Shafter
Community Air Monitoring Plan
Group Exercise and Discussion

August 26, 2019

San Joaquin Valley Air Pollution Control District

Goals of Meeting

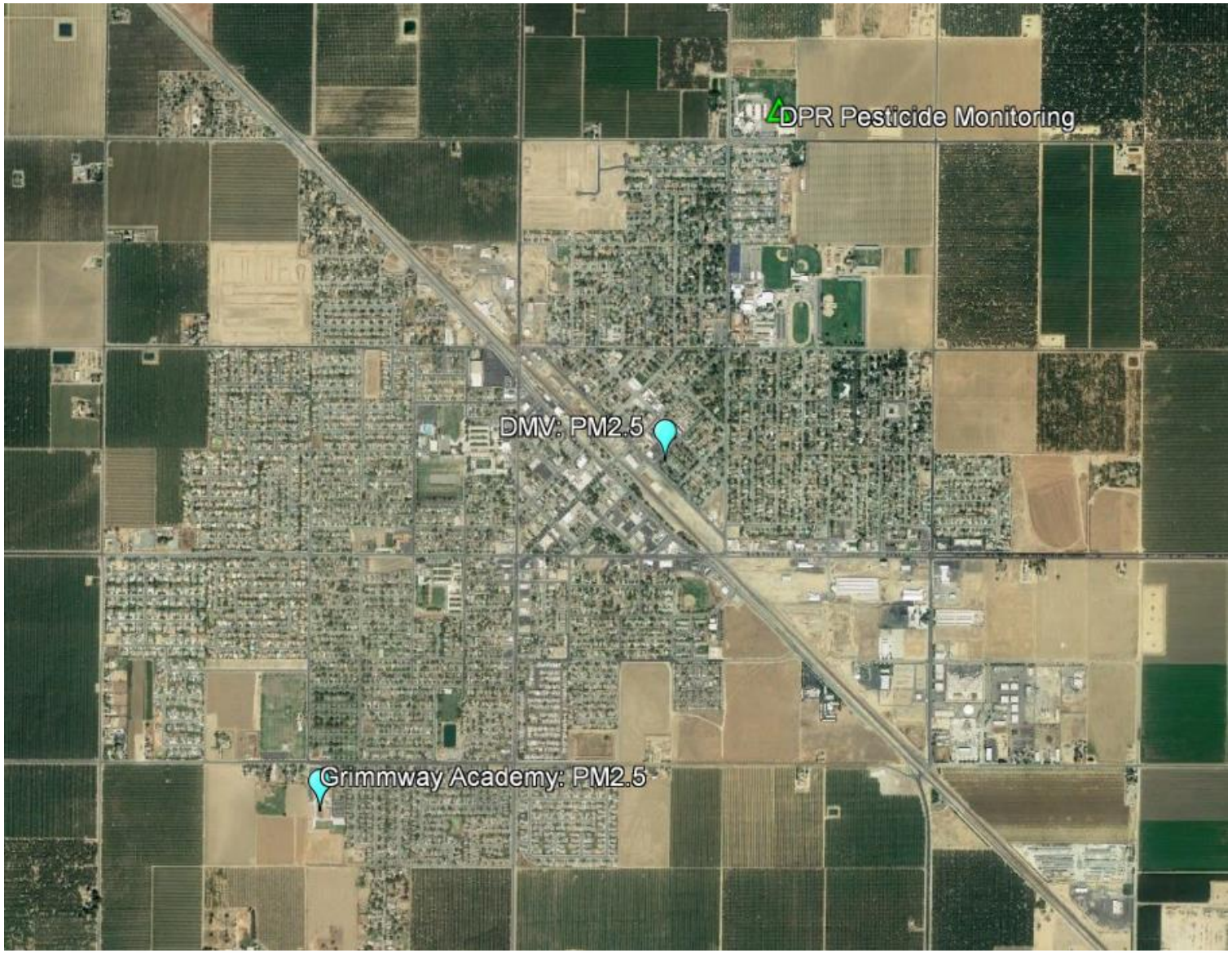
- Shafter community steering committee meetings from Spring 2019 included discussions of air monitoring
  - Members of steering committee recently requested that additional discussion on community air monitoring be held
- Today's committee exercise and discussion will help focus and design initial community air monitoring network
- Provide foundation for community air monitoring plan for Shafter

Current Air Monitoring in Shafter

Air Monitoring Site	Pollutants Measured
Shafter-DMV	Ozone, NOx, VOC, PM2.5, PM10 (coming soon)
Shafter-Grimmway	PM2.5
Sequoia Elementary School	Pesticides (DPR)

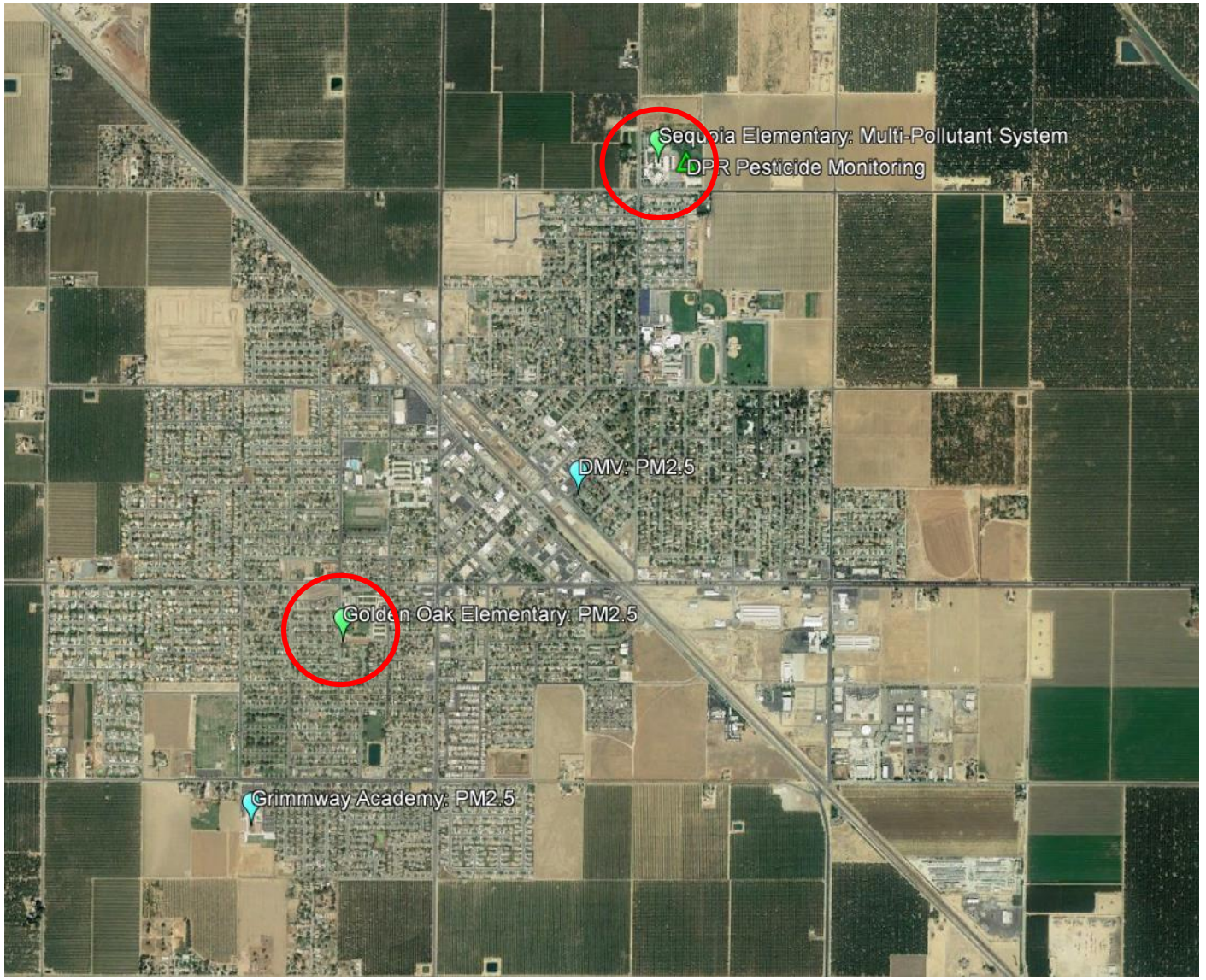
- Ongoing air monitoring operations at these existing sites will provide valuable data alongside rest of community air monitoring network
- Fixed sites like Shafter-DMV are part of already existing regulatory air monitoring network
  - Immobile structures permanently installed and not able to be deployed to areas of concern

Current Air Monitoring in Shafter



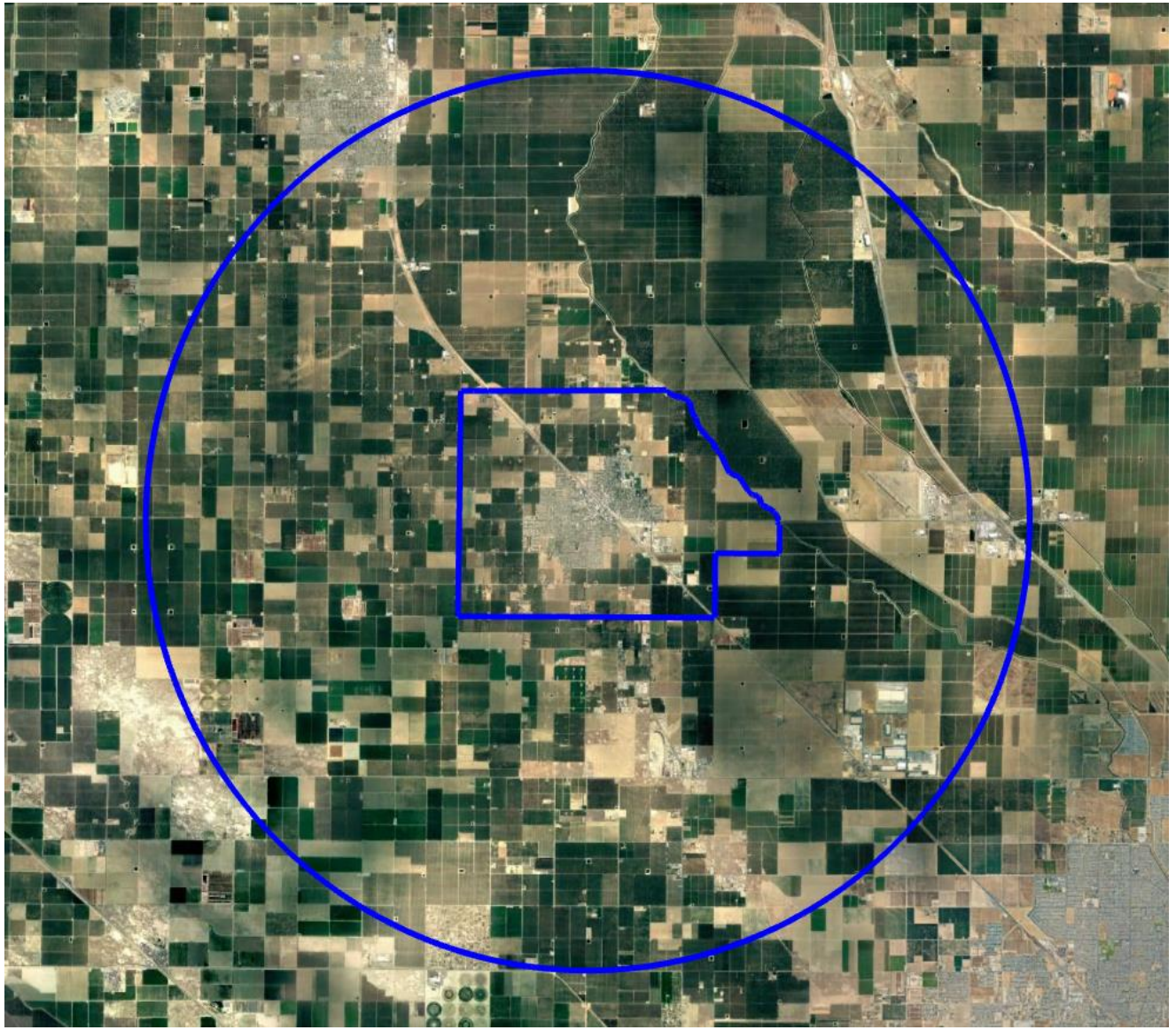
Current Plans for Expanded Air Monitoring in Shafter

- Sequoia Elementary School: Multi-pollutant air monitoring system (planned)
- Golden Oak Elementary School: PM2.5 monitor (planned)



Air Monitoring Study Area for Shafter Community

- Exercise will consider where to place remaining monitoring equipment within Shafter boundary and within 7-mile radius
- Resources are limited to cover expansive area within 7-mile radius, so need to be thoughtful with recommendations



Expanded Air Monitoring Capabilities

Air Monitoring Trailer	PM2.5, Ozone, Black Carbon, CO, NO/NO2/NOx, VOC, SO2/H2S, Toxics, Speciated VOCs, Meteorology
Compact Multi-Pollutant Air Monitoring Systems	PM2.5, Ozone, Black Carbon, CO, NO/NO2/NOx, SO2/H2S, VOC, Meteorology
Stand-Alone PM2.5 Monitors	PM2.5
Mobile Air Monitoring Van	PM2.5, Ozone, Black Carbon, CO, NO/NO2/NOx, VOCs, SO2/H2S, Toxics, Meteorology

Abilities of New Air Monitoring Resources

- Planned air monitoring resources for Shafter will have same abilities as current stationary regulatory network
  - High-precision and regulatory-grade
  - Many instruments will be the same models used at regulatory stations
  - Will monitor more types of pollutants than regulatory stations
- Benefit of community air monitoring resources will be greater mobility and quicker deployment
- Community air monitoring network capabilities will be similar to capabilities of fixed air monitoring stations
  - Beyond routine measurements of gas and PM pollutants, community air monitoring network will have ability to measure PM and VOC speciation, black carbon, H2S
- Air monitoring trailer will have most expansive air monitoring capabilities
  - Equivalent to a fixed air monitoring station but with greater mobility

Platform Capabilities for Initial Community Air Monitoring Network

		Platform			
Pollutants	**Example Sources**	**Trailer**	**Van**	**Compact System**	**Stand Alone PM2.5**
PM2.5	Mobile, industry, residential	x	x	x	x
Black Carbon	Mobile, industry, residential	x	x	x	
NO, NO2, NOx	Mobile, industry	x	x	x	
CO	Mobile	x	x	x	
Ozone	Regional, formed from VOC and NOx	x	x	x	
SO2, H2S	Industry	x	x	x	
VOC (BTEX)	Gasoline distribution and marketing	x	x	x	
Hourly VOC Speciation	Industry, mobile	x	x		
Toxics	Industry, mobile	x	x		
Meteorology		x	x	x	

Exercise and Discussion

Maps

1. Current Monitors and Wind Direction
2. Sources of Emissions: NOx
3. Sources of Emissions: PM2.5
4. Sources of Emissions: VOC
5. Diesel Particulate Exposure
6. Asthma Percentile (CalEnviroScreen)
7. Cardiovascular (CalEnviroScreen)
8. Sensitive Receptors

Tools

1. Monitoring Objectives
2. Pollutant Glossary
3. Monitor Capabilities
4. Worksheet

Exercise and Discussion

- Subcommittee members provided materials to review for group and individual exercises
  1. Group exercise to discuss pollutants and priority areas for community air monitoring
  2. Individual exercise to prioritize pollutants to measure and community air monitoring locations
  3. Individual exercise to place stickers on community map to represent their network design preferences
  4. Review results and group discussion

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