 120
M-3	28	1	s 42
M-4	41	1	t 162
F-1	13	8	Family
F-2	1	0	p 22
F-3	4	3	s 11
F-4	4	0	t 33
N-1	4	0	Newton
N-2	0	16	p 23
N-3	17	34	s 75
N-4	1	24	t 98
N-5	0	0	
N-6	0	1	
N-7	1	0	
N-8	0	0	
Summary			
Totals			
Person Total			165
Structure Total			128
Grand Total			293
Percentages			
Mission	p	73%	
	s	33%	
	t	55%	
Family	p	13%	
	s	9%	
	t	11%	
Newton	p	14%	
	s	59%	
	t	33%	



● =10+ People

● =10+ Structure

Date:	1/1/2016		
#	Persn	Struct	Totals
M-1	19	27	Mission
M-2	24	54	p 63
M-3	5	1	s 82
M-4	15	0	t 145
F-1	4	38	Family
F-2	0	0	p 21
F-3	12	15	s 69
F-4	5	16	t 90
N-1	0	0	Newton
N-2	3	33	p 29
N-3	16	0	s 80
N-4	10	47	t 109
N-5	0	0	
N-6	0	0	
N-7	0	0	
N-8	0	0	
Summary			
Totals			
Person Total	113		
Structure Total	231		
Grand Total	344		
Percentages			
Mission	p	56%	
	s	35%	
	t	42%	
Family	p	19%	
	s	30%	
	t	26%	
Newton	p	26%	
	s	35%	
	t	32%	



Date: 3/4/2016

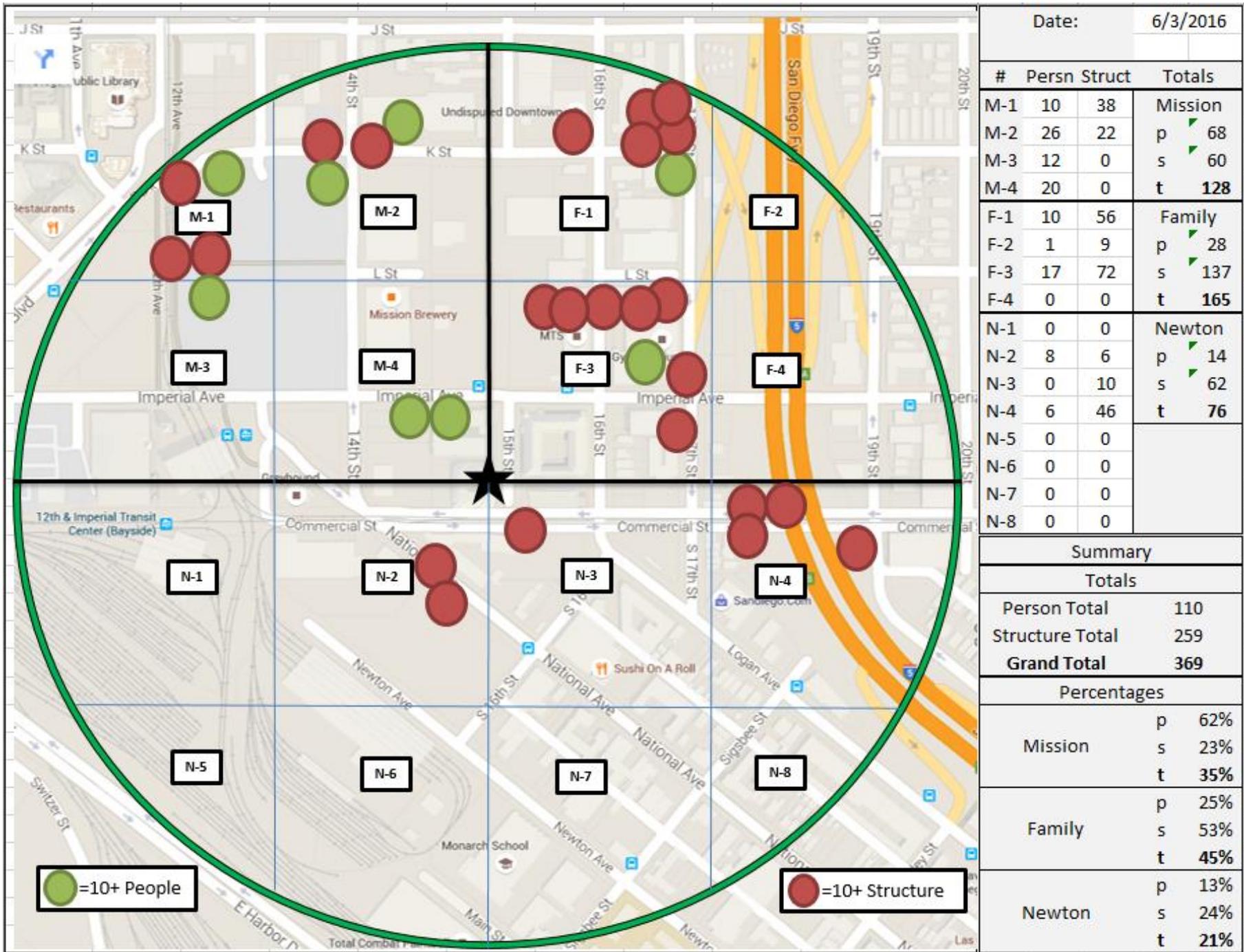
#	Persn	Struct	Totals
M-1	7	15	Mission
M-2	11	0	p 34
M-3	0	0	s 15
M-4	16	0	t 49
F-1	15	24	Family
F-2	3	8	p 30
F-3	9	3	s 36
F-4	3	1	t 66
N-1	0	0	Newton
N-2	9	12	p 10
N-3	0	15	s 77
N-4	1	50	t 87
N-5	0	0	
N-6	0	0	
N-7	0	0	
N-8	0	0	

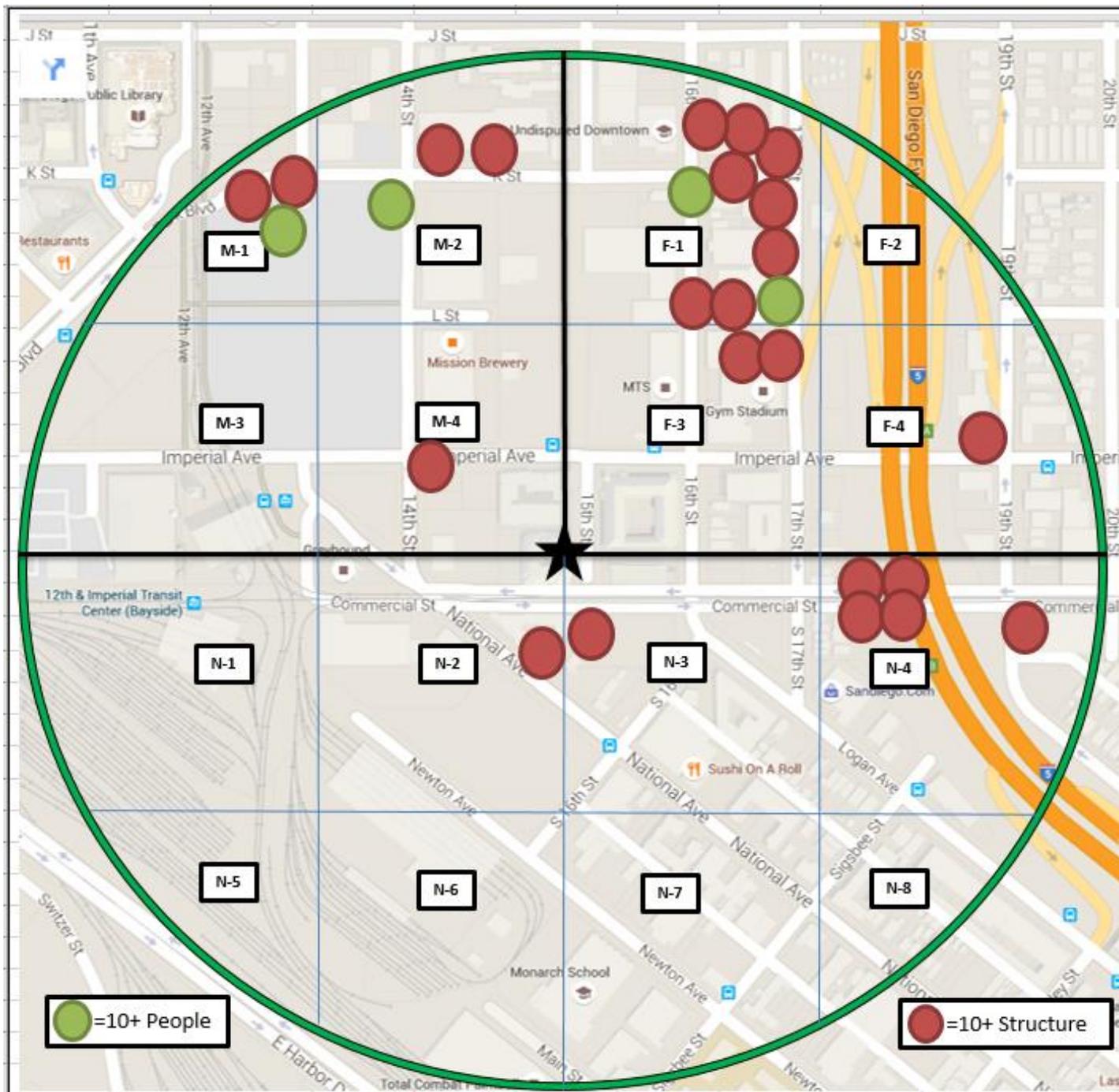
Summary	
Totals	
Person Total	74
Structure Total	128
Grand Total	202

Percentages	
Mission	p 46%
	s 12%
	t 24%
Family	p 41%
	s 28%
	t 33%
Newton	p 14%
	s 60%
	t 43%

 =10+ People

 =10+ Structure

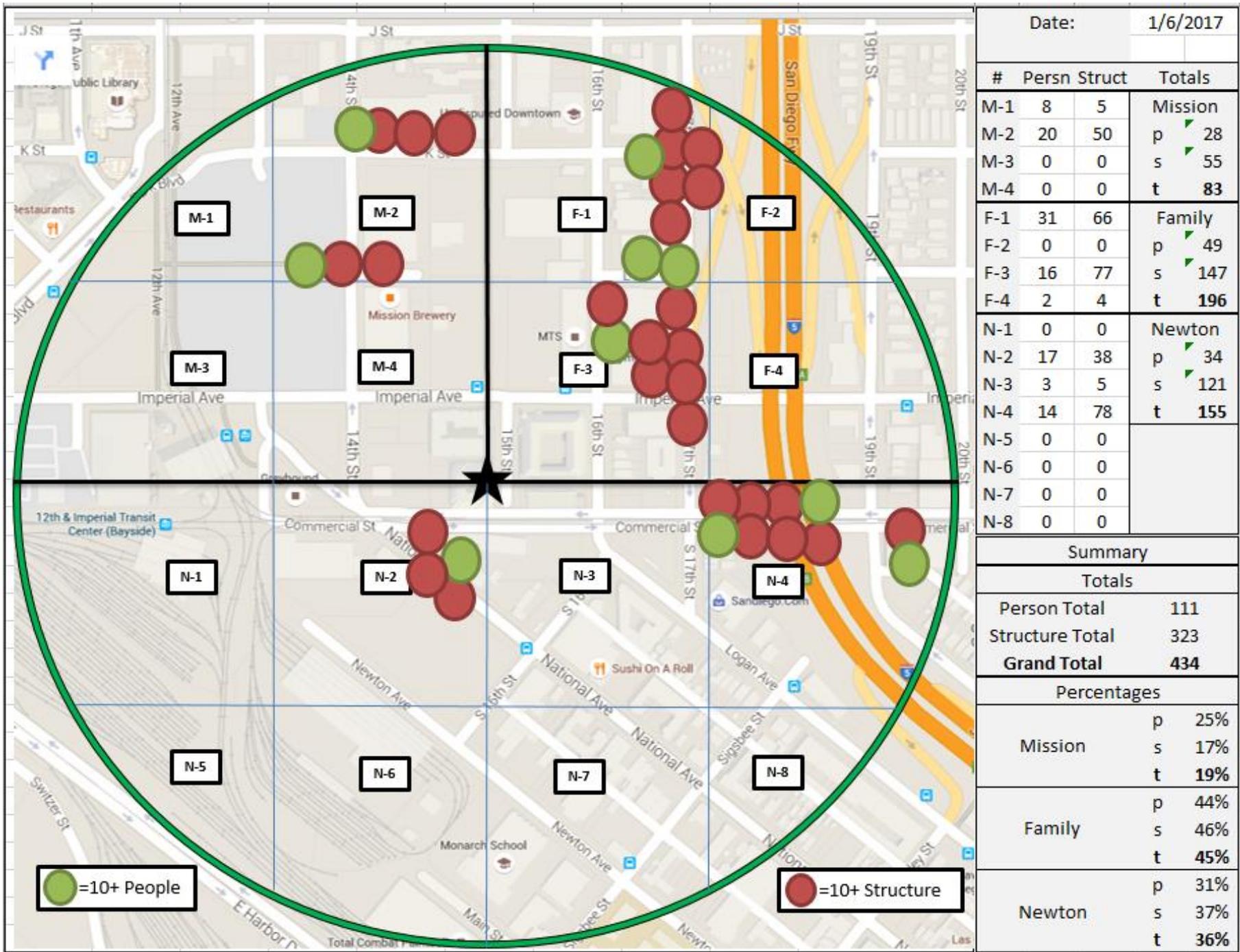




Date:	9/2/2016		
#	Person	Structure	Totals
M-1	11	25	Mission
M-2	16	21	p 29
M-3	0	0	s 57
M-4	2	11	t 86
F-1	27	80	Family
F-2	0	4	p 35
F-3	7	23	s 117
F-4	1	10	t 152
N-1	0	0	Newton
N-2	0	12	p 8
N-3	4	10	s 81
N-4	4	59	t 89
N-5	0	0	
N-6	0	0	
N-7	0	0	
N-8	0	0	
Summary			
Totals			
Person Total	72		
Structure Total	255		
Grand Total	327		
Percentages			
Mission	p	40%	
	s	22%	
	t	26%	
Family	p	49%	
	s	46%	
	t	46%	
Newton	p	11%	
	s	32%	
	t	27%	

● =10+ People

● =10+ Structure



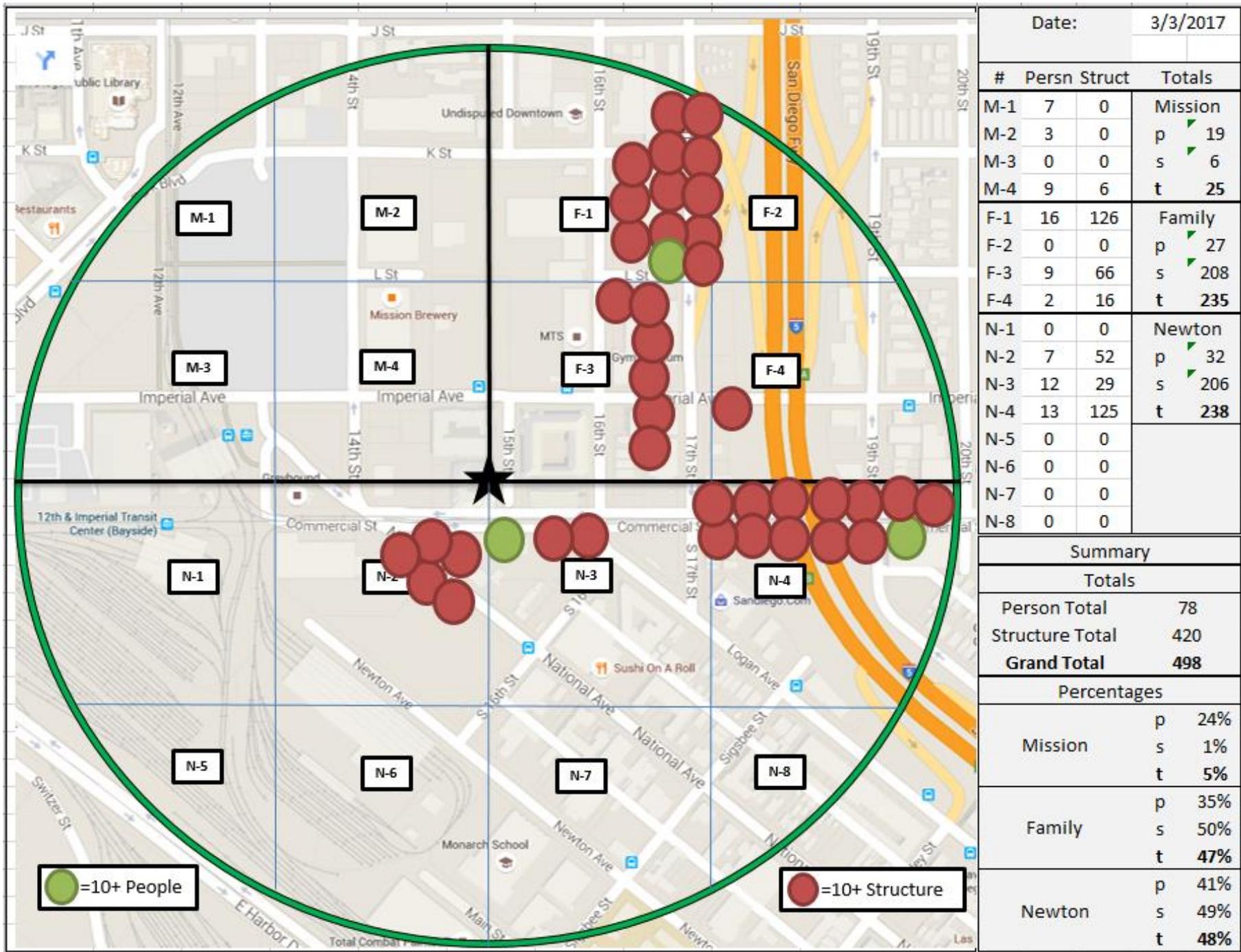
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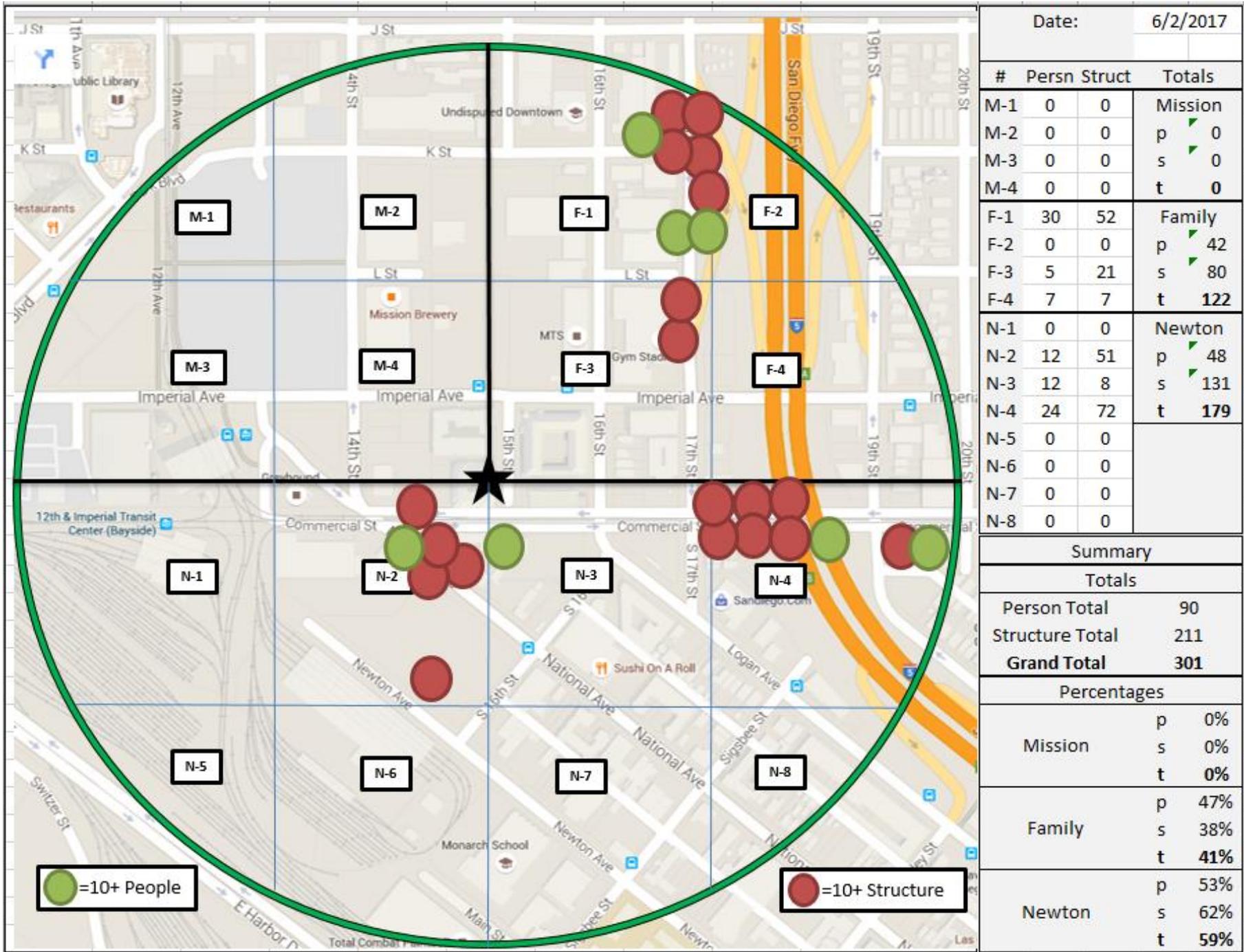
#	Person	Struct	Totals
M-1	8	5	Mission
M-2	20	50	p 28
M-3	0	0	s 55
M-4	0	0	t 83
F-1	31	66	Family
F-2	0	0	p 49
F-3	16	77	s 147
F-4	2	4	t 196
N-1	0	0	Newton
N-2	17	38	p 34
N-3	3	5	s 121
N-4	14	78	t 155
N-5	0	0	
N-6	0	0	
N-7	0	0	
N-8	0	0	

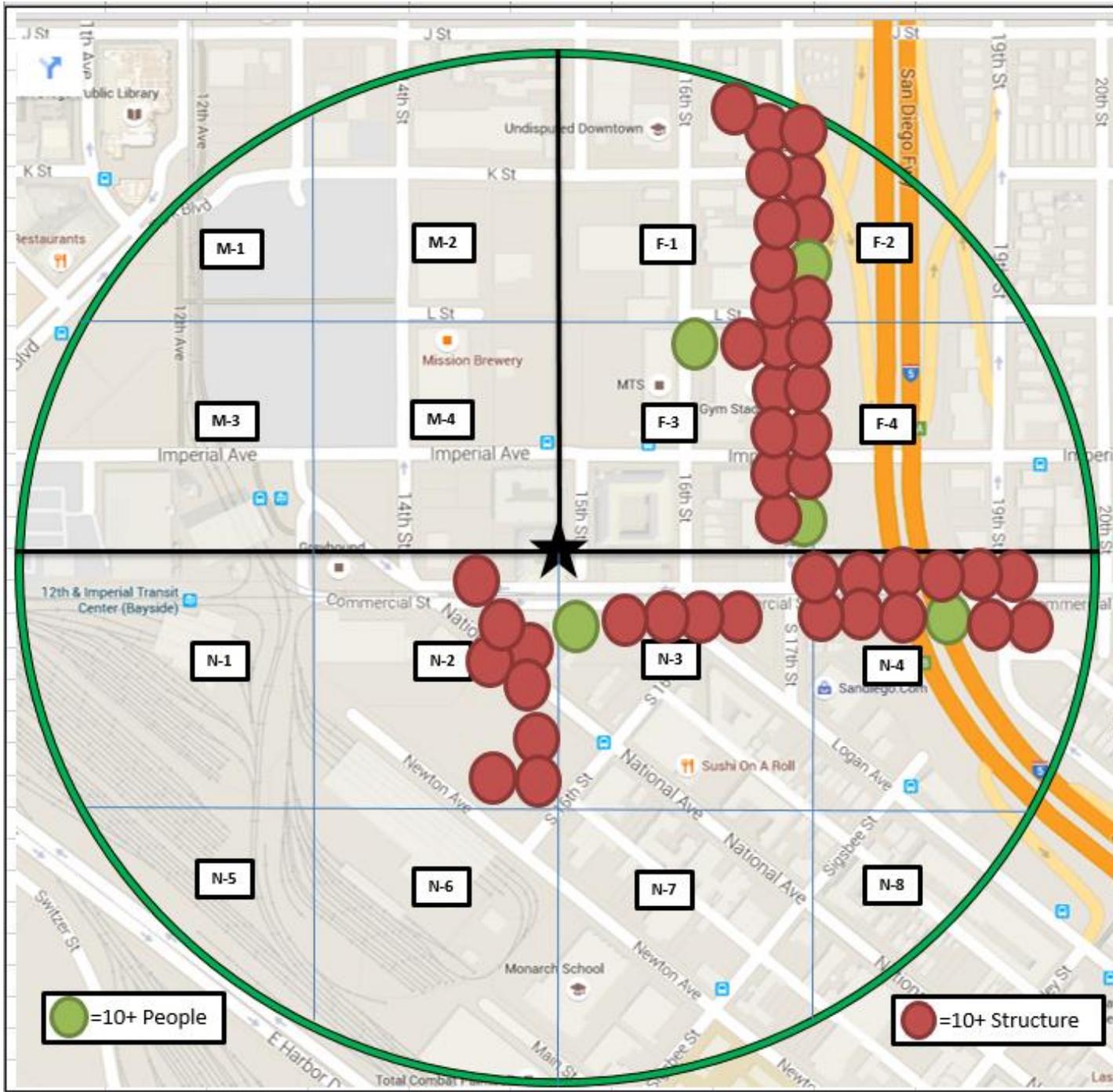
Summary		
Totals		
Person Total	111	
Structure Total	323	
Grand Total	434	
Percentages		
Mission	p	25%
	s	17%
	t	19%
Family	p	44%
	s	46%
	t	45%
Newton	p	31%
	s	37%
	t	36%

● =10+ People

● =10+ Structure



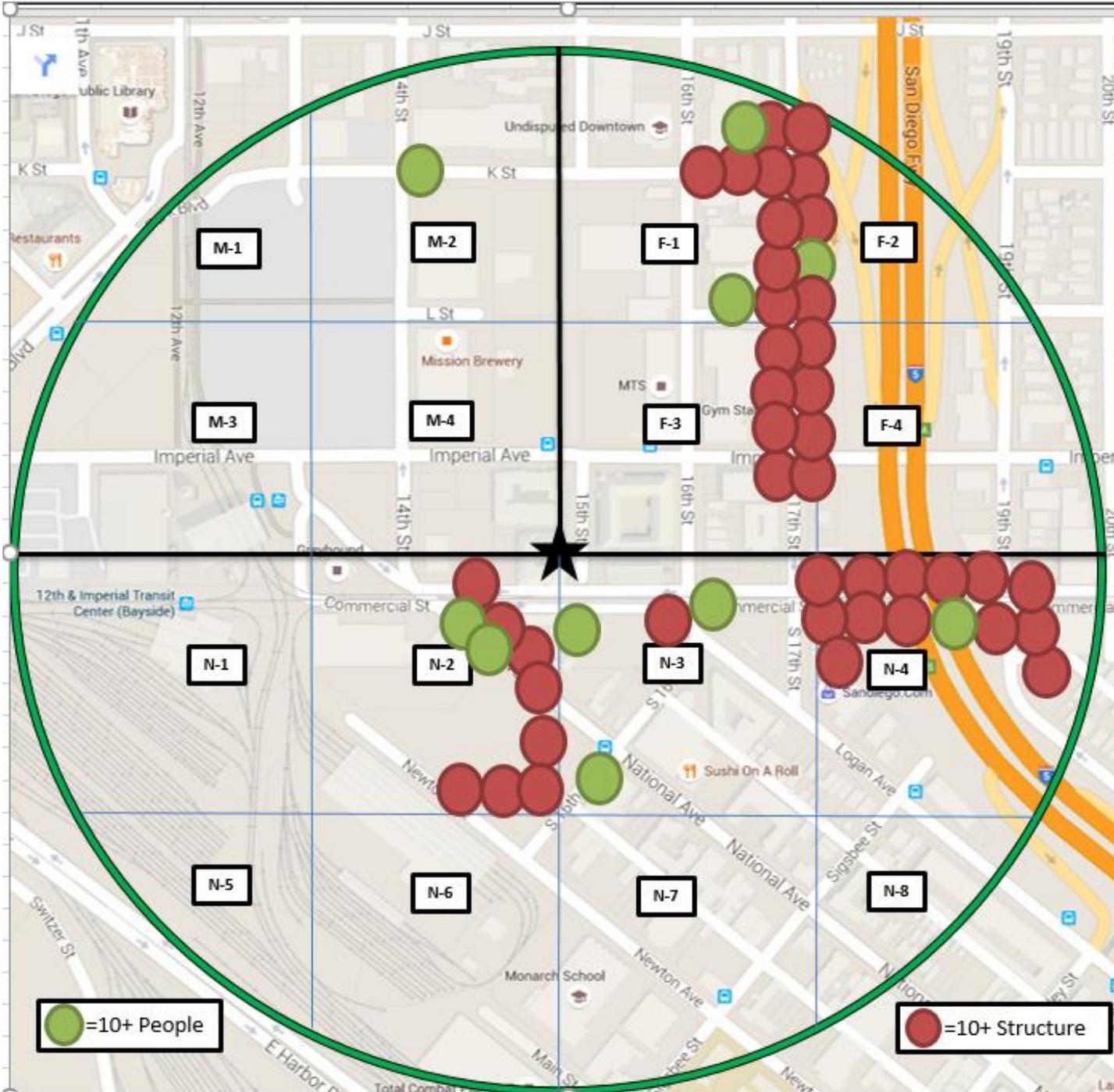




Date: 8/4/2017

#	Persn	Struct	Totals
M-1	0	0	Mission
M-2	0	0	p 0
M-3	0	0	s 0
M-4	0	0	t 0
F-1	15	110	Family
F-2	0	0	p 36
F-3	20	109	s 221
F-4	1	2	t 257
N-1	0	0	Newton
N-2	6	80	p 49
N-3	19	46	s 242
N-4	15	115	t 291
N-5	0	0	
N-6	0	1	
N-7	9	0	
N-8	0	0	

Summary		
Totals		
Person Total	85	
Structure Total	463	
Grand Total	548	
Percentages		
Mission	p	0%
	s	0%
	t	0%
Family	p	42%
	s	48%
	t	47%
Newton	p	58%
	s	52%
	t	53%



● =10+ People

● =10+ Structure

Date: 9/1/2017

#	Persn	Struct	Totals
M-1	0	0	Mission
M-2	12	6	p 12
M-3	0	0	s 6
M-4	0	0	t 18
F-1	36	117	Family
F-2	0	0	p 46
F-3	9	85	s 205
F-4	1	3	t 251
N-1	0	0	Newton
N-2	19	88	p 51
N-3	14	13	s 237
N-4	17	134	t 288
N-5	0	0	
N-6	0	0	
N-7	1	2	
N-8	0	0	

Summary	
Totals	
Person Total	109
Structure Total	448
Grand Total	557

Percentages		
Mission	p	11%
	s	1%
	t	3%
Family	p	42%
	s	46%
	t	45%
Newton	p	47%
	s	53%
	t	52%

Father Joe's Outreach Map

September 2015 to August 2017

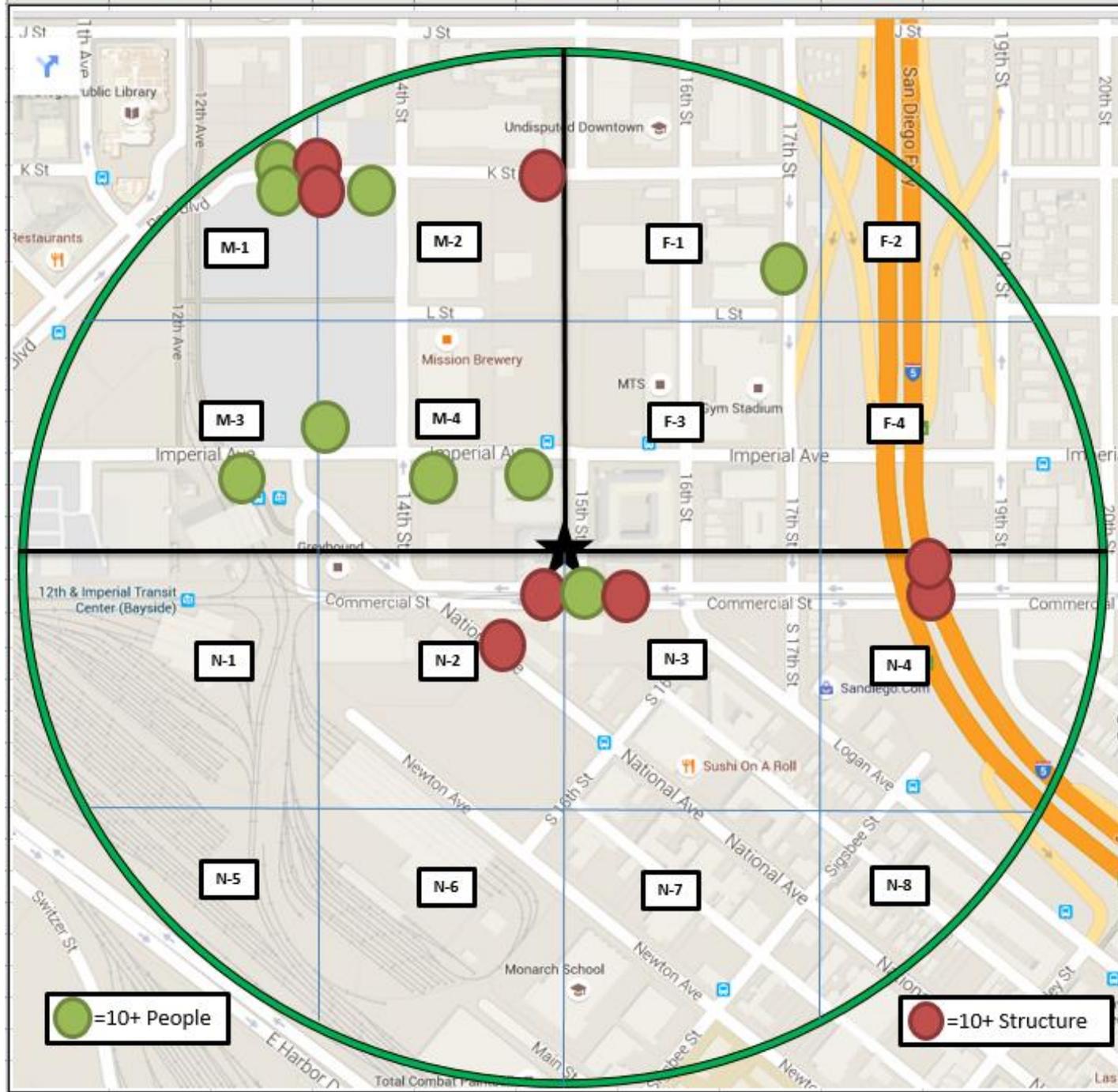
Start and Finish



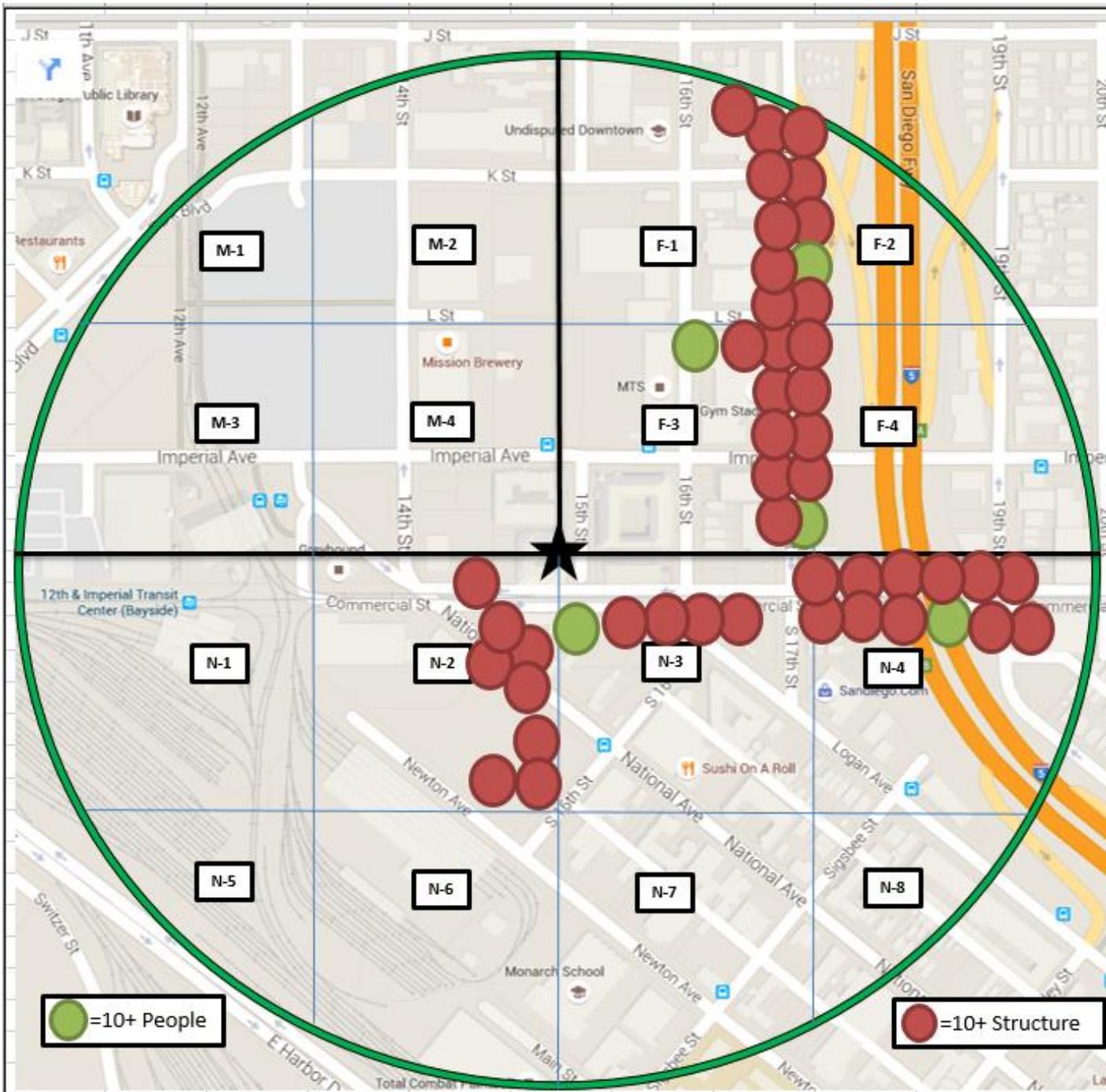
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Date:	9/25/2015		
	6		
#	Person	Structure	Totals
M-1	26	20	Mission
M-2	25	20	p 120
M-3	28	1	s 42
M-4	41	1	t 162
F-1	13	8	Family
F-2	1	0	p 22
F-3	4	3	s 11
F-4	4	0	t 33
N-1	4	0	Newton
N-2	0	16	p 23
N-3	17	34	s 75
N-4	1	24	t 98
N-5	0	0	
N-6	0	1	
N-7	1	0	
N-8	0	0	
Summary			
Totals			
Person Total	165		
Structure Total	128		
Grand Total	293		
Percentages			
Mission	p	73%	
	s	33%	
	t	55%	
Family	p	13%	
	s	9%	
	t	11%	
Newton	p	14%	
	s	59%	
	t	33%	



Date: 8/4/2017

#	Person	Struct	Totals
M-1	0	0	Mission
M-2	0	0	p 0
M-3	0	0	s 0
M-4	0	0	t 0
F-1	15	110	Family
F-2	0	0	p 36
F-3	20	109	s 221
F-4	1	2	t 257
N-1	0	0	Newton
N-2	6	80	p 49
N-3	19	46	s 242
N-4	15	115	t 291
N-5	0	0	
N-6	0	1	
N-7	9	0	
N-8	0	0	

Summary

Totals	
Person Total	85
Structure Total	463
Grand Total	548

Percentages

Mission	p	0%
	s	0%
	t	0%
Family	p	42%
	s	48%
	t	47%
Newton	p	58%
	s	52%
	t	53%

● = 10+ People

● = 10+ Structure

Causes of the Outbreak

- Gentrification: concentration of homeless in small part of downtown
- Decreased availability of restrooms/handwashing downtown
- Substance and alcohol abuse among homeless
- Hep A difficult to control (long incubation period)
- High rates of chronic liver disease
- Root cause analysis: HOMELESSNESS!



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Lessons Learned

- Prevention:
 - Vaccinate high risk populations against Hep A and B
 - End homelessness!
- Combating outbreaks:
 - Aggressive vaccination combats outbreaks!
 - Maintain close contact with public health authorities
 - Consider outbreaks in your emergency plan



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Lessons Learned

- Higher vaccine acceptance rate during outbreaks (even among “anti-vaccine” individuals)
- Ask for help when you need it (monetary, supplies, technical assistance, etc.)



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Thank you!

Thanks to the following people for their contributions:

- Drs. Eric McDonald and Sayone Thihalolipavan (San Diego County)
- Deacon Jim Vargas (CEO of Father Joe's Villages)
- Ruth Bruland (Chief Program Officer at Father Joe's Villages)



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This presentation does not represent the opinion of the County of San Diego.



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Risk Factors

- 62% (358) homeless and/or illicit drug use
 - 55% (196) homeless and illicit drug use
 - 25% (89) homeless only
 - 20% (73) illicit drug use only
- 17% (81) had hepatitis C
- 5% (24) had hepatitis B



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Source: County of San Diego Health Alert, "Update #8: Hepatitis A Outbreak in San Diego County", 2/15/18



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East Village South

- ★ Obelisk/Art
- 14th St. Promenade
- Academic
- Historic or Potentially Historic
- Under Construction or Permitted
- - - East Village South
- - - Parking Lot and Bus Yards
- Transit Station

iconic dome view

Q&A

- **Jeffrey Norris, MD**, Medical Director, Father Joe's Villages, San Diego, CA

