

I would like to acknowledge the City and Schools Liaison Committee with regards to their recommendations and efforts placed before them during their meeting on August 15<sup>th</sup> 2024 in preparation of the agenda item regarding the All City Management Services Agreement for the upcoming period of July 15<sup>th</sup> 2025 through July 14 2029 for the amount of just less than 2.5 million dollars.

This service will provide supervised safe passage for students and pedestrians at 32 sites throughout the city and school districts, but only for 3 hours per school day. Their work is to be commended; however it is not mandated by city, county or state laws. With that being stated I feel that more could be done during the 3 hours of supervision being provided by this contract. And that would be to provide the essential signage and illuminated crosswalks that would further enhance the safety of students and pedestrians during and after non-supervised crossings for a one time investment of \$320,000 at the 32 sites.

The funding for this contract as we know is paid 50/50 by both the City of Tracy, the Tracy and Jefferson School Districts along with being supplemented by California Safe Routes to Schools (SR25) and Federal Safe Routes to Schools (SRTS). During the applications of the 2023 and 2024 Safer Streets and Roads for All Grants and now I have been informed that the City of Tracy has applied for the 2025 Grant as well, all of these grants have been endorsed by Tracy Unified School District, San Joaquin Council of Governments, South San Joaquin County Fire Department, City of Tracy Police Department calling for illuminated crosswalk signage along with other safety enhancements.

It seems to me that an investment between 7 to 10 thousand dollars per set of illuminated crosswalk signage could be more fiscally responsible for the years to come.

# Tracy, CA and Surrounding Communities



Updated: 25 June 2025



## Healthcare Research for the Area of Greater Tracy, California

The term “Quality Healthcare” is subjective and dependent on professional and personal experiences within a healthcare area, system, or network. This research attempts to bring together quantitative and qualitative information while removing bias from the author or other input providers. The author has never worked in the healthcare industry, but has extensive personal experience with multiple providers, in different cities, states, and countries. Do not take this research as an absolute, take it for the information it provides, do your own level of research, and make the best decisions for you, your family, and your community.

The only purpose of this research is to start a real conversation around the quality of healthcare in the area including and around Tracy, California. This conversation needs to be between city, county, and state leaders, health care providers, and the populations they all serve. Eventually these conversations may lead to a healthcare solution a population of 130,000 to 250,000 residents deserve.

*Note: This research should be considered a “living document” continuing to be updated as new information becomes available.*

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## Why Research Healthcare in the Area of Greater Tracy

### How it Started

Early 2025 Gerald experienced a lower intestinal inflammation producing blockage and severe cramping pain. This experience was not new for him; he's been experiencing this inflammation for over two decades and watched his mother manage the same issues for over four. Crohn's Disease is an immune compromising disease and is hereditary. When the inflammation causes a full or partial blockage the level of pain is high, on a 1-10 scale normally above a 7. The treatment to reduce inflammation tends to be intravenous fluids, anti-nausea medications, and pain management.

In the past twenty-years Gerald has used healthcare providers in the Tri-Valley area, with San Ramon Medical Center and more recently Stanford Healthcare Tri-Vally being his primary places for care. With his corporate position with a global supply chain management organization, he has managed this in many U.S. cities and states, along with countries in Europe and Asia. Gerald and his wife moved to Tracy, CA at the end of 2019, but continued to use the established healthcare providers in the Tri-Valley. They did their research and struggled to find the same level of care as physicians in Tracy, with three test case experiences leading them to stay with a John Muir primary care physician in Pleasanton. Gerald's intestinal issues would send him to an emergency department every 18-24 months, so there had only been one time he needed to go since moving, and he went to San Ramon.

### *The Story*

Gerald arrived at Sutter Health Tracy Community Hospital approximately 1:50pm on Tuesday, March 25, 2005, with a severe Crohn's flare up. He couldn't maintain standing, so the security person helped him into a wheelchair. He was seen quickly by the registration person, and then the triage team. They were all made aware that his pain level was at an 8, and he told the Triage team he's had two chest tubes, and one through his back without any pain meds, so he knows 10. They put him back in the waiting area and within a few minutes he was brought back for a blood draw and immediately returned to the waiting area. After an hour sitting in the wheelchair, He knew he needed to lay down, with a flareup, sitting is the worst possible position and he needed to be prone. The waiting room had a bench chair that would fit two, and a one-person seat next to it, with an arm rest between them. He made that his bed for the next four hours.

About an hour into laying down he spotted a nurse working with the pediatric patients, and pleaded for help, her response was "one minute please" and that was the last conversation they had. Another hour went by, and he saw a security person, he pleaded with him to get help, and he took Gerald's tag number, talked to someone and came back to tell him they've had many ambulances. Gerald's response was he didn't need a bed, he needed intravenous fluids, anti-nausea medications, and something for the pain, they can do that while he sits in a chair. That was the last time he saw the security person.

Another hour goes by, and he sees a woman, he's assuming a nurse, and asks if he'll ever be seen, and she responds with "they plan on seeing everyone." He told her he's been there four hours, and his pain level is still an 8, and she tells him they only have fourteen beds, and they'll get to him as soon as possible. He also made her aware that the entire time he'd been there not a single person had checked on him, she left with no form of care, compassion, and the trust Gerald had in the care he would receive once going back was nonexistent, no integrity.



A short time after that he called his neighbors to pick him up and bring him home. At home he self-medicated himself with a crushed Vicodin, a melatonin tablet, and a shot of Nyquil. That put him to sleep for 9.5 hours and allowed his flareup to slightly reside. He then drove to Stanford in Pleasanton where he was admitted through the emergency department, he received the intravenous fluids, anti-nausea medication, and started on pain management. He spent three nights at Stanford getting things under control before his discharge. He has changed his Gastroenterologist to one who works out of Stanford and has a plan for better disease management. Doing this in Tracy would never be an option under the current quality expectations, and there would be no level of trust.

## The Result

The morning after Gerald's attempt at receiving care at Sutter Community Hospital and before he left for the Stanford Hospital in Pleasanton, he documented the experience. With the event fresh in his mind, he needed to write down everything he could remember, and with that he mailed letters to Warner L. Thomas, President and Chief Executive Officer of Sutter Health, and copied his senior leadership team, including.

- Jennifer Bollinger, Senior Vice President and Chief Consumer & Brand Officer
- Ginger Chappell, Vice President and Chief Ethics & Compliance Officer
- William Isenberg, M.D., Ph.D., Vice President and Chief Medical & Quality Officer
- Conrad M. Vial, M.D., Senior Vice President and President, Sutter Health Network
- Caren Weakley, Senior Vice President and General Counsel

He then drove to Sanford where he spent the next three nights being cared for. The following Tuesday, April 01, 2025, Gerald spoke to the Tracy Mayor and City Council Members during the "Public Comments" time, where the council is not permitted to ask questions. The message was clear, Gerald found the level of compassion and care in Tracy is not providing a level of care the community deserved, and that he will start the conversation through qualitative and quantitative research.

This is how it all started.

## The Objective

From the start the objective has been to create a sustainable and deepening conversation that leads to compassionate and trustworthy healthcare in the community. Making a large-scale change requires decision makers at the highest level of City, County, and State and partnering with executive leadership of providers of healthcare services.

This research is to assist in telling the story of healthcare in the area, to provide these decision makers with enough information to get a conversation started, and real subject matter experts take it over. Gerald is good at what he does, but healthcare systems and services are not where his expertise lies, and playing in the political arena is not something he desires.

## Network of Healthcare Providers

In the greater area surrounding Tracy there is Mountain House, Lathrop, western parts of Manteca, Banta, Lytoh, Carbona, and we may expect further southern residents of Paterson to use the healthcare system. For this portion of the research, we looked at providers two to sixty miles from the Tracy Civic Center Plaza, and those with emergency departments.

### Focus Area Providers (1-15 Miles)

There are four healthcare facilities with emergency departments within a fifteen-mile drive from the Tracy Civic Center Plaza.



### ***Sutter Healthcare:***

Sutter Healthcare has twenty-one of facilities covering the San Francisco Bay Area, Sacramento, the Central Valley, and Stanislaus County that provide emergency services. Located in Tracy is the Sutter Tracy Community Hospital, less than two miles from the Civic Center Plaza. Thirty miles out they have facilities in Modesto and Antioch, and one further south (60 miles) in Las Banos.

### ***Sutter Tracy Community Hospital***



The Sutter Tracy Community Hospital, originally named Tracy Community Memorial Hospital, was mostly initially financed by community donations, was opened with a capacity of 49 beds on Dec. 12, 1948 (Matthews, 2024). The facility currently reports 77 Acute Beds, 8 ICU Beds, and may have as many as 14 Emergency Department beds. Sutter Health's Website states "Sutter Tracy Community Hospital is the area's only full-service, acute care hospital, serving more than 100,000 people in the Tri-Central Valley region." (About This Location, n.d.).

### ***Sutter Healthcare Leadership / Primary Decision Makers***



**Warner L. Thomas**  
President & Chief  
Executive Officer



**Cynthia Lee**  
Sr. VP and Chief  
Strategy & Growth  
Development Officer



**Grace Davis**  
Sr. VP and Chief  
External Affairs  
Officer

### ***Mission, Vision, and Values***

**Mission:** We prioritize our patients' care above all, while consistently supporting and valuing our people.

**Vision:** To be the most comprehensive, integrated health system for achieving and maintaining wellness.

**Values:** Excellence, Curiosity, Compassion, Inclusion, Teamwork, and Integrity.

### ***Kaiser Permanente: Manteca Medical Center***



Kaiser Permanente is an American integrated managed care consortium headquartered in Oakland, California. Founded in 1945. The organization was initially established to provide medical services at Kaiser's shipyards, steel mills and other facilities, before being opened to the general public. Kaiser Permanente operates as a consortium comprising three distinct but interdependent entities: the Kaiser Foundation Health Plan (KFHP) and its regional subsidiaries. As of 2024, Kaiser Permanente serves eight states (California, Colorado, Georgia, Hawaii, Maryland, Oregon, Virginia, and Washington) as well as the District of Columbia and is the largest managed care organization in the United States. Permanente Medical Groups are physician-owned organizations, which provide and arrange for medical care for Kaiser Foundation Health Plan members in each respective region. The medical groups are for-profit partnerships or professional corporations and receive nearly all of their funding from Kaiser Foundation Health Plans. (Kaiser Permanente, 2025)

Because of the organization and customer structure the ability to research into Kaiser is limited. Because of the membership into the Kaiser Health systems there will be less emphasis on them as a future partner in elevating healthcare in the focused area.

### ***Dignity Health***

Dignity Health, a member of CommonSpirit, services California, Arizona, and Nevada with the closest offering emergency services being San Joaquin General Hospital in French Camp (15 miles from Tracy Civic Center), and St. Josephs Medical Center in Stockton (21 miles).

San Joaquin County is the Owner of San Joaquin General Hospital; Dignity Health is operating under a services agreement that expires in June 2025. The County Board of Supervisors for San Joaquin are the hospital related decision makers.

### ***San Joaquin General Hospital***



Dignity Health has a management role at San Joaquin General Hospital (SJGH). They are operating under a Management Services Agreement (MSA) with San Joaquin County. This agreement initially started in 2022 and was recently extended through June 2025 (Crowley, 2023).

San Joaquin General Hospital, established in 1857, is a 196-bed public teaching hospital located in French Camp, California. As the sole hospital in French Camp, it serves as a major healthcare provider for San Joaquin County. Affiliated with the University of California, Davis and the University of the Pacific, it offers a range of services including general medical/surgical care, high-risk obstetrics and neonatal intensive care, pediatrics and intensive care. Additionally, it functions as a Level II Trauma Center and provides teaching opportunities for medical students and residents from the affiliated universities. (San Joaquin General Hospital in French Camp, California, 2025).

### ***Dignity Health Leadership / Partner Decision Makers***



***Wright Lassiter  
III, MHA***  
Chief Executive  
Officer



***Sheri Shapiro,  
MBA***  
Sr. Ex.VP and  
Chief Strategy  
Officer



***Terika  
Richardson, MPH***  
Sr. Ex. VP and  
Chief Operations  
Officer

### ***Dignity Health Mission, Vision, and Values***

***Mission:*** As CommonSpirit Health, we make the healing presence of God known in our world by improving the health of the people we serve, especially those who are vulnerable, while we advance social justice for all.

***Vision:*** A healthier future for all, inspired by faith, driven by innovation and powered by our humanity.

***Values:*** Compassion, Inclusion, Integrity, Excellence, and Collaboration.

### ***Central Valley Doctors Health System: Doctors Hospital of Manteca***

The Central Valley Doctors Health System is an integrated healthcare system across the Central Valley consisting of three acute care hospitals – Doctors Medical Center in Modesto, Emanuel Medical Center in Turlock, and Doctors Hospital of Manteca.



*Doctors Hospital of Manteca*



Doctors Hospital of Manteca was born in 1962, after local physicians realized their patients were leaving the community in search of their healthcare needs. When it opened its doors, the hospital had just seven doctors and 41 employees. Today, Doctors Hospital of Manteca is the largest private employer in the community with nearly 500 employees and a staff of more than 180 physicians. (*Our History, 2025*)

The facility is 15-miles from the Tracy Civic Center Plaza. Currently there is no information on the number of acute, ICU, or Emergency Department Beds. Leadership appears to be independent for each facility, with no higher-level decision makers.

*Central Valley Doctors Health System -Manteca, Leadership / Input to Decision Making*



**Jay Krishnaswamy**  
Chief Executive  
Officer



**Jonathan Felton**  
Chief Operating  
Officer

**Mission:** There is no clearly stated Mission.

**Vision:** There is no clearly stated Vision.

**Values:** There are no clearly stated Values.

**Healthcare Providers Outside the Focus Area (20-60 miles)**

These are providers in addition to providers serving the focus area that also have facilities in this range but are not repeated.

***Adventist Health***

Adventist Health is a Seventh-day Adventist nonprofit organization headquartered in Roseville, California. They operate many hospital facilities throughout California, Oregon, and Hawaii. The closest facility to the area of Greater Tracy is Dameron Hospital in Stockton, twenty miles away.

*Dameron Hospital, Stockton CA*



Dr. John Dameron founded Dameron Hospital in Stockton in 1912 with facilities for 20 patients. Ill health prompted him to sell the organization to a group of local doctors, staff, and businessmen in 1925, and expansion in 1927 brought bed capacity up to 55. They currently report 65 Acute and 24 ICU beds, emergency department beds are not reported.

The hospital was incorporated as Dameron Hospital Association in 1943, becoming an independent, not-for-profit medical facility governed by a seven-person board of directors and a 20-member board of membership. (*History, 2025*)

*Adventist Health Leadership / Primary Decision Makers*



**Kerry Heinrich**  
Chief Executive  
Officer



**Todd Hofheins**  
Chief Operations  
Officer

**Mission:** Living God's love by inspiring health, wholeness and hope.



**Vision:** Compelled by our mission to live God's love by inspiring health, wholeness and hope, we will transform the health experience of our communities by improving physical, mental and spiritual health; enhancing interactions; and making care more accessible and affordable.

**Values:** Be Love, Be a Force for Good, Be a Mission Owner, Be Welcoming, Be Curious, Be Brilliant.

### ***Stanford Medicine Health Care***

Stanford Health Care, along with Stanford Health Care Tri-Valley and Stanford Medicine Partners, is part of the adult health care delivery system of Stanford Medicine. Combining clinical care, research, and education to advance the understanding and practice of medicine, we provide compassionate, coordinated care personalized for the unique needs of every patient. (About Us, 2025).

Stanford Health Care Tri-Valley is twenty to twenty-eight miles from Tracy, with a drive over the Altamont Pass.

#### ***Stanford Health Care Tri-Valley (Valley Care)***



Back in the 1950s, the 18-bed St. Paul Hospital proved too small for the Livermore and Pleasanton communities. Weary of traveling to Oakland or Hayward for health care, residents banded together to build Valley Memorial Hospital on land donated by Kaiser Paving Company in Livermore.

Stanford Health Care – ValleyCare was formed in 2015 when ValleyCare Health System became part of Stanford Health Care. For 60 years, the health system has remained non-profit and has grown along with the Tri-Valley, expanding and adding services as the needs of the people grew. (About Us: History, 2025)

The facility reports 173 Acute and 23 ICU beds. The number of emergency department (ED) beds is not reported, but it is more than 15. The ED will also use overflow space on the second floor and have implemented a mid-level service where the patient will begin treatment in a chair area until a bed becomes available. This allows for initial physician review, intravenous fluids, the administration of other medicines, and patients can get a start on imaging needs when appropriate.

#### ***Stanford Medicine Health Care Leadership / Primary Decision Makers***



**David Entwistle**  
President & Chief  
Executive Officer



**Tip Kim**  
Ex. VP and Chief  
Market Develop  
Officer



**Priya Singh**  
Ex. VP & Chief  
Strategy Officer

**Mission:** Preservation and improvement of the quality of care are the primary purposes of our medical staff organization.

**Vision:** Human-centered and discovery-led, we care deeply about every one of our patients.

**Values:** Quality and Safety

### ***John Muir Health***



John Muir Health has three hospitals 35 to 50 miles from Tracy: San Ramon (35 miles), Walnut Creek (45 miles), and Concord (50 Miles). With the Walnut Creek Medical Center being the largest and is a regional trauma center.

John Muir Health includes two of the largest medical centers in Contra Costa County: John Muir Health Walnut Creek Medical Center, a 554-licensed bed medical center that serves as Contra Costa County's only designated trauma center; and John Muir Health Concord Medical Center, a 244-licensed bed medical center in Concord. Together, they are recognized as preeminent centers for neurosciences, orthopedics, cancer care, cardiovascular care and high-risk obstetrics.



John Muir Health also offers complete inpatient and outpatient behavioral health programs and services at our Behavioral Health Center, a fully accredited, 73-bed psychiatric hospital located in Concord.

Other areas of specialty include general surgery, robotic surgery, weight-loss surgery, rehabilitation and critical care. All hospitals are accredited by The Joint Commission, a national surveyor of quality patient care. In addition, John Muir Health provides a number of primary care and outpatient services throughout the community and urgent care centers in Brentwood, Concord, San Ramon and Walnut Creek. (John Muir Health: About Us, 2025)

#### *John Muir Health Leadership / Primary Decision Makers*



**Michael S. Thomas**  
President & Chief  
Executive Officer



**Paul Deeringer**  
Chief Strategy  
Officer

**Mission:** We are dedicated to improving the health of the communities we serve with quality and compassion.

**Vision:** We will exceed our patients' expectations for seamless, consistently positive experiences with all aspects of John Muir Health, and we will distinguish ourselves.

**Values:** Excellence, High Reliability, Honesty, Integrity, Mutual Respect, Listening, Caring and Compassion, Patient Safety, Continuous Improvement, Stewardship of Resources, Access to Care.

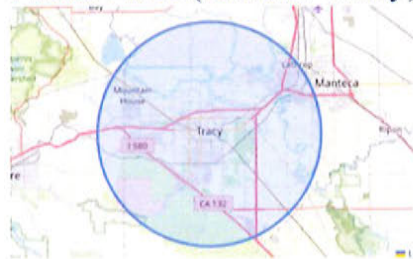
## Populations

For estimating populations we've used the website "Population Around a Point" (Forth, 2025). The site allows a user to place a point on a global map and define the radius of the circle in kilometers. It then provides an estimated population within the circle for 2025. The creator provides all the code used in making the calculations, so for this research we are considering the data credible. Based on local knowledge and information returned, the data appears to be correct.

For the estimated populations in this research, we have converted the radius from kilometers to miles, but since only one can be at a whole number value, we use kilometers to match the website and round off the miles, so the returned population is close but not perfect.

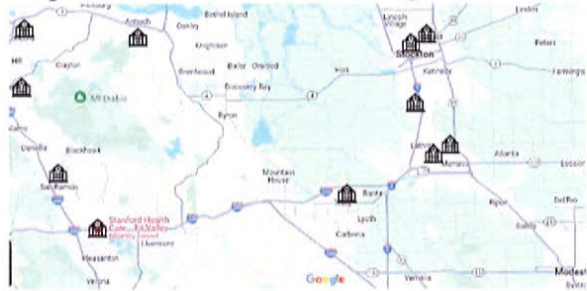
Because the population is calculated based on a circle and not specific to a city, there can be overlaps into areas not a part of the focus area.

### Focus Area (Greater Tracy) Population Estimates



If the primary focus area is in the defined circle (10 miles or 16 kilometers) including Tracy, Mountain House, Lathrop, and capturing some populations around them, our source returns a value of  $\approx 142,000$ . If there is an assumed population growth over the next fifteen years of 15%-25% for this area the population will grow to 163k-177k.

## Populations of Surrounding Healthcare Providers



For a comparison of populations, healthcare providers may support we are using a five-mile radius (8 kilometers) from the provider's facility. When looking at facilities North, East, and Northeast of the focus area, there is significant overlap in populations served. When we look at the facilities 20-50 miles west of the focus area, there is also population overlap.

### ***Sutter Tracy Community Hospital***



Within a five-mile radius of Sutter Tracy Community Hospital there is a population of  $\approx 105,000$ . With a reported 77 acute beds this is  $\approx 1$  bed per 1,400 residents within five miles.

### ***San Joaquin General Hospital – French Camp***



Within a five-mile radius of San Joaquin General Hospital there is a population of  $\approx 131,000$ . With a reported 180 acute beds this is  $\approx 1$  bed per 750 residents within five miles.

### ***Doctors Hospital of Manteca***



Within a five-mile radius of Doctors Hospital of Manteca there is a population of  $\approx 92,000$ . There is no reporting on the number of acute or ICU beds.

### ***Dameron Hospital – Stockton***



Within a five-mile radius of Dameron Hospital there is a population of  $\approx 336,000$ . With a reported 65 acute beds this is  $\approx 1$  bed per 5,000 residents within five miles. There is a significant healthcare overlap in areas of this facility.

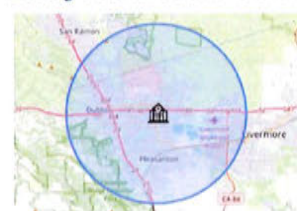


***Saint Joseph's Medical Center – Stockton***



Within a five-mile radius of Saint Joseph's Medical Center there is a population of  $\approx 340,000$ . There is no reporting on the number of acute or ICU beds.

***Stanford Health Care tri-Valley – Pleasanton***



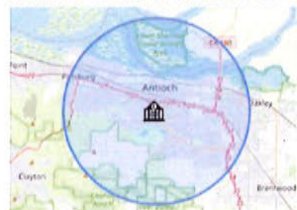
Within a five-mile radius of Stanford Health Care Tri-Valley there is a population of  $\approx 173,000$ . With a reported 167 acute beds this is  $\approx 1$  bed per 1,000 residents within five miles.

***San Ramon Regional Medical Center***



Within a five-mile radius of San Ramon Regional Medical Center there is a population of  $\approx 168,000$ . There is no reporting on the number of acute or ICU beds.

***Sutter Delta Medical Center***



Within a five-mile radius of Sutter Delta Medical Center – Antioch there is a population of  $\approx 165,000$ . With a reported 70 acute beds this is  $\approx 1$  bed per 2,300 residents within five miles.

***Walnut Creek Medical Center***



Within a five-mile radius of the Walnut Creek Medical Center there is a population of  $\approx 250,000$ . With a reported 423 acute beds this is  $\approx 1$  bed per 600 residents within five miles.

***Concord Medical Center***



Within a five-mile radius of the Concord Medical Center there is a population of  $\approx 225,000$ . With a reported 225 acute beds this is  $\approx 1$  bed per 900 residents within five miles.

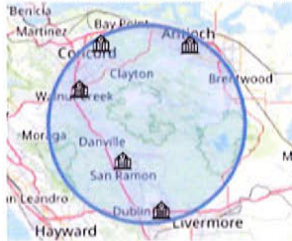
## Population Overlaps

### *Northeast Facility Overlaps*



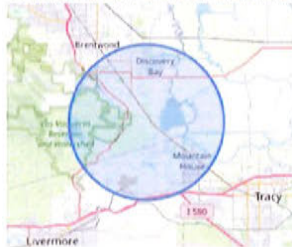
The five Northeast of Tracy with a population radius of ten miles covering Stockton, Lathrop, Manteca, and smaller eastern areas have a population of  $\approx 440,000$ .

### *West & Northwest Facility Overlap*



The facilities East and Northeast of Tracy are more spread out compared to the Northeast of Tracy, therefore a twelve-mile radius was used. The population estimate would be significantly higher if the radius covered the high population areas north and west of these facilities. The population within the twelve-mile circle is  $\approx 688,000$ .

### *Underserved Area: Mountain House Region*



The seven-mile area around Mountain House up to Discovery Bay has a population of  $\approx 30,000$  that has no medical facility with an emergency room. Those residents either drive to Sutter Tracy Community Hospital, Antioch, Pleasanton, or some other location.

## Healthcare Rating Systems

There are a few trusted rating systems, and they have some similarities in the data points, but not a lot of real information that allows the public to make healthcare decisions. People requiring healthcare services, particularly emergency services, will primarily be taken to the closest provider. Although all providers will accept anyone into their facility, they do not participate in all insurance networks, so a patient's cost exposure can range from full to no coverage. So, although the information is interesting, healthcare rating systems don't add significant value to this research.

In addition to formal rating systems there is social media that allows the public to express their pleasure or displeasure with services provided. With these there doesn't seem to be a lot of middle ground in opinions, people either love the care provided or hate their experience. In many comments it's clear the worst comments are from patients entering the system through emergency departments and positive comments come from schedule or planned procedures.

In this research we looked at four sites with differing rating systems, but three of the sites: Center for Medicare & Medicaid Services, Medicare, and Hospital Care Data are all interlinked and all using a five-star rating system. What's interesting is the ratings from these systems are not all the same when searching on a specific hospital.



## Four Top Rating Systems

### *Center for Medicare & Medicaid Services*



CMS is the federal agency that provides health coverage to more than 160 million through Medicare, Medicaid, the Children's Health Insurance Program, and the Health Insurance Marketplace. CMS works in partnership with the entire health care community to improve quality, equity and outcomes in the health care system. The Quality Rating System (QRS) is a quality reporting program that compares the performance of Qualified Health Plans (QHP) offered on Exchanges and accounts for both the quality of provided healthcare services and the health plan administration. CMS uses a Five-Star rating system to evaluate quality (5 is the highest). (CMS About Us, 2025)

#### **Five-Quality Levels**

1. Mortality
2. Safety
3. Readmission
4. Patient Experience
5. Timely & Effective Care

### *Cal Hospital Care*



Cal Hospital Compare features quality and performance information on California hospitals to help healthcare consumers make smarter and more informed choices when making medical decisions. Cal Hospital Compare is a performance reporting initiative managed by a multi-stakeholder Board of Directors, with representatives from hospitals, purchasers, health plans, and consumer groups. Cal Hospital Compare rates hospitals in California on clinical quality, patient experience, and patient safety. (Cal Hospital Compare, 2025)

#### **Cal Hospital Compare's Five-Rating Levels**

*Superior:* Hospital performed well above average.

*Above Average:* Hospital performed better than average.

*Average:* Hospital Performed within the average.

*Below Average:* Hospital performed worse than average.

*Poor:* Hospital performed well below average.

### *Medicare*



## **Medicare**

Medicare is health insurance for people 65 or older. More than 66 million people in the U.S. get their health coverage from Medicare. A federal government website managed and paid for by the U.S. Centers for Medicare and Medicaid Services. Users can compare information about the quality of care at over 4,000 Medicare-certified hospitals, including over 130 Veterans Administration (VA) medical centers and over 50 military hospitals, across the country. They have combined original provider compare sites, giving one place to start finding any type of care needed. (Medicare.gov, 2025). One rating system is CMS, so there is overall in these measurements.

#### **Quality Measurements**

- Heart Attacks
- Pneumonia
- Readmission
- Safety
- Care

### *Hospital Care Data*



Hospital Compare is a program developed by the Centers for Medicare and Medicaid Services (CMS). Hospital Compare enables representative organizations of consumers, doctors, hospitals, employers and such like, to collaborate. In addition, Hospital Compare offers you the opportunity to find over 4000 Medicare certified hospitals across the country, and to compare the quality of care that they each provide. Using data points from different aspects of a patient's experience, they use a 1-5 Star rating (Hospital Care Data, 2025)

This is the least helpful of the sites, and a user would expect many popup advertisements.

### *Social Media Ratings*

Users in search of information on the quality of healthcare need to consider the input into social media ratings. When reviewing these rating platforms for specific locations it is common to see negative comments and low reviews for those entering a hospital through an emergency department, and the higher ratings for those entering through planned procedures.

#### *Yelp*



Yelp states on their site "Our community is built on trust. Whether you're a consumer or a business owner, you put your trust in us to provide information people can rely on to make good decisions. We work hard to maintain that trust, and make Yelp truly helpful for everyone. Businesses earn great reviews on Yelp the same way they build their reputations in the community: by creating great products, services, and customer experiences. Yelp works hard to feature content that reflects real experiences that consumers are inspired to share". (Yelp, 2025)

#### *Google*



When finding a business using Google Maps, a user has an opportunity to leave a review. The review ratings are 1-5, like Yelp. There does not appear to be oversight to the postings, but a business is able to respond.

### *Hospital Ratings*

Below is a rating of hospitals by the various rating systems, with the last column being the average of all that are reported. This demonstrates that although CMS, Medicare, and Hospital Care Data are interlinked, they do not always provide the same outcome in a rating. All these ratings need to be taken with a degree of uncertainty and understanding that they do not tell the whole story. Therefore, the information is interesting but should not be used in a final decision on where to seek healthcare.



#### Hospitals

Sutter Tracy Community Hospital  
Kaiser Permanente Manteca Medical Center  
San Joaquin General Hospital  
Doctors Hospital of Manteca  
Dameron Hospital  
St. Josephs Medical Center  
Stanford Health Cre Tri-Valley  
Memorial Medical Center  
Sutter Delta Medical Center  
San Ramon Regional Medical Center  
Emanuel Medical Center  
Walnut Creek Medical Center  
Concord Medical Center  
Memorial Hospital Los Banos

Rating Systems										
CMS		CHC		Medicare	Hospital	Yelp		Google		Comb.
Overall	Patient	Rating	#	Stars	Care	Score	Reviews	Score	Reviews	Avg
4	3	Average	3	4	3	2.40	182	2.4	179	3.13
4	3	Average	3	4		2.40	73	4.0	200	3.48
2	2	Below Avg	2	2	1	1.90	162	2.6	393	1.92
2	3	Average	3	2	3	2.30	181	2.6	213	2.48
2	2	Below Avg	2	2	2	2.70	111	2.9	195	2.27
3	3	Average	3	3		2.10	290	4.0	2,280	3.02
4	3	Average	3	4		2.30	338	2.8	166	3.22
2	3	Average	3	2	4	2.50	237	2.9	524	2.73
3	2	Below Avg	2	3	2	2.30	241	2.5	211	2.47
3	3	Below Avg	2	3		3.00	327	2.8	164	2.76
1	2	Below Avg	2	2	2	1.80	197	2.3	310	1.85
3	3	Average	3	3	4	2.90	442	3.4	265	3.22
5	3	Average	3	3	3	2.80	197	2.8	163	3.27
	3	Below Avg	2	3	3	2.00	54	2.2	175	2.44

## Service Capabilities Supported by Healthcare Systems

Not every healthcare provider will have all the capabilities or be able to serve every patient's needs. Those needs are dictated by severity of illness or injury, complexity of need, and some needs will require a specialty not every facility has the capacity to handle. What is listed in this paper is just a list of what represents quality care and would be something to build on over time. We are not going into a detailed description of each capability; that would require subject matter expertise, which the author/researcher does not possess.

### Care Level Capabilities

The two primary ways in which a patient enters a hospital are through emergency services or a planned procedure that may or may not require in patient care.

- Trauma & Intensive Care
- Emergency & Urgent Care
- Acute Care
- Planned & Preventative Care

### Service Capabilities

Providing best in class services in all areas would be difficult at best for any health care provider, but most hospitals do provide that level of care in some of the areas, and patients needing a higher level of care in any specialty may require transfer to another provider. The challenge then becomes acceptance of insurance, all hospitals may take the patient, but not all patient insurance providers will be in the new providers accepted network, this can cause a financial burden that will never be covered by the patient.

- Behavioral & Mental Health
- Psychiatric Services
- Oncology Treatment
- Cardiovascular
- Gastroenterology
- Orthopedics
- Neurosciences
- Maternity & Pediatrics
- Chemical Dependency
- Primary Care Services
- Social & Geriatric Services

- Occupational Health & Safety Physical Rehabilitation
- Medical Imaging
- Lab Services

## Patient Connection Capabilities

Most healthcare providers can communicate with patients through technology, but not all patients have the understanding or comfort in using fast-changing technologies. A patient may also be required to balance care with multiple insurance providers; consider a person using Medicare, Medicaid, supplemental programs, and other forms of insurance, they now need to become experienced in navigating all these providers, so they don't go bankrupt when obtaining care.

- Insurance Acceptance
- Telehealth & In-Person Visits
- Nurse Advice & Health Education
- Health Platforms & Tech Support

## Emergency Departments

When a person enters a hospital through an emergency department, they're doing it for one of many reasons. Finding current sources is not possible on this topic, but Google does provide an AI generated response from multiple sources. Here is what Google AI has on the topic,

*"People use an Emergency Department (ED) for a variety of reasons, primarily when they believe they are experiencing a medical emergency or require urgent medical care that cannot wait for a regular doctor's appointment".*

- **Medical Emergencies:** Life threatening, severe injuries, and serious infections or illnesses.
- **Urgent Medical Conditions:** Conditions requiring immediate, but not life-threatening attention, and when primary care is unavailable.
- **Non-Urgent Conditions (Though Often Seen in the ED):** Convenience and accessibility, perceived severity, and a need for specific services, such as medication refills or routine examinations that may not be available elsewhere.

Continuing with the search we asked the question regarding the number of insured versus uninsured that use an emergency department. Again, the only information is provided by Google AI. Here is that result.

*"In 2023, about 8% of the population, or 26 million people, were uninsured. While some studies suggest that the uninsured are not major users of emergency departments (ERs), others indicate that uninsured individuals do visit the ER more frequently than insured individuals. However, insured individuals often account for a larger proportion of total ED visits".*

- **Frequency of ED Visits:** Some studies have found that the uninsured are more likely to visit the ER for non-urgent care than insured individuals.
- **Impact on Healthcare Systems:** The high cost of ER visits for the uninsured can lead to financial strain and can also contribute to increased costs for hospitals and healthcare systems.
- **Access to Care:** Uninsured individuals may face challenges in accessing primary care and may rely more heavily on ERs for routine and non-urgent care.
- **Affordable Care Act (ACA):** The ACA aimed to increase insurance coverage, which has led to a decrease in the percentage of ED visits by uninsured individuals, particularly among those aged 18 to 64.

Although the above is generated from an AI tool, what was returned makes logical sense.



## Emergency Department Wait Times

A search for ER wait-times at hospitals within a fifty-mile radius of Tracy through the website HospitalStats.org (ER Wait Times, 2025) returned a wide two-hour range of results. With a minimum of 2:05, a max of 4:11, the average comes in at 3:05. It is unclear in reviewing the website how frequently these times are updated, or when the last update was made.

Hospitals	City	Miles	Wait Times
			ER
Sutter Tracy Community Hospital	Tracy	1.4	2:52
San Joaquin General Hospital	French Camp	15.2	3:58
Doctors Hospital of Manteca	Manteca	15.2	3:10
Dameron Hospital	Stockton	20.9	2:31
St. Josephs Medical Center	Stockton	21.3	3:15
Stanford Health Cre Tri-Valley	Pleasanton	26.9	3:21
Memorial Medical Center	Modesto	32.3	4:11
Sutter Delta Medical Center	Antioch	32.4	3:03
San Ramon Regional Medical Center	San Ramon	35.1	2:05
Emanuel Medical Center	Turlock	42.5	3:24
Walnut Creek Medical Center	Walnut Creek	46.5	3:03
Concord Medical Center	Concord	51.7	2:45
Memorial Hospital Los Banos	Los Banos	62.6	2:37

## Hospital Staffing

### Nursing

According to NurseJournal, California and Massachusetts have laws about nurse-to-patient ratios in hospitals. The California RN Staffing Ratio Law defines the number of patients nurses may oversee in each hospital unit. For example, a nurse in the post anesthesia care unit may care for two patients at a time. California law also states that patients' severity of illness must be documented using an acuity tool. (Alexa Davidson, 2023)

The law required the state Department of Health Services (DHS) to establish specific ratios for specific hospital units. In 2002, DHS issued proposed regulations to implement the law, including these specific ratios. Final regulations were issued on July 1, 2003 incorporating extensive testimony presented during numerous public hearings as well as public comment (i.e., letters submitted). (John Kasprak, 2004)

### **Registered Nurse to Patient Ratio**

Type of Care	Ratio	Type of Care	Ratio
Intensive/Critical Care	1:2	Trauma Patients in the ER	1:1
Neo-natal Intensive Care	1:2	Step Down, Initial	1:4
Operating Room	1:1	Step Down, 2008	1:3
Post-anesthesia Recovery	1:2	Telemetry, Initial	1:5
Labor and Delivery	1:2	Telemetry, 2008	1:4
Antepartum	1:4	Medical/Surgical, Initial	1:6
Postpartum couplets	1:4	Medical/Surgical, 2008	1:5
Postpartum women only	1:6	Other Specialty Care, Initial	1:5
Pediatrics	1:4	Other Specialty Care, 2008	1:4
Emergency Room	1:4	Psychiatric	1:6
ICU Patients in the ER	1:2		

## Medical Coverage

### Federal & State Provided Coverage

#### *Medicare*

Medicare is a federal health insurance program in the United States for people age 65 or older and younger people with disabilities, including those with end stage renal disease and amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease). It started in 1965 under the Social Security Administration and is now administered by the Centers for Medicare and Medicaid Services (CMS).

Medicare is divided into four parts: A, B, C and D. Part A covers hospital, skilled nursing, and hospice services. Part B covers outpatient services. Part D covers self-administered prescription drugs. Part C is an alternative that allows patients to choose private plans with different benefit structures that provide the same services as Parts A and B, usually with additional benefits. (Medicare.gov, 2025)

#### *Medicare Supplement Insurance*

Medigap (also called Medicare supplement insurance or Medicare supplemental insurance) refers to various private health insurance plans sold to supplement Medicare in the United States. Medigap insurance provides coverage for many of the co-pays and some of the co-insurance related to Medicare-covered hospital, skilled nursing facility, home health care, ambulance, durable medical equipment, and doctor charges. Medigap's name is derived from the notion that it exists to cover the difference or "gap" between the expenses reimbursed to providers by Medicare Parts A and B for services and the total amount allowed to be charged for those services by the United States Centers for Medicare and Medicaid Services (CMS). (Wikipedia, 2025)

#### *Medicaid*

Medicaid is a government program in the United States that provides health insurance for adults and children with limited income and resources. The program is partially funded and primarily managed by state governments, which also have wide latitude in determining eligibility and benefits, but the federal government sets baseline standards for state Medicaid programs and provides a significant portion of their funding. States are not required to participate in the program, although all have since 1982. (Wikipedia, 2025)

### Non-Federal or State Provided Coverage

United Healthcare is one source of definitions for the different types of plans (United Healthcare, 2025).

#### *HMO - Health Maintenance Organization*

This is named for the overall goal of this kind of plan — which is to help maintain your health.

HMO plans typically require you to choose a primary provider, or primary care physician (PCP), in the HMO plan network. This provider will refer you to other network providers as needed. Premiums are often lower because of the defined network which can help control costs. These plans may also offer low or no deductible options. Providers or doctors either work for the HMO or contract for set rates. For most plans, you're required to use health care facilities or doctors that are in the HMO network. Out-of-network care is typically allowed in emergency cases only. (United Healthcare, 2025)

#### *PPO – Preferred Provider Organization*

The name refers to its network of contracted PPO providers. With this type of plan, there are preferred providers who can offer care at the lowest out-of-pocket cost (compared to out-of-network providers).

PPO plans tend to give you more flexibility to choose the providers you prefer to visit for care. If you choose an out-of-network provider, you'll likely pay more. Premiums tend to be higher and are commonly



paired with a deductible. Networks include providers and facilities that have negotiated lower rates on the services they perform. PPO health plans have access to those negotiated rates. When you choose a provider in the network, you may have lower out-of-pocket costs than if you choose out-of-network providers. Out-of-network care is usually included in the benefit plan, but it may be at a reduced level of coverage and benefits. (United Healthcare, 2025)

### ***EPO – Exclusive Provider Organization***

This refers to the rule of this type of plan that requires members to get care within the plan's network of select providers. If you get care outside the EPO network, you'll likely have to pay the full cost of that visit.

EPO plans generally let you see any network provider you choose. There's no requirement to choose a primary care physician or get referrals to see a specialist. These plans do not offer out-of-network benefits. Doctors and facilities that participate in an EPO are paid per service. They don't directly work for or contract with the EPO carrier for a set rate. Instead, they have negotiated lower rates on services they perform for plan members. May restrict your coverage to care in the plan network. Out-of-network coverage may only be available for emergencies. (United Healthcare, 2025)

### ***POS – Point of Service Plan***

With this type of plan, each time you need health care (the time or "point" of service), you can decide to choose network care and allow your primary care physician to manage your care, or you can decide to go outside of the network and seek care from a doctor of your choosing.

POS plans usually require you to get referrals to see specialists. Most plans will have some coverage for out-of-network care — often with a higher copay. These plans are like a combination of an HMO and PPO plan. Network providers have negotiated rates on medical services for members with a POS health plan. Coverage is generally for care in the plan network for services. Out-of-network services may be authorized in limited cases. Benefits and coverage for out-of-network care may be less than if you stay in the plan network. (United Healthcare, 2025)

### ***HDHP – High-Deductible Health Plan***

It's a type of health insurance plan that offers lower premiums in exchange for higher out-of-pocket costs. With HDHPs, you'll pay less each month, but more when you get care compared to other health plans. (United Healthcare, 2025)

## **The Conversations and the Ask**

### **The Leaders**

Stakeholders cover a wide area from the resident's seeking healthcare, to city, county, and state leaders, then the organizations providing healthcare services.

#### ***City Leaders***

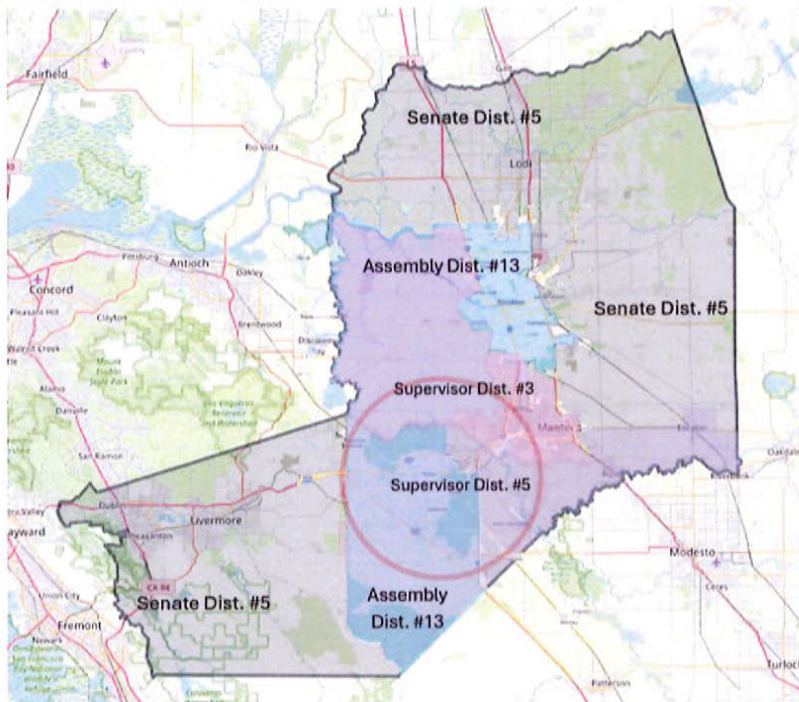
- Tracy Mayor & City Council
- Mountain House Mayor & City Council
- Lathrop Mayor & City Council

#### ***County & State Leaders***

- County Supervisor, District 5: Robert Rickman (Mountain House, Tracy, Escalon, Ripon)
- County Supervisor, District 3: Sonny Dhaliwal (Lathrop, Manteca, Stockton)
- CA State Assemblymember, District 13: Rhodesia Ransom (Tracy, Mountain House, Stockton)
- CA State Senator, District 5: Jerry McNerny (Pleasanton, Livermore, Mountain House, Tracy, Lathrop, Manteca, Escalon, Ripon, Stockton, Lodi)

### *State & County Leadership District Overlap*

Senate District #5 and Assembly District #13 have leadership responsibility for the area in discussion. County Supervisors for Districts #3 and #5 share responsibility within the area.



### *The Perceptions & The Questions*

Perceptions are those of the author and discussions with people closer to the healthcare system in Tracy. The questions represent what is needed for deeper research.

#### *Current Generalized Perceptions*

- Sutter Health is the provider discussed when the need for healthcare improvements is raised.
- Kaiser is looked at as a secondary provider in the area.
  - Kaiser is limited to the population they can serve because of their membership criteria.
- The current healthcare is known by the residents and city leaders, but no serious conversations are happening that drive improvements.
  - Sutter seeks patient input to quality, but the information is not available to the public.
- Residents that can go outside of Tracy do seek other providers for their healthcare.
  - This may be traveling north or west of Tracy.
  - Kaiser and the V.A. Hospital are also a considerable part of the area healthcare.
- The investment in a new medical center is not currently being discussed with any providers.
  - Sutter Health is adding small incremental operations, but nothing that improves the Emergency Department capabilities, or adding acute and ICU beds.
- Insurance networks increase the limitations of a patient's choice on where to seek healthcare.
  - A Medicare patient with Aetna PPO does not have access to Sutter Tracy, the nearest hospital with an ED is San Joaquin General, Doctors Hospital of Manteca, and Stanford Tri-Valley, from there it goes to all others.
- Not all providers can deliver a full solution; there are perceptions of limitations.



- Sutter Health may be the primary provider with the closest connection to the community and maintains a large network.
- John Muir would be a welcome provider if willing to expand southeast of Mt. Diablo; they have the size and capabilities to meet the needs.
- Stanford Healthcare has a well perceived reputation, and they may be considering expansion, but doubtfully they would go east. They would be a welcome partner if the distance to Palo Alto wasn't so great. Another limitation may be if a built-to-suit facility is needed.
- Dignity Health appears to be more of a management services organization, not building a new business model that delivers the growing need by investing in facilities.
- Kaiser's limitations would be in membership criteria, limiting access to many in the area.
- Adventist Health does not appear to have organizational strength to be a high potential option.
- Central Valley Doctors Health System may be the least feasible option, they maintain the management of three facilities, and all appear to be under local leadership.

### *Open Questions*

- How many residents in the focus area go to other areas for their healthcare needs?
  - How many people go west to Stanford, San Ramon, John Muir, and Kaiser?
  - How many go to Manteca to Doctors Hospital or Kaiser?
  - How many go north to San Joaquin General, St. Joseph's, or Dameron?
  - Where do others go?
- How many patients are transferred from Sutter Tracy Community Hospital to Sutter locations or other providers?
  - Transfers because of bed limitations?
  - Transfers because of type/severity of need?
  - Transfers for other reasons?
- Will emergency responders take a patient within the focus area to any other facility?
  - What happens if Sutter Tracy is not in a patient's insurance network?

### *The Conversations*

#### *City Councils*

City Mayors and City Council Members would have planned conversations or committee updates on healthcare in their area of responsibility. These conversations or updates may include a variety of topics, but are not limited to:

- Short- and long-term strategic plans of healthcare providers supporting the area.
- Public feedback on the current healthcare provided.
- What is the City's position on additional healthcare needs.
- What are the City's primary concerns with the current healthcare support.
- Coordination with other city councils, county supervisor, state assemblymember and state senator.
- Communications with healthcare provider leadership teams.

#### *County Supervisor*

The county supervisor can be the link between the different city councils, and the senior executives and decision makers for healthcare providers. The San Joaquin County Supervisors have oversight and decision-making authority for San Joaquin General Hospital. That operation is under a Management Service Agreement with Dignity Health that started in 2022 and has been extended to June 2025.

Conversations would be with city leaders, healthcare provider leadership, updates to constituents, and shared information with state leaders.

### ***State Assemblymember***

Assemblymembers have a close connection with constituents and their needs that feed into legislative efforts. The link between constituents and legislation may drive conversations with healthcare provider leadership, and city and county leaders. The Assemblymember would maintain updates with the city councils within the district, the county supervisor(s), and state senator(s) when appropriate. Updates to the public would be through normal communication plans and methods.

### ***State Senator***

With the size of a State Senator's district, they can bring leaders into a conversation that crosses counties, assembly districts, cities, and healthcare providers. One area of a senator's district may have healthcare options not considered in other communities, so opening new communication paths. The state senator would receive updates from leaders within their district, discuss legislation with state assemblymembers and other state senators, and continue conversations with healthcare executive teams.

### ***Healthcare Executives***

Open conversations are needed with executive teams of healthcare providers. Not all healthcare providers may be capable of delivering a solution that is needed for the future growth in the area discussed in the research, but there are a few. A recommendation may be starting with Sutter Health, John Muir, Dignity Health, and Stanford Healthcare.

Once communication channels are open, conversations can begin with city, county, and state leaders, discussing current and future needs, and how partnerships could be built.

### ***The Public***

An engaged public is key to improving the healthcare system in the area where they live. Getting the public engaged may be one of the most difficult challenges. Public comments tend to lean towards problems and a small percentage of a community's residents speak up, so community representation may fall short. A committee reporting into a city council may bridge some of the gaps, but there would need to be additional considerations. It's possible to push out surveys to a community, have sections of a city's website dedicated to healthcare, appoint a city healthcare spokesperson, and a variety of other communication methods that allow two directional conversations.

### ***The Ask***

The "Ask" is simple. Raise the conversation around healthcare in areas you control, be consistent in conversations, be progressive in depth, be willing to cross into other communities, engage with others to build a solution for all, and be transparent.

It's everyone's responsibility to improve healthcare in the areas we live. To move forward we need an engaged public, city leaders willing to take on the biggest challenges, county and state leaders with the ability to bring decision makers together, and healthcare providers willing to talk.

### ***Community Communications***

#### ***YouTube Video Communications***

These videos are progressive, each newer video builds on the research from the last. There will be corrections and added details to earlier portions of the research, so there may be revisiting past work videos.

The first video is Gerald announcing his intentions of researching healthcare during the "Public Comments" time at the Tracy City Council meeting April 01, 2025.



<https://youtu.be/ZAjQYUAt25Y>

The second video was on April 12, 2025, Gerald pushed out an update video through YouTube, Facebook, and LinkedIn. All his updated videos are sent to the Tracy Mayor and City Councilmembers.

<https://youtu.be/wNGBolWytiM>

The third update video on April 18, 2025, begins with understanding populations in the focused area and looks at the surrounding 50-mile radius.

<https://youtu.be/IejO2bvwFzk>

The fourth update video on May 05, 2025, defines who in City, County, and State leadership positions we will provide an understanding of the objectives, the reason for this research, and how their teams may assist. It also touches on what a high-quality healthcare system in our area would look like.

<https://youtu.be/upes9Mm2iIo>

The fifth update video talks about turning the research into a more professional paper.

<https://youtu.be/9opfXYf47-U>

## Author/Primary Researcher Bio



Gerald is the sole proprietor of Clarity Execution, a legal entity started after leaving a twenty-five-year corporate career in global supply chain and logistics. His responsibilities included project portfolio ownership of international logistics projects, domestic warehousing startups, and the implementation of strategic initiatives. He has taught project management and strategy management throughout the Americas, Greater Asia, and Europe.

Clarity Execution is giving him the freedom to take a multipronged approach to his career. There are three main categories to his focus. One is providing mentorship and education in project and strategy management with professional organizations, providers of higher education, and career development with school district partnerships. Another is supporting local and regional nonprofit organizations in strategy development and implementation that allows them to deliver services to the communities they serve. And last as a strategy, portfolio, program or project manager for short to mid-term contracts.

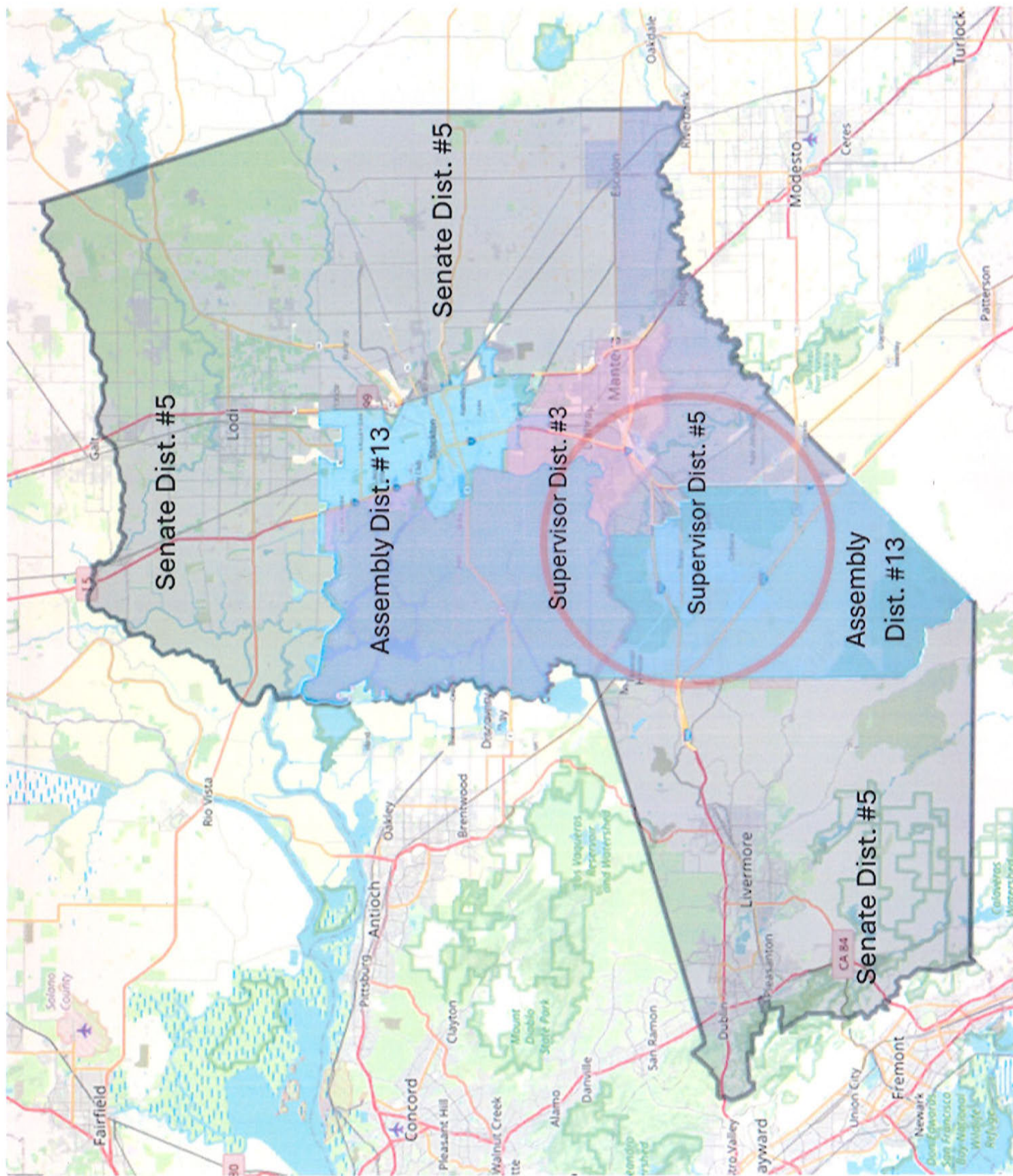
He has an Executive MBA from St. Mary's College of California, a Master's Certification in Project Management from George Washington University, Advanced Project Management Certification from Stanford, is a Project Management Professional (PMP®), and is a certified Disciplined Agile Scrum Master (DASM).

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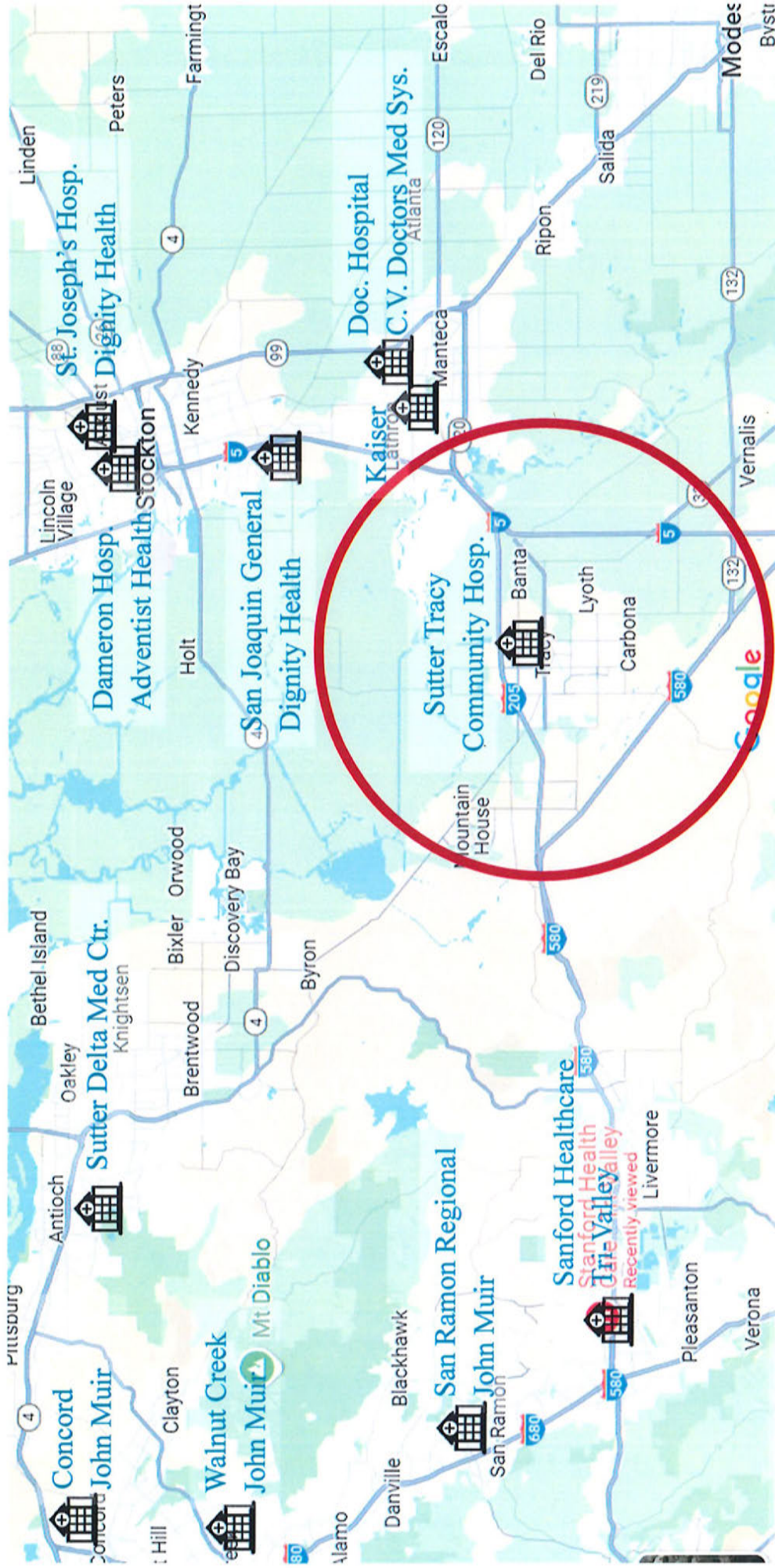


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# Hospitals with Emergency Departments



## Focus Area

- Acute Beds 77
- Population ≈142k
- 15-Year Growth 15%-20%



**Re: Spohn Ranch's PTBA Membership Application**

**Date: June 19, 2025**

Spohn Ranch submitted their application for PTBA membership in January 2025. Upon review, their application was found to meet or exceed all New Member Criteria. The company demonstrated strong qualifications, professionalism, and experience through a comprehensive online portfolio, which included documented project experience, letters of reference, the qualifier's CV/resume, and a letter of sponsorship from a current PTBA Member Company.

In addition to assessing the quality and professionalism of the applicant, PTBA membership eligibility requires the following:

- **Private Sector Requirement:** As a trade association representing the trail industry, PTBA membership is limited to private sector companies.
- **Sponsorship:** All applicants must be sponsored by a current PTBA Member Company, which helps ensure the quality and professionalism of new members.
- **Company Tenure:** The applicant company must have been active for at least three years prior to applying.
- **Trail-Focused Work:** A majority of the applicant's work must be trail-related—defined as planning, design, construction, maintenance, or related industry business activities—measured by either gross revenue or labor hours.

The last criterion—trail-focused work—is the reason Spohn Ranch's application required additional consideration. While PTBA has previously accepted members whose primary focus includes bike parks and pump tracks, Spohn Ranch is the first applicant with a substantial portfolio in skate parks. PTBA is currently reviewing its membership policies to determine whether all-wheel parks and skate parks fall within the scope of "trail work" as defined by the organization.

Lastly, we'd like to clarify that PTBA is an application-based trade association and not a licensing body. While we do not issue legal certifications or licensure, our membership process is rigorous and serves as a third-party verification of a company's qualifications and standards.

Please reach out with any questions.

Sincerely,



Aaryn Kay  
Executive Director



July 1, 2025

VIA ELECTRONIC MAIL AND HAND DELIVERY

Mayor and City Council  
City of Tracy  
333 Civic Center Plaza  
Tracy, CA 95376

***Re: Tracy Hills Commerce Center – City Council Hearing – Agenda Item 3.A  
Response to California Air Resource Board Letter Dated June 30, 2025***

Honorable Mayor Ariola and Members of Council:

This office represents Ridgeline Property Group (“Ridgeline”) with respect to the proposed Tracy Hills Commerce Center project (“Project”). We write in response to the June 30, 2025 letter from the California Air Resources Board. (“CARB”).

**INTRODUCTION**

At the outset, we note that the proposed Project has been pending before the City of Tracy (“City”) for five (5) years – include nearly a year of pre-application coordination with City staff, followed by more than four (4) years of review by relevant City Departments, regional regulatory agencies, and interested stakeholders.

At every juncture, Ridgeline has endeavored to bring forward a project that meets the highest regulatory and planning standards resulting in literally dozens of Project modifications, amendments, and revisions. The Project has also worked vigorously to demonstrate its compliance with all applicable environmental requirements and, as respects air quality standards in particular, has conducted supplemental environmental analysis beyond those that would otherwise be required by the California Environmental Quality Act (“CEQA”).

With this in mind, the balance of this letter specifically addresses the four (4) requests outlined in CARB’s letter and identifies how the Project is meeting and exceeding its environmental obligations.

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## DISCUSSION

### (1) Incorporation of the January 2024 Tracy Hills Commerce Center Health Risk Assessment

Ridgeline commissioned the preparation of a project-specific health risk assessment (“HRA”) to specifically evaluate the potential human health risk associated with construction and long-term operation of the proposed Project.

The HRA was prepared by air quality specialists, Ramboll consulting, in January 2024 and, applying established San Joaquin Valley Air Pollution Control District (“SJVAPCD”) thresholds, concluded that the Project’s potential health risks were below current SJVAPCD thresholds and the Project’s health risks were less than significant under CEQA.

CARB asks that the HRA be incorporated into the City’s CEQA Project Review. Simply put, the HRA is part of the City’s CEQA review. It was submitted to the City for consideration and is presently part of the record before the City Council for review.

### (2) Revise the Project HRA to Include Impacts of the Vesting Tentative Map

Ridgeline requests approval of three (3) discrete land use entitlements. First, they seek approval of a Tracy Hills Specific Plan Amendment to establish light industrial specific design standards and site development requirements. Second, they request approval of the Development Review Permit seven (7) buildings. And, finally, Vesting Tentative Map to create sixteen (16) new future parcels.

Only the Development Review Permit, which is limited to the northern approximately 97-acres of the property, contemplates vertical construction and operation. The balance of the entitlements provide preliminary land use approvals and subsequent development of the southern portion of the property would be subject to additional future entitlements and environmental review under CEQA.

Notwithstanding, CARB requests that the HRA be amended to include potential air quality impacts associated with the Vesting Tentative Map or, more precisely, development of the southern portion of the property with industrial uses. This request is beyond the requirements CEQA.

Ridgeline has not requested the development of industrial uses on the southern portion of the property and has not proposed any changes to the underlying land use designations for the southern portion of the property. As such, given certification of the 2016 Tracy Hills Specific Plan Supplemental Environmental Impact Report, CEQA would only require subsequent or supplemental environmental review of the Vesting Tentative Map if the requirements in CEQA Guidelines sections 15162 and 15168(C)(2) were trigger. They are not.

The Vesting Tentative Map does not propose any changes whatsoever to the land uses in the Tracy Hills Specific Plan and, as such, would not involve new or substantially more severe significant impacts.

Development in and around the Vested Tentative Map has proceeded consistent with the planned build out of the Tracy Hills Specific Plan and, as a result, there are no new circumstances involving new or substantially more severe significant impacts then previously contemplated by the 2016 THSP SEIR. There is no substantially important new information requiring analysis or verification. And, finally, there are no new mitigation measures being implemented or being required to be implemented to address environmental impacts.

Additionally, we note that future development of the southern portion of the property will be required to process and obtain additional land use approvals and will be subject to further development specific analysis, including health risk analysis, at that time.

Therefore, modification of the HRA is not legally mandated or warranted prior to the City's consideration of the proposed Vesting Tentative Map.

(3) The HRA Should be Revised to Analyze Impacts to the Corral Hollow Elementary School

Contrary to CARB's assertion in its letter, the Project's potential health risks to the Corral Hollow Elementary School ("School") site were analyzed in the HRA and were found to be less than significant under applicable CEQA standards.

As noted in the attached letter report dated June 30, 2025 (attached), Ramboll's analysis included the use of a tiered receptor grid, which included potential health risk impacts from the proposed Project on the School. Moreover, Ramboll's HRA analysis was conservative in that it considered long-term residential exposure assumptions that exceed the exposure assumptions associated with school uses.

Additional, as addressed more fully in Section (2) above, construction and operation of industrial uses are not proposed or would not be allowed absence further entitlements and CEQA review on the property adjacent to the School. Again, contrary to CARB's assertions in its letter, the proposed Project's Development Review Permit only contemplates construction and operation of light industrial uses on the northern portion of the property, which is more than 2,250 feet from the School.

(4) Consideration of Further Mitigation Measures

Finally, we note that CARB has suggested that the City consideration a list of eleven (11) additional measures.

Although we address suggested measures below, we must first reiterate the Project has been designed to comply with all applicable federal, state, and local air quality regulations and statutes. Moreover, Ridgeline requires that its future tenants do the same. With this baseline understanding, we respond to each measure in the order it is listed CARB's letter:



1. Ridgeline's standard tenant leases include language that tenants must comply with all California and Federal regulations as enforced by each of these governmental agencies.
2. For tenants that utilize TRUs in its business operations, Ridgeline will provide auxiliary power connections at any loading dock doors that will receive TRUs.
3. Ridgeline standard tenant leases include language that tenants must comply with applicable California and Federal regulations, including regulations related to TRU plugin capabilities.
4. Ridgeline standard tenant leases include language that tenants must comply with applicable California and Federal regulations, including regulations related to zero-emission light and medium-duty delivery trucks and vans.
5. Ridgeline standard tenant leases include language that tenants must comply with applicable California and Federal regulations, including regulations related to zero-emission service equipment.
6. Ridgeline standard tenant leases include language that tenants must comply with applicable California and Federal regulations, including regulations related to zero-emission heavy duty truck.
7. Ridgeline standard tenant leases include language that tenants must comply with applicable California and Federal regulations, including all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program (PSIP), and the Statewide Truck and Bus Regulation, including ongoing compliance monitoring and reporting.
8. Ridgeline standard tenant leases include language that tenants must comply with applicable California and Federal regulations, including regulations related to truck idling.
9. All buildings within the Project are solar ready to accommodate tenants who desire solar power to operate their businesses.
10. Ridgeline has designed the Project to orient loading docks internal to the Project site and has incorporated substantial landscaping around each building individually and around the site as a whole to provide vegetative screening for people living and working in the vicinity of the Project.
11. Ridgeline has designed the buildings within the Project with backup diesel generators, so that a building fire may be suppressed in instances where there is both a fire and the power grid is down.

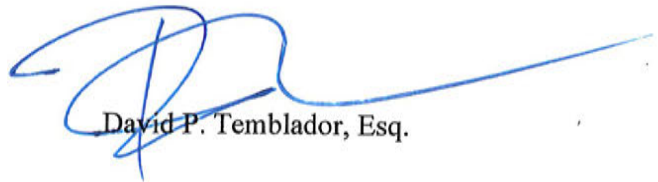
## CONCLUSION

We trust that this letter will assist the Council in its considerations and look forward to addressing any questions that the Council may have.

Very truly yours,

HARRISON, TEMBLADOR,  
HUNGERFORD & GUERNSEY

By



David P. Temblador, Esq.

Enclosure

cc: City Clerk, City of Tracy  
Forrest Ebbs, City of Tracy  
Scott Claar, City of Tracy  
Eric Lu, Ramboll  
Steve Arthur, Ridgeline Property Group



Mr. Steve Arthur  
Partner  
Ridgeline Property Group  
915 Highland Point Dr., Suite 250  
Roseville, CA 95678

**CARB ENVIRONMENTAL REVIEW FOR PROPOSED  
TRACY HILLS COMMERCE CENTER PROJECT  
TRACY, CALIFORNIA**

Dear Mr. Arthur:

Date: July 1, 2025

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained to conduct a health risk assessment (HRA) for the Tracy Hills Commerce Center Project in Tracy, California (the "Project") proposed by Ridgeline Property Group (the "Project Sponsor"). In response to the comment letter, *RE: Environmental Review for Proposed Tracy Hills Commerce Center Project* prepared by the California Air Resources Board (CARB) on June 30<sup>th</sup>, 2025, Ramboll has prepared a figure which illustrates the location of the newly-built Corral Hollow Elementary School in relation to the Project and existing modeled receptors.

Ramboll  
5 Park Plaza  
Suite 500  
Irvine, CA 92614  
USA

T +1 949 261 5151

[www.ramboll.com](http://www.ramboll.com)

The comment letter claimed that the HRA fails to analyze air quality impacts to children at the newly-built school, which is located south of the Project, and recommends that the HRA be updated to evaluate exposure and potential adverse health impacts at this location. As discussed in Section 3.1.1.5 of the Project HRA, the HRA was modeled using a tiered receptor grid to capture all potential impacts of the Project. As shown in **Figure 1**, the existing receptor grid evaluates impacts at receptors surrounding and closer than the school. Since the analysis conservatively evaluated receptors using residential exposure assumptions, the analysis as previously prepared captures and represents the potential health risk impact at the Corral Hollow Elementary School. The health risk at the school will not be higher than the maximum reported residential risk, which was found to be below the applicable health risk thresholds. Thus, the existing analysis is expected to capture all potential health risk impacts at Corral Hollow Elementary School.

Please feel free to contact the undersigned if you have any further questions. Thank you for the opportunity to assist you with these matters.

Sincerely,

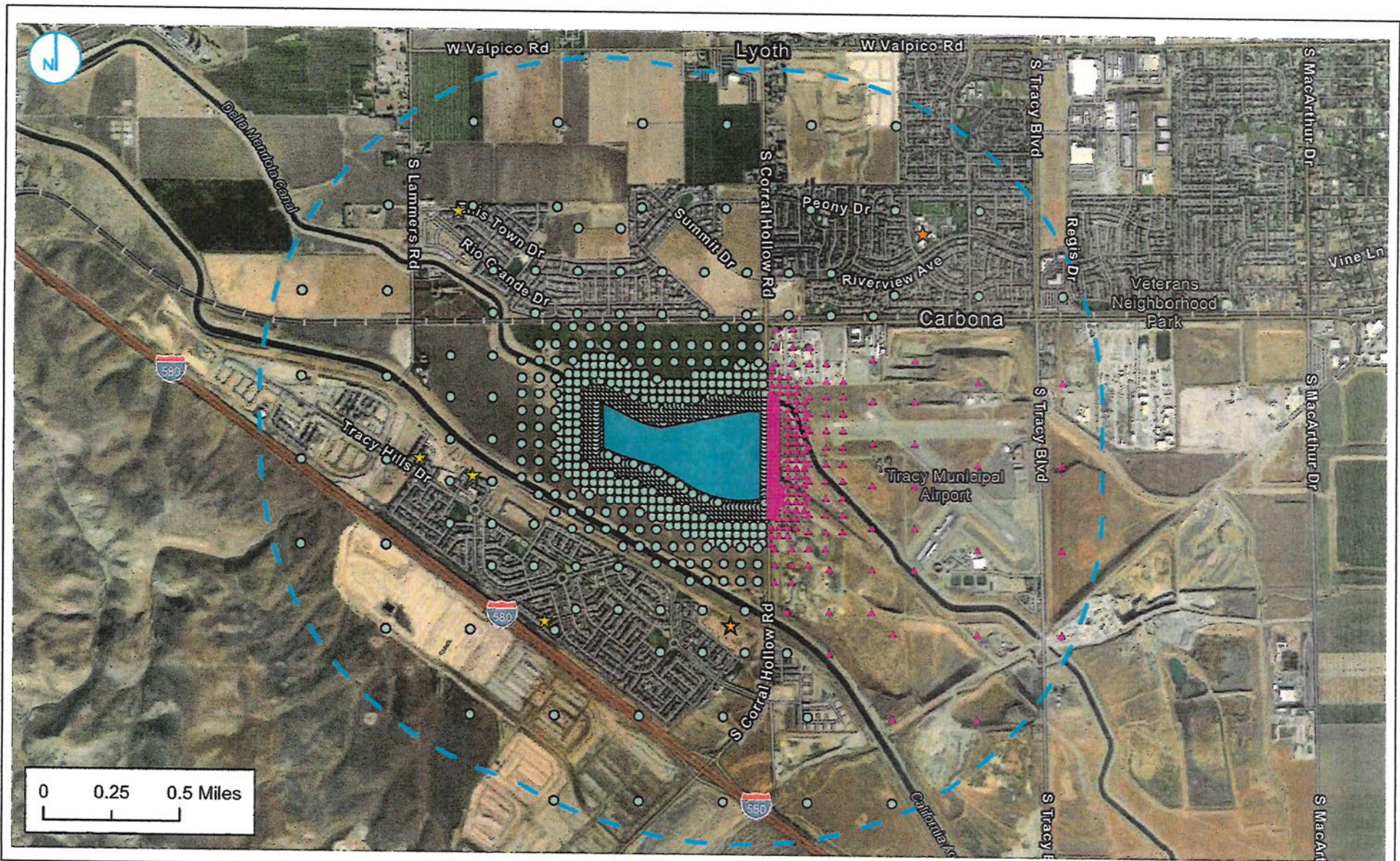
  
Eric C. Lu, PE  
Regional Director

D 949 798 3650  
[elu@ramboll.com](mailto:elu@ramboll.com)

ET:cet

FIGURE





- ★ Daycare
- Receptor Grid
- ★ School
- ▲ Worker
- Facility Boundary
- └─ 2000m Buffer

### MODELED GRID AND SENSITIVE RECEPTORS WITH CORRAL HOLLOW ELEMENTARY SCHOOL

Tracy Hills Commerce Center  
29592 S. Corral Hollow Road

FIGURE 01

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.  
A RAMBOLL COMPANY

**RAMBOLL**



This speech is written by Abhishta Devaraj, a 7th grader from Corral Hollow Elementary School.

1. I have quite a few friends who are very close to me who have asthma. I would never want them to be frequently exposed to harmful pollutants that gradually strangle and suffocate them. Yes, I am quite sure that our fellow representatives are aware of the contamination and pollution that the toxins released from this possible distribution center can do to the air. In fact, after some research from my side, I came to understand that tiny particles called particulate matter can situate deep into the lungs and bloodstream. I came to understand that ~~all~~ primary pollutant common in urban areas with excessive traffic, Nitrogen Dioxide, can cause significant harm to people. PAH, another type of pollutant is produced by burning fossil fuels, can cause lung cancer. Yet, even after these harms being conspicuous, why is it that we seem to turn a blind eye towards it?

2. I have personally a drive from Tracy Hills to Ellis when the fire was out and going. There were so many desperate people to get out of Tracy Hills. The ride took 1 and a half hour. I am sure all of us Tracy Hills Residents can imagine the agitations if we had trucks in addition to the traffic already.

(we had)



I don't intend to deny anybody's job, however I neither believe we should put numerous people's health at stake.

I also think that Tracy is a huge place, and am sure that we accommodate businesses that ~~cause~~ Tracy Hills Residents can benefit from.

I think that this distribution center can be accommodated elsewhere.

→ decide this matter

I

While I am aware that I probably don't qualify to ~~comment on this~~, however ~~as~~ resident of a Tracy Hills resident, I think I deserve to convey my perspective, especially when the potential harm is this visible.



**From:** Moore, Brian@ARB <Brian.Moore@arb.ca.gov>

**Sent:** Monday, June 30, 2025 3:21 PM

**To:** Tracy City Council <tracycitycouncil@cityoftracy.org>; Public Comment <publiccomment@cityoftracy.org>

**Cc:** OPR State Clearinghouse <state.clearinghouse@opr.ca.gov>; Scott Claar <Scott.Claar@cityoftracy.org>; Patia Siong <patia.siong@valleyair.org>; Capilla, Morgan <capilla.morgan@epa.gov>

**Subject:** CARB Comments on July 1st City Council Meeting Agenda item No. 3.A: Tracy Hills Commerce Center Project

Good afternoon,

The California Air Resources Board appreciates the opportunity to comment on Item No. 3.A of the July 1, 2025, Tracy City Council Regular Meeting Agenda. Please see the attached letter to review CARB's recommendations regarding the environmental review of the proposed Tracy Hills Commerce Center Project. Feel free to reach out with any clarifying questions or concerns.

Hope all is well,

Brian



**Brian Moore, PhD**

Air Resources Supervisor I  
Community Planning Section  
Community Planning Branch  
Office of Community Air  
Protection

EMAIL: [brian.moore@arb.ca.gov](mailto:brian.moore@arb.ca.gov)

June 30, 2025

Members of the Tracy City Council  
Office of the City Clerk  
333 Civic Center Plaza  
Tracy, California 95376  
[tracycitycouncil@cityoftracy.org](mailto:tracycitycouncil@cityoftracy.org)  
[PublicComment@CityOfTracy.org](mailto:PublicComment@CityOfTracy.org)

*Sent via email*

RE: Environmental Review for Proposed Tracy Hills Commerce Center Project

Dear Members of the Tracy City Council:

The California Air Resources Board (CARB) submits this letter regarding the proposed Tracy Hills Commerce Center Project (Item No. 3.A on the July 1, 2025, Tracy City Council agenda, originally presented as Item No. 1.B in the Planning Commission Staff Report dated April 9, 2025<sup>1</sup>). This item proposes (1) adoption of an ordinance approving an amendment to the Tracy Hills Specific Plan (THSP) to increase the maximum building height in the Light Industrial Zone and the addition of Appendix E - Design Guidelines for the Tracy Hills Commerce Center (Project), (2) adoption of a resolution to approve a Development Review Permit for the Project, which includes construction of seven industrial warehouse buildings ranging in size from approximately 117,907 square feet to approximately 355,116 square feet, totaling approximately 1.73 million square feet and associated parking on 97.45 acres, and (3) adoption of a Vesting Tentative Subdivision Map to create 16 parcels for development on an additional 83 acres.

CARB urges the City Council to (1) incorporate the January 2024 Tracy Hills Commerce Center Health Risk Assessment Final (Project HRA)<sup>2</sup>, prepared by Ramboll Americas Engineering Solutions, Inc for Ridgeline Property Group, into the City's CEQA project review process (2), revise the Project HRA to include potential air quality impacts posed by the 16 parcels that will be created by the Vesting Tentative Subdivision Map, (3) update the Project HRA to analyze impacts from the newly-built Corral Hollow Elementary School as a sensitive receptor site, and (4) consider further mitigation measures to reduce potentially significant adverse health risk impacts.

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<sup>1</sup> City of Tracy Planning Commission Staff Report. April 9, 2025. Page 29. Accessible at <https://www.cityoftracy.org/home/showpublisheddocument/20185/638792678106700000>

<sup>2</sup> Tracy Hills Commerce Center Health Risk Assessment Final. January 2024. Prepared by Ramboll for Ridgeline Property Group, Roseville, Ca. Available as Attachment to this letter.



## **The Most Recent Project HRA Should be Considered when Evaluating Project Air Quality Impacts.**

CARB appreciates the production of the Project HRA to evaluate project-specific health impacts on the surrounding community, but neither the July 1, 2025 City of Tracy City Council Staff Report, the April 9, 2025 City of Tracy Planning Commission Staff Report nor the February 2025 Consistency Analysis and Environmental Checklist (Attachment E to the City's April 9, 2025 Staff Report) reference the Project HRA. The Project's environmental review relies on the results of the 1998 THSP Environmental Impact Report (1998 EIR) (State Clearinghouse No. 95122045) and the 2016 THSP Subsequent Environmental Impact Report (2016 SEIR) (State Clearinghouse No. 2013102053). Neither the 1998 EIR nor the 2016 SEIR evaluated the possible air quality impacts of the currently proposed Project on the surrounding communities. The 2016 SEIR proposed residences within the THSP would be exposed to diesel particulate matter (diesel PM) from vehicular traffic on I-580, resulting in a potentially significant health risk, but failed to assess potential health risks to existing or future residences immediately adjacent to the THSP boundary and the proposed Project. CARB recommends including the 2024 Project HRA as part of the City's CEQA review process.

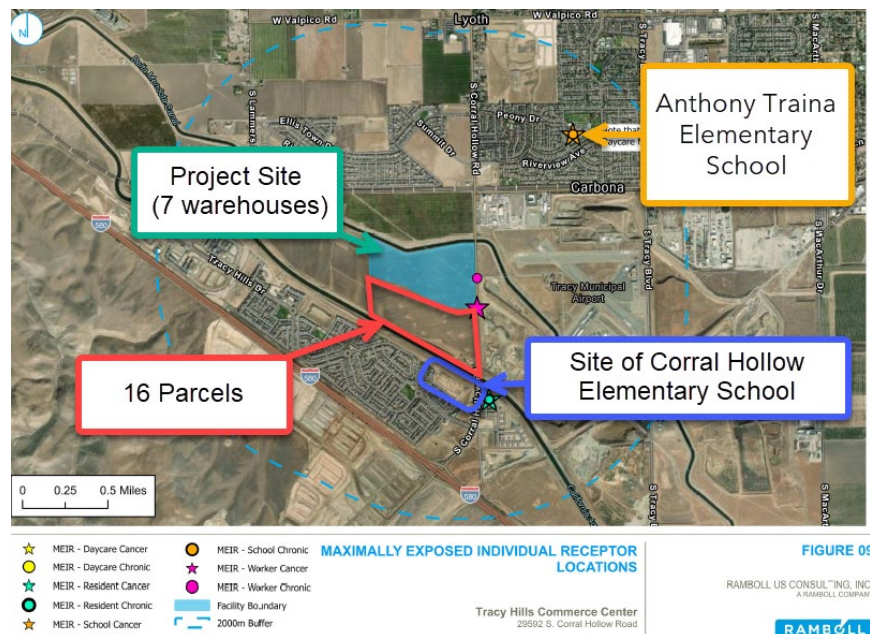
## **The Project HRA Should be Expanded to Analyze Potential Air Quality Impacts of the 16 Parcels Defined by the Vesting Tentative Subdivision Map.**

Although the Project HRA examines possible air quality health impacts of the proposed seven industrial warehouse buildings as part of a Development Review Permit by the City Council, the Project HRA does not analyze the possible air quality impacts of adopting the Vesting Tentative Subdivision Map to create 16 parcels for development on an additional 83 acres (16 parcels), which is also part of this agenda item. To evaluate potential air quality health impacts of the whole Project, i.e. the proposed creation of the 16 parcels for development in addition to the proposed seven warehouses, CARB recommends expanding the Project HRA to include an analysis of the proposal to create the additional 16 parcels for industrial development.

## **The Project HRA Should Be Updated to Consider the Newly-built Corral Hollow Elementary School as a Sensitive Receptor Site.**

The Project HRA examines potential air quality health impacts to the communities surrounding the Project site, and identifies existing sensitive receptor sites, including Anthony Traina Elementary School, located approximately 5000 feet northwest of the Project (Figure 1), but fails to analyze air quality impacts to children at the newly-built Corral Hollow Elementary School, which is located approximately just 700 feet south of the

Project's 16 development parcels (Figure 2). Considering the proximity, duration of exposure, and susceptibility of school children to air pollution, CARB strongly recommends that the Project HRA be updated to evaluate exposure and potential adverse health impacts at Corral Hollow Elementary School.



**Figure 1.** Map of Maximally Exposed Individual Receptor Locations from Project HRA, which does not consider exposure at Corral Hollow Elementary School (Figure 09 of Project HRA).



**Figure 2.** Current Google Map Image (captured June 29, 2025) showing location of Corral Hollow Elementary School to the Project Site.



## **The City Should Consider Further Mitigation Measures to Reduce Potential Adverse Health Risk Impacts.**

The 1998 EIR and the Subsequent EIR for the THSP included mitigation measures intended to reduce health risk impacts during both construction and operation. The air quality mitigation measures outlined in the 1998 EIR included a range of strategies to improve energy efficiency, reduce emissions, and support sustainable development. These mitigation measures encouraged or required enhancements to building energy performance, such as installing insulation, lighting, and HVAC systems that exceed Title 24 standards, and orienting residential structures to reduce energy consumption. The mitigation measures also included requirements to minimize vehicle emissions by mandating circulation improvements that support multi-modal transportation and compliance with the San Joaquin County Congestion Management Program. Lastly, the mitigation measures required compliance with San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation VIII to reduce fugitive dust emissions from construction and operational activities.

The Subsequent EIR included several mitigation measures aimed at reducing the THSP's construction and operational health risk impacts. These mitigation measures included complying with the SJVAPCD's Regulation VIII and Rule 9510, use of Tier 3 or cleaner off-road construction equipment, requiring new sensitive land uses located within 500 feet of I-580 to include MERV 13 or higher air filtration systems, and restricting onsite sensitive uses from being closer than 1,000 feet from any existing or proposed distribution center/warehouse facilities that generates a minimum of 100 truck trips per day, or 40 truck trips with transport refrigeration units (TRUs) per day, or TRU operations exceeding 300 hours per week.

Based on CARB's review of Appendix E (Consistency Analysis and Environmental Checklist) of the City's April 9, 2025 Staff Report, it remains unclear whether the proposed Project would include cold storage that would involve the operation of trucks and trailers equipped with TRUs. The Staff Report generally describes the Project as consisting of "warehousing, storage, and light manufacturing uses" but does not provide sufficient detail to confirm whether cold storage facilities or TRU-equipped operations are proposed or anticipated. If the proposed Project would be used for cold storage, the proposed industrial facilities within the proposed Project site would have to be outside of 1,000-feet to be in compliance with Mitigation Measure 4.3-4b, which states new sensitive land uses must not be located closer than 1,000-feet from a cold storage facility. Based on Figure 1 above and Figure 14 of the Appendix E (Consistency Analysis and Environmental Checklist) of the City's April 9, 2025 Staff Report, the Proposed industrial facilities would be located well within the 1,000-foot distance as specified in Mitigation Measure 4.3-b.

Furthermore, the 1,000-foot buffer distance used to evaluate health risk impacts from cold storage facilities in Mitigation Measure 4.3-4b was based on guidance from CARB's Air

Quality and Land Use Handbook. Since the release of the Air Quality and Land Use Handbook in 2005, CARB has determined that health risk impacts from cold storage facilities can be much further than 1,000 feet as specified in Mitigation Measure 4.3-4b.<sup>3</sup>

To adequately reduce the health risk impacts of diesel PM and other Toxic Air Contaminants (TACs) from the proposed Project, the City's environmental review should also consider the following mitigation measures:

1. Include contractual language in THSP tenant lease agreements that requires tenants to use the cleanest technologies available, and to provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on site.
2. Include contractual language in THSP tenant lease agreements requiring all loading/unloading docks and trailer spaces be equipped with electrical hookups for trucks with TRUs or auxiliary power units. This requirement will substantially decrease the amount of time that a TRU powered by a diesel engine can operate at the project site. Use of zero-emission all-electric plug-in TRUs, hydrogen fuel cell transport refrigeration, and cryogenic transport refrigeration are encouraged and can also be included in lease agreements.<sup>4</sup>
3. Include contractual language in THSP tenant lease agreements that requires all TRUs entering the Project -site be plug-in capable.
4. Include contractual language in THSP tenant lease agreements requiring future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.
5. Include contractual language in THSP tenant lease agreements requiring all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the Project site to be zero-emission. This equipment is widely available. Incentive funding for such equipment may be available from CARB's Clean Off-Road Equipment Voucher Incentive Project (CORE).<sup>5</sup>
6. Include contractual language in THSP tenant lease agreements requiring all heavy duty trucks- entering or on the project site to be fully zero-emission. Incentive funds can be obtained from CARB's Carl Moyer Program and Voucher Incentive Program.<sup>6</sup>

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<sup>3</sup> CARB. Health Analysis: Transportation Refrigeration Units. July 27, 2021. Accessible at <https://ww3.arb.ca.gov/board/rulemaking/tru2021/appi.pdf>

<sup>4</sup> CARB's technology assessment for transport refrigerators provides information on the current and projected development of TRUs, including current and anticipated costs. The assessment is available at: [https://www.arb.ca.gov/msprog/tech/techreport/tru\\_07292015.pdf](https://www.arb.ca.gov/msprog/tech/techreport/tru_07292015.pdf)

<sup>5</sup> Clean Off-Road Equipment Voucher Incentive Project. Accessible at: <https://californiacore.org/how-to-participate/>

<sup>6</sup> Carl Moyer Program and Voucher Incentive Program. <https://ww2.arb.ca.gov/carl-moyer-program-apply>



7. Include contractual language in THSP tenant lease agreements requiring the tenant to comply with all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation,<sup>7</sup> Periodic Smoke Inspection Program (PSIP),<sup>8</sup> and the Statewide Truck and Bus Regulation, including ongoing compliance monitoring and reporting<sup>9</sup>.
8. Include contractual language in THSP tenant lease agreements restricting trucks and support equipment from idling longer than two minutes while on site.
9. Include solar panels for each proposed warehouse as feasible, with capacity that matches the maximum for distributed solar connections to the grid.
10. Include contractual language in THSP tenant lease agreements, requiring the installing of vegetative walls<sup>10</sup> or other effective barriers that separate loading docks and people living or working nearby.
11. Include contractual language in THSP tenant lease agreements, requiring all emergency generators to be powered by a non-diesel fuel.

The above proposed mitigation measures are not only technically and economically feasible, but also consistent with the increasing availability of zero-emission technologies in the heavy-duty transportation and industrial sectors. Implementing these requirements will significantly reduce health risks and air quality impacts from the proposed Project.

In the absence of these enhanced mitigation measures, CARB expects that the Project is likely to result in significant adverse localized emissions of diesel PM and other TACs, posing potentially significant adverse air quality health risk impacts to nearby sensitive receptors including nearby residents. Accordingly, adoption of these measures is essential to reduce air quality impacts to less-than-significant levels and to meet CEQA's requirement for feasible mitigation of environmental impacts.

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<sup>7</sup> In December 2008, CARB adopted a regulation to reduce greenhouse gas emissions by improving the fuel efficiency of heavy-duty tractors that pull 53-foot or longer box-type trailers. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation is available at: <https://ww2.arb.ca.gov/our-work/programs/ttghg>

<sup>8</sup> The PSIP program requires that diesel and bus fleet owners conduct annual smoke opacity inspections of their vehicles and repair those with excessive smoke emissions to ensure compliance. CARB's PSIP program is available at: <https://www.arb.ca.gov/enf/hdvp/hdvp.htm>

<sup>9</sup> The regulation requires that newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model-year engines or equivalent. CARB's Statewide Truck and Bus Regulation is available at: <https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>

<sup>10</sup> Effectiveness of Sound Wall-Vegetation Combination Barriers as Near-Roadway Pollutant Mitigation Strategies (2017) is available at: <https://ww2.arb.ca.gov/sites/default/files/classic/research/apr/past/13-306.pdf>

## Conclusion

Given the significant omissions in the environmental analysis discussed above, the potential for elevated diesel PM exposure, and the failure to include the most recent Project HRA as part of the public review process, CARB strongly urges the City Council to undertake additional environmental review of potentially significant impacts and mitigations, as discussed above, prior to considering the proposed Tracy Hills Commerce Center Project. The proposed Project introduces a substantial new source of toxic air contaminant emissions that were not previously evaluated in the 1998 EIR or Subsequent EIR, triggering the need for a subsequent or supplemental EIR under CEQA Guidelines Section 15162(a)(3)(A) and 15162(a)(2). Moreover, the proximity of homes and a school within 1,000 feet of the Project underscores the urgency of a revised HRA and the implementation of robust mitigation measures. These include mandatory use of zero-emission trucks, equipment, and TRUs, as well as enforceable lease provisions to ensure compliance. Absent these actions, the Project is likely to result in unmitigated health risks and exacerbate air quality burdens in an already overburdened region. To protect public health and comply with CEQA's mandate for full environmental disclosure and feasible mitigation, the City must defer approval of this proposed Project pending completion of appropriate environmental review and adoption of enforceable air quality mitigations.

CARB appreciates the opportunity to comment on Item No. 3.A . Given the breadth and scope of projects subject to CEQA review throughout California that have air quality and greenhouse gas impacts, coupled with CARB's limited staff resources to substantively respond to all issues associated with a project, CARB must prioritize its substantive comments here based on staff time, resources, and its assessment of impacts. CARB's deliberate decision to substantively comment on some issues does not constitute an admission or concession that it substantively agrees with the lead agency's findings and conclusions on any issues on which CARB does not submit substantive comments.

CARB staff can provide assistance with zero-emission technologies and emission reduction strategies, as needed. If you have questions, please contact Brian Moore, Air Pollution Manager, Office of Community Air Protection via email at [Brian.Moore@arb.ca.gov](mailto:Brian.Moore@arb.ca.gov).

Sincerely,



Deldi Reyes, Chief, Office of Community Air Protection

cc: State Clearinghouse  
[state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov)

Scott Claar, Senior Planner, Development Services Department, City of Tracy  
[Scott.Claar@cityoftracy.org](mailto:Scott.Claar@cityoftracy.org)



Patia Siong, Supervising Air Quality Specialist, San Joaquin Valley Air Pollution  
Control District

[patia.siong@valleyair.org](mailto:patia.siong@valleyair.org)

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# Attachment

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**Ridgeline Property Group**  
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## **TRACY HILLS COMMERCE CENTER HEALTH RISK ASSESSMENT FINAL**

**29592 S. CORRAL HOLLOW ROAD TRACY,  
CALIFORNIA**



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### Appendix A: AERMOD Inputs



## ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AERMET	AERMOD Meteorological Preprocessor
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Air Dispersion Model
AP-42	United States Environmental Protection Agency's Compilation of Air Pollutant Emission Factors
ASF	Age Sensitivity Factor
AT	Averaging Time
CalEEMod	California Emission Estimator Model
Cal/EPA	California Environmental Protection Agency
CAP	Criteria Air Pollutant
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF	Conversion Factor
C <sub>i</sub>	Annual Average Air Concentration for Chemical
CPF	Cancer Potency Factor
cREL	Chronic Reference Exposure Level
DBR	Daily Breathing Rate
DPM	Diesel Particulate Matter
ED	Exposure Duration
EF	Exposure Frequency
EJScreen	Environmental Justice Screening and Mapping Tool
EMFAC	EMission FACTor Model
EMS	Emissions
GHG	Greenhouse Gas
HHD	Heavy-heavy Duty
HHDT	Heavy-heavy Duty Truck
HI	Hazard Index
HQ	Hazard Quotient
HRA	Health Risk Analysis Assessment
IF <sub>inh</sub>	Intake Factor for Inhalation
MEI	Maximally Exposed Individual
NED	National Elevation Dataset
OEHHA	Office of Environmental Health Hazard Assessment
OFFROAD	Emissions Inventory Program Model
PM <sub>10</sub>	Particulate Matter Less Than 10 Micrometers in Aerodynamic Diameter
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District

Acronym	Definition
TAC	Toxic Air Contaminant
THSP	Tracy Hills Specific Plan
USEPA	US Environmental Protection Agency
VMT	Vehicle Miles Traveled
WAF	Worker Adjustment Factor
$\chi/Q$	chi over q
$\mu\text{g}/\text{m}^3$	Micrograms per cubic meter

## 1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained to conduct a health risk assessment (HRA) for the Tracy Hills Commerce Center Project in Tracy, California (the "Project") proposed by Ridgeline Property Group (the "Project Sponsor"). The Project site is shown in **Figure 1**.

This HRA report analyzes the health risks that would result from the construction and operation of the proposed Project. In particular, this report describes the methodology used to prepare this HRA, including the estimation of toxic air contaminant (TAC) emissions from Project construction and operation, the air dispersion modeling, and the health risk calculations.

### 1.1 Project Description

The Project site is located at 29592 S. Corral Hollow Road in Tracy, California and the site is currently vacant. The Project is comprised of 3 phases of development to be completed during a five-year period. Phases 1, 2 and 3 development of the Project propose to construct seven commercial buildings totaling approximately 1,730,000 square feet for office and warehouse uses as part of the Tracy Hills Specific Plan (THSP). These buildings, identified as Buildings 1, 2, 3, 4, 5, 6, and 7, will offer a combined office and warehouse space of 149,646 square feet and 1,580,384 square feet, respectively. The Project would also construct parking at all seven buildings including 1,633 combined auto and trailer stalls and seven loading docks. The proposed land uses at the Project site by phase are listed in **Table 1**.

### 1.2 San Joaquin Valley Air Pollution Control District Significance Thresholds

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has established significance thresholds<sup>1</sup> to assess the health risk impacts of project-related construction and operational emissions.

A project's impacts are considered significant if they achieve or exceed:

- An excess lifetime cancer risk level of more than 20 in one million; or
- A non-cancer chronic hazard index (HI) greater than 1.0; or
- A non-cancer acute HI greater than 1.0

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<sup>1</sup> SJVAPCD CEQA Thresholds of Significance. 2015. Available at: <http://www.valleyair.org/transportation/0714-GAMAQI-TACs-Thresholds-of-Significance.pdf>



## 2. AIR QUALITY EMISSIONS INVENTORY

The following section describes the input data and methodologies used in the development of the construction and operational emissions inventory. While this analysis is not required as part of the California Environmental Quality Act (CEQA) process, the methodology follows that which would be employed if the HRA was prepared as part of a CEQA document.

As described below, Project-specific input data was incorporated when available. Where Project-specific information was not available, Ramboll used California Emission Estimator Model (CalEEMod) version 2022.1<sup>2</sup> default assumptions to estimate emissions. CalEEMod (or equivalent methodologies) was used to generate the emissions inventory for the HRA. CalEEMod is a statewide program designed to calculate both criteria air pollutant (CAP) and greenhouse gas (GHG) emissions for development projects in California. CalEEMod provides a simple platform to calculate both construction emissions and operational emissions from a land use project. It calculates both the daily maximum and annual average for CAPs as well as total or annual GHG emissions.

CalEEMod uses widely accepted models for emission estimates combined with appropriate default data that can be used if site-specific information is not available. CalEEMod uses sources such as the US Environmental Protection Agency (USEPA) AP-42 emission factors,<sup>3</sup> California Air Resources Board (CARB) on-road and off-road equipment emission models such as the Emission FACTor model (EMFAC) and the Emissions Inventory Program model (OFFROAD), and studies commissioned by California agencies such as the California Energy Commission (CEC) and CalRecycle.

An emissions inventory summarizing construction and operational emissions is presented in **Table 2**. For purposes of this HRA, the emissions inventory is generated for diesel particulate matter (DPM). Additional details on the calculations are included below.

### 2.1 Construction Emissions

Construction DPM emissions from the Project for the purposes of this analysis include on-site, off-road equipment and off-site, on-road vehicle travel. Construction equipment is summarized in **Table 3**. As described below, Ramboll incorporated Project-specific information to generate emission estimates. Where project-specific data was not available, Ramboll used CalEEMod defaults.

Since most off-road construction equipment used for construction projects are diesel fueled, CalEEMod methodology assumes all of the equipment operates on diesel fuel. The calculations include running exhaust emissions, and there are no starting emissions associated with the equipment because these are de minimis for diesel-fueled equipment.

Construction also generates on-road vehicle emissions. These emissions are calculated in CalEEMod based on the default number of trips, trip lengths, and emission factors from EMFAC2021. The analysis assumes there are no haul trips for demolition or soil import or export.

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<sup>2</sup> California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod), Version 2022.1. Available at: <http://www.CalEEMod.com/>

<sup>3</sup> The USEPA maintains a compilation of air pollutant emission factors and process information for several air pollution source categories. The data is based on source test data, material balance studies, and engineering estimates. Available at: <http://epa.gov/ttnchie1/ap42/>

In calculating Project construction emissions, several updates were made to the CalEEMod default construction activities and emission factors. Details are provided below:

- All worker vehicles are assumed to be fueled by gasoline, and all vendor vehicles are assumed to be fueled by diesel. On-road emissions were calculated using emission factors from EMFAC2021.
- It was assumed that there would be no demolition associated with the Project.
- The construction schedule is assumed to last for 14 months for each phase with Phase 1 beginning in April 2024, Phase 2 beginning in June 2026 and Phase 3 beginning in June 2028. The construction schedule used for this analysis is provided in **Table 4**.

## 2.2 Operational Emissions

Operational DPM emissions from the Project include those from on-road mobile sources associated with warehouse delivery trucks. Daily truck trips generated by the Project at full build-out were provided by Kimley-Horn. The trip lengths are based on the distance from the loading docks at each building to the entrance to the nearest freeway (I-580) to represent the emissions in the near vicinity of the Project site.

Mobile emission factors from running exhaust were calculated using EMFAC2021 for San Joaquin County, based on EMFAC's heavy heavy-duty vehicle (HHDT) category to represent warehouse delivery trucks. Running exhaust emission factors are on a "per mile" basis and thus emissions were calculated by multiplying these factors by the estimated vehicle miles traveled (VMT). Idling emission factors are on a "per minute of idling" basis and thus the emissions were calculated by multiplying these factors by the estimated idle duration and estimated number of trips while in the vicinity of the Project site.

**Table 5** presents traffic volume and VMT calculations. **Table 6** presents DPM emission rates for delivery running exhaust and idling exhaust. Truck delivery exhaust and idling emission calculations can be found in **Table 7**.

### 3. HEALTH RISK ASSESSMENT

A site-specific HRA assesses the project-level risks and hazard index at a local scale from air pollutants emitted from a project's sources in the vicinity of the receptors. The HRA evaluates the estimated cancer risk and non-cancer chronic hazard index associated with the construction and operation of the Project and compares the results to SJVAPCD's significance thresholds.

#### 3.1 Estimated Air Concentrations

To evaluate the health risks and concentration of air toxics in the surrounding area, SJVAPCD recommends estimating concentrations using air pollution dispersion modeling. Modeling methodologies used to evaluate emissions for the Project are based on the SJVAPCD's Guidance for Air Dispersion Modeling<sup>4</sup>. The HRA assumptions rely on SJVAPCD's Health Risk Assessment Guidelines and the most recent Air Toxics Hot Spots Program Risk Assessment Guidelines from the Office of Environmental Health Hazard Assessment (OEHHA).<sup>5,6</sup>

##### 3.1.1 Modeled Toxic Air Contaminant (TAC) Emissions

Project construction and operations would generate TAC emissions, specifically DPM, through off-road diesel construction equipment, on-road diesel vendor trucks, warehouse delivery truck travel, and warehouse delivery truck idling. Diesel exhaust, a complex mixture that includes hundreds of individual constituents, is identified by the State of California as a known carcinogen.<sup>7</sup> Under California regulatory guidelines, DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole. The California Environmental Protection Agency (Cal/EPA)-approved toxicity values for DPM were used to evaluate health impacts from construction and operational diesel fueled sources.<sup>8</sup> Currently, there is no acute non-cancer toxicity value available for DPM. All diesel-fueled off-road and on-road equipment emissions of exhaust particulate matter less than 10 micrometers in aerodynamic diameter (PM<sub>10</sub>) was assumed to be DPM. Modeled DPM emissions during construction and operation are summarized in **Table 2**.

Ramboll analyzed Project construction and operation-related risks by estimating ambient air concentrations of DPM. To estimate air concentrations of DPM, Ramboll used the most-up-to-date version of the American Meteorological Society/Environmental Protection Agency Regulatory Air Dispersion Model (AERMOD) v23132, a steady-state Gaussian plume model developed by USEPA for regulatory applications, along with the AERMOD meteorological preprocessor, AERMET v18081. AERMOD requires emission source locations and release parameters, receptor locations, and processed meteorological data. An overview of AERMOD input parameters is provided in **Table 8**.

Dispersion model averaging times are specified based on the averaging times of ambient air quality standards and the air quality significance thresholds established by the appropriate

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<sup>4</sup> SJVAPCD. 2022. Guidance for Air Dispersion Modeling. September. Available at: [https://ww2.valleyair.org/media/zlbhrg22/modeling\\_guidance.pdf](https://ww2.valleyair.org/media/zlbhrg22/modeling_guidance.pdf)

<sup>5</sup> SJVAPCD. Health Risk Assessment Guidance Document for AB2588 and CEQA. Document provided by the SJVAPCD staff, Kyle Melching.

<sup>6</sup> Cal/EPA, OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. February. Available at: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>

<sup>7</sup> California Environmental Protection Agency (Cal/EPA), OEHHA. 1998. Findings of the Scientific Review Panel on The Report on Diesel Exhaust, as adopted at the Panel's April 22, 1998, meeting.

<sup>8</sup> Cal/EPA, 2022. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. December. <http://www.arb.ca.gov/toxics/healthval/contable.pdf>



regulatory agencies. For both Project construction and operational modeling, the PERIOD averaging time (average concentration for the 5-year meteorological data set) was used to calculate cancer and chronic (long-term) health effects. As mentioned above, no acute non-cancer toxicity has been identified for DPM and thus an acute HI from Project construction and operation was not calculated.

#### **3.1.1.1 Source Characterization**

DPM emissions from off-road diesel construction equipment were modeled as an area source covering the parcel under construction. DPM emissions from vendor travel were grouped with the area source due to a lack of vendor trip route information.

DPM emissions from operational warehouse delivery truck travel were modeled as volume sources consistent with SJVAPCD's HHD Truck EMS and Modeling Draft Guidance.<sup>9</sup> SJVAPCD defaults were used for the truck height, truck width, plume width and release height. The initial vertical dimension coefficient was calculated as  $1.7 * \text{vehicle height} / 2.15$ , and the initial lateral dimension coefficient was calculated as the plume width / 2.15, as described in the USEPA's Haul Road Guidance.<sup>10</sup> Four separate routes for warehouse delivery trucks were estimated based on the location of each building - one for Building 6 and 7, one for Building 3 and 4, one for Building 1 and 2, and one for Building 5. For buildings that are adjacent to each other - Buildings 1 and 2, 3 and 4, and 6 and 7 - it was assumed two buildings would share the same route. Each route will extend from the Project site to the nearest freeway (I-580). Truck idling emissions were modeled as adjacent point sources along the loading dock at each building following the SJVAPCD draft guidance.<sup>10</sup>

The construction and operational source set ups are shown in **Figures 2, 3, 4, 5, 6, and 7** and source modeling parameters are shown in **Table 8**.

#### **3.1.1.2 Meteorology**

SJVAPCD provides AERMOD model-ready meteorological data sets for use in air quality and risk impact analyses in the San Joaquin Valley Air Basin (SJVAB). SJVAPCD's Tracy, California (Station ID 99008) meteorological data set was selected based on that station's close geographic proximity to the Project. The SJVAPCD meteorological data set for January 1, 2004 to December 31, 2008 was used for the analysis.<sup>11</sup>

#### **3.1.1.3 Land Use**

The land uses surrounding the Project alignment are primarily a mix of developed residential and commercial areas. AERMOD offers the option of using either rural or urban dispersion characteristics. Selection of rural or urban dispersion characteristics depends on the predominant land use or population density within a three-kilometer radius of the site. SJVAPCD's Modeling Guidance points to Auer's land use classification method specified in the USEPA's Guideline on Air Quality Models.<sup>12</sup> Auer's method recommends that if the population density within a three-kilometer radius is greater than 750 people/km<sup>2</sup>, then urban dispersion characteristics must be chosen for all Project emissions sources. Otherwise, the

<sup>9</sup> SJVAPCD. 2023. HHD Truck EMS and Modeling Draft. Document provided by the SJVAPCD via email.

<sup>10</sup> USEPA. 2012. Haul Road Workgroup Final Report Submission to EPA-OAQPS. March. Available at: [https://www3.epa.gov/scram001/reports/Haul\\_Road\\_Workgroup-Final\\_Report\\_Package-20120302.pdf](https://www3.epa.gov/scram001/reports/Haul_Road_Workgroup-Final_Report_Package-20120302.pdf)

<sup>11</sup> SJVAPCD. Meteorological Data. Available at: [ftp://ftp2.valleyair.org/public/Modeling/Meteorological\\_Data](ftp://ftp2.valleyair.org/public/Modeling/Meteorological_Data)

<sup>12</sup> U.S. Environmental Protection Agency, 2017. Appendix W to Part 51 Guideline on Air Quality Models, 40 CFR Part 51. U.S. Environmental Protection Agency, Research Triangle Park, NC.

rural dispersion characteristics must be chosen.<sup>13</sup> Using the USEPA's Environmental Justice Screening and Mapping Tool (EJScreen), Version 2.2 (June 2023)<sup>14</sup> a three-kilometer buffer was drawn around the Project site. Using the Community Report tool, area and population data can be pulled for the three-kilometer radius. Ramboll determined that the population density within the three-kilometer radius was below the 750 people/km<sup>2</sup> threshold, and rural dispersion characteristics were therefore used for the Project.

Data specifying terrain elevations of sources and receptors are imported into the model. Elevation and land use data were imported from the National Elevation Dataset (NED) maintained by the United States Geological Survey at a resolution of 1/3 arc-second (10 meters).

#### **3.1.1.4 Emission Rates**

Emissions were modeled using the  $\chi/Q$  ("chi over q") method, such that each source group has a unit emission rate (i.e., 1 gram per second [g/s]), and the model estimates dispersion factors (with units of  $[\mu\text{g}/\text{m}^3]/[\text{g}/\text{s}]$ ). Actual emissions were multiplied by the dispersion factors to obtain concentrations.

For the Project construction analysis, emissions from all modeled construction sources including off-road construction equipment, off-site vendor vehicle travel were assumed to occur between the hours of 6:00 AM and 9:00 PM and 5 days per week.<sup>15</sup> AERMOD's variable hours of day (HROFDY) option was used to limit emissions to this period.

For the Project operational analysis, warehouse delivery trucks were conservatively assumed to operate 24 hours, 7 days per week.

#### **3.1.1.5 Receptors**

The following receptors are included in the AERMOD modeling per SJVAPCD guidance:

- 25 meter (m) x 25 m from the site boundary to 100 m from the site boundary
- 50 m x 50 m from 100 m to 250 m from the site boundary
- 100 m x 100 m from 250 m to 500 m from the site boundary
- 250 m x 250 m from 500 m to 1,000 m from the site boundary
- 500 m x 500 m from 1,000 m to 2,000 m from the site boundary
- A coarse Grid spaced 100 m x 100 m from 200 m to ¼-mile from the Project<sup>16</sup>
- Discrete sensitive receptors.

Nearby sensitive receptor locations within a 2,000-meter radius of the modelled site boundary were also identified. SJVAPCD identifies the following as off-site sensitive receptors: schools, daycare facilities, hospitals, and adult/elderly care facilities.<sup>17</sup>

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<sup>13</sup> Ibid.

<sup>14</sup> US Environmental Protection Agency (USEPA). 2023. EJScreen: Environmental Justice Screening and Mapping Tool (version 2.2). June. Available at: <https://ejscreen.epa.gov/mapper/>

<sup>15</sup> San Joaquin County. 2022. Development Title. Available at: [https://library.municode.com/ca/san\\_joaquin\\_county/codes/development\\_title?nodeId=SJC](https://library.municode.com/ca/san_joaquin_county/codes/development_title?nodeId=SJC)

<sup>16</sup> SJVAPCD. 2006. Guidance for Air Dispersion Modeling. August.

<sup>17</sup> Ibid.

Receptor heights were assumed to be ground level based on SJVAPCD guidance.<sup>18</sup> For each receptor location, the model generated air concentrations (or air dispersion factors as unit emissions that were modeled) that result from emissions from multiple sources. The receptor grid and modeled source locations used in this HRA are shown in **Figure 8**.

### 3.2 Risk Characterization Methods

As mentioned above, the HRA was conducted in accordance with the Office of Environmental Health Hazard Assessment's 2015 Guidance Manual for Preparation of Health Risk Assessments<sup>19</sup> and SJVAPCD's HRA guidelines.<sup>20</sup> Lifetime cancer risk and chronic HI were calculated at each receptor. TAC emissions and air dispersion modeling results were input into Ramboll's internal HRA tool.

### 3.3 Exposure Parameters

Ramboll conservatively evaluated Project impacts due to construction and operational emissions using residential exposure assumptions unless sensitive receptor locations were identified.

Emissions and exposure to sensitive populations would vary across the eight year and two-month construction period. Therefore, one conservative scenario was evaluated to capture the period of maximum impact on each sensitive population and location off-site. Health impacts were evaluated for the following scenario for off-site receptors:

- Exposure to all three phases of construction during the Phase 1 construction period and exposure to operations beginning at the conclusion of Project construction when the Project is fully operational.

This exposure scenario was developed to conservatively capture the maximum impacts from Project construction and operations. Due to the complex timing of Project construction, this exposure scenario was selected as a conservative approach to analyze phased construction emissions. This approach is conservative since receptors would be exposed to all phases of construction during the same period and the fully operational Project after; additionally, receptors would be exposed to all phases of construction during the period when receptors are most sensitive due to age (see **Section 3.3.1** for more details).

The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. As recommended by SJVAPCD, fraction of time at home adjustments were not included for the intake factor calculation. The intake factor for inhalation,  $IF_{inh}$ , can be calculated as follows:

$$IF_{inh} = \frac{DBR * EF * ED * CF * ASF}{AT}$$

Where:

$IF_{inh}$	=	Intake Factor for Inhalation ( $m^3/kg\text{-day}$ )
DBR	=	Daily Breathing Rate (L/kg-day)
EF	=	Exposure Frequency (days/year)

<sup>18</sup> Ibid.

<sup>19</sup> Cal/EPA, OEHHA. Air Toxics Hot Spots Program Risk Assessment Guidelines.

<sup>20</sup> SJVAPCD. Health Risk Assessment Guidance Document for AB2588 and CEQA. Document provided by the SJVAPCD staff, Kyle Melching.



ED	=	Exposure Duration (years)
AT	=	Averaging Time (days)the
CF	=	Conversion Factor, 0.001 (m <sup>3</sup> /L)
ASF	=	Age Sensitivity Factor (unitless)

The chemical intake or dose is estimated by multiplying the inhalation intake factor,  $IF_{inh}$ , by the chemical concentration in air,  $C_i$ . When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the current OEHHA Hot Spots guidance.<sup>21</sup>

A worker adjustment factor (WAF) is recommended to be applied to the annual average concentration used in the evaluation to account for an emissions schedule that is not occurring 24 hours per day, seven days per week if the exposure takes place preferentially during hours during which work, school or recreational activities are occurring. Thus, a WAF of 4.2 was applied to all receptor types except for residents to adjust from 24 hours per day to 8 hours per day and from 7 days a week to 5 days week ( $[24 \text{ hours} / 8 \text{ hours}] * [7 \text{ days} / 5 \text{ days}] = 4.2$ ).

Detailed exposure parameters along with WAF values are presented in **Table 9**.

### 3.3.1 Age Sensitivity Factors

Health risk for receptors are adjusted using age sensitivity factors (ASFs) that account for an “anticipated special sensitivity to carcinogens” of infants and children as recommended in the OEHHA 2009 Technical Support Document and OEHHA 2015 Air Toxics Hot Spots Program Risk Assessment Guidelines.<sup>22</sup> Cancer risk estimates were weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to two years of age and by a factor of three for exposures that occur from two years through 15 years of age. No weighting factor (i.e., an ASF of one, which is equivalent to no adjustment) is applied to ages 16 and older.

### 3.3.2 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories – cancer and non-cancer endpoints. Toxicity values that are used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a risk assessment. Toxicity values for DPM from OEHHA are presented in **Table 10**.<sup>23</sup>

<sup>21</sup> Cal/EPA, OEHHA. Air Toxics Hot Spots Program Risk Assessment Guidelines.

<sup>22</sup> Cal/EPA, OEHHA. 2009. Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustment to Allow for Early Life Stage Exposures. May. Available at: <https://oehha.ca.gov/air/cnr/technical-support-document-cancer-potency-factors-2009>

<sup>23</sup> OEHHA. 2023. Consolidated Table of OEHHA / CARB Approved Risk Assessment Health Values. Available at: <https://ww2.arb.ca.gov/resources/documents/consolidated-table-oehha-carb-approved-risk-assessment-health-values>

### 3.3.3 Estimation of Cancer Risks

Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). In this Project, only the inhalation pathway was analyzed as DPM contributes to cancer risk through inhalation.

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$\text{Risk}_{\text{inh}} = C_i \times CF \times \text{IF}_{\text{inh}} \times \text{CPF}_i \times \text{ASF}$$

Where:

$\text{Risk}_{\text{inh}}$	=	Cancer risk; the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen (unitless)
$C_i$	=	Annual average air concentration for chemical ( $\mu\text{g}/\text{m}^3$ )
CF	=	Conversion factor ( $\text{mg}/\mu\text{g}$ )
$\text{IF}_{\text{inh}}$	=	Intake factor for inhalation ( $\text{m}^3/\text{kg}\cdot\text{day}$ )
$\text{CPF}_i$	=	Cancer potency factor for chemical ( $\text{mg chemical}/\text{kg body weight}\cdot\text{day}$ ) <sup>-1</sup>
ASF	=	Age sensitivity factor (unitless)

### 3.3.4 Estimation of Chronic Non-Cancer Hazard Indices

The potential for exposure to result in adverse chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration (which is equivalent to the average daily air concentration) to the non-cancer chronic reference exposure level (cREL) for each chemical. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient (HQ). To evaluate the potential for adverse chronic non-cancer health effects from simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding a chronic HI:

$$\text{HQ}_i = C_i / \text{cREL}$$

Where:

$\text{HQ}_i$	=	Chronic hazard quotient for chemical i
HI	=	Hazard index
$C_i$	=	Annual average concentration of chemical i ( $\mu\text{g}/\text{m}^3$ )
$\text{cREL}_i$	=	Chronic noncancer reference exposure level for chemical i ( $\mu\text{g}/\text{m}^3$ )

## 4. RESULTS

Lifetime cancer risk and chronic HI results from the HRA are provided in **Table 11**. All health risk impacts are below SJVAPCD's thresholds of significance; thus, health risk impacts associated with the Project are less than significant. The locations of the off-site Maximally Exposed Individual (MEI) for each receptor type are shown in **Figure 9**.



## TABLES

**Table 1**  
**Land Uses of Proposed Project**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Phase	Land Use Type	CalEEMod Type	Amount	Units
Phase 1	Office Spaces	General Office Building	55	1000sqft
	Warehouse	Unrefrigerated Warehouse-No Rail	564	1000sqft
	Parking	Parking Lot	573	Spaces
Phase 2	Office Spaces	General Office Building	60	1000sqft
	Warehouse	Unrefrigerated Warehouse-No Rail	569	1000sqft
	Parking	Parking Lot	645	Spaces
Phase 3	Office Spaces	General Office Building	35	1000sqft
	Warehouse	Unrefrigerated Warehouse-No Rail	447	1000sqft
	Parking	Parking Lot	415	Spaces

**Notes:**

<sup>1.</sup> Project land uses were provided by the Project Sponsor.

**Abbreviations:**

sqft - square feet

CalEEMod - California Emissions Estimator Model

**Table 2**  
**Construction and Operational Emissions Inventory**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Phase <sup>1</sup>	Emission Type <sup>2</sup>	Source	DPM Emission Rate <sup>3</sup> (lb/day)
Phase 1	Construction	Onroad	0.03
	Construction	Onroad	0.01
	Construction	Offroad	0.4
	Construction	Offroad	0.1
	Operation	Delivery - Building 4	0.04
	Operation	Delivery - Building 6	0.01
	Operation	Delivery - Building 7	0.01
	Operation	Idling - Building 4	0.001
	Operation	Idling - Building 6	0.0003
	Operation	Idling - Building 7	0.0003
Phase 2	Construction	Onroad	0.01
	Construction	Onroad	0.01
	Construction	Offroad	0.2
	Construction	Offroad	0.1
	Operation	Delivery - Building 2	0.03
	Operation	Delivery - Building 3	0.04
	Operation	Idling - Building 2	0.001
	Operation	Idling - Building 3	0.001
Phase 3	Construction	Onroad	0.009
	Construction	Onroad	0.009
	Construction	Offroad	0.2
	Construction	Offroad	0.1
	Operation	Delivery - Building 1	0.03
	Operation	Delivery - Building 5	0.02
	Operation	Idling - Building 1	0.001
	Operation	Idling - Building 5	0.001

**Notes:**

- <sup>1</sup>. This emission inventory presents the actual emissions, calculated using the actual durations for each phase. However, in the HRA analysis, it was conservatively assumed that all construction activities would happen during the Phase 1 period, with operations commencing after the construction is completed.
- <sup>2</sup>. Construction emissions include emissions from diesel off-road equipment (Offroad) and diesel on-road equipment including vendor travel (Onroad). Operational emissions include running exhaust emissions from truck delivery traffic (Delivery) as well as truck idling emissions at each of the loading docks (Idling).
- <sup>3</sup>. Emissions from shared delivery routes conservatively account for full (maximum) operational travel; for example, Building 4 and Building 3 share a delivery route, and emissions from future Building 3 travel are double-counted in Delivery to Building 4 in Phase 1. More details are available in Table 5-7.

**Abbreviations:**

DPM - diesel particulate matter



**Table 3**  
**Construction Equipment and Usage**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Phase	Construction Subphase	Equipment Name <sup>1</sup>	Fuel	Number <sup>1</sup>	Horsepower (hp) <sup>1</sup>	Daily Usage (hours/day) <sup>1</sup>
Phase 1	Site Preparation	Rubber Tired Dozers	Diesel	3	367	8
		Tractors/Loaders/Backhoes	Diesel	4	84	8
	Grading	Graders	Diesel	1	148	8
		Excavators	Diesel	2	36	8
		Tractors/Loaders/Backhoes	Diesel	2	84	8
		Scrapers	Diesel	2	423	8
		Rubber Tired Dozers	Diesel	1	367	8
	Building Construction	Forklifts	Diesel	3	82	8
		Generator Sets	Diesel	1	14	8
		Cranes	Diesel	1	367	7
		Welders	Diesel	1	46	8
		Tractors/Loaders/Backhoes	Diesel	3	84	7
	Paving	Pavers	Diesel	2	81	8
		Paving Equipment	Diesel	2	89	8
		Rollers	Diesel	2	36	8
	Architectural Coating	Air Compressors	Diesel	1	37	6
Phase 2	Site Preparation	Rubber Tired Dozers	Diesel	3	367	8
		Tractors/Loaders/Backhoes	Diesel	4	84	8
	Grading	Graders	Diesel	1	148	8
		Excavators	Diesel	2	36	8
		Tractors/Loaders/Backhoes	Diesel	2	84	8
		Scrapers	Diesel	2	423	8
		Rubber Tired Dozers	Diesel	1	367	8
	Building Construction	Forklifts	Diesel	3	82	8
		Generator Sets	Diesel	1	14	8
		Cranes	Diesel	1	367	7
		Welders	Diesel	1	46	8
		Tractors/Loaders/Backhoes	Diesel	3	84	7
	Paving	Pavers	Diesel	2	81	8
		Paving Equipment	Diesel	2	89	8
		Rollers	Diesel	2	36	8
	Architectural Coating	Air Compressors	Diesel	1	37	6

Phase 3	Site Preparation	Rubber Tired Dozers	Diesel	3	367	8
		Tractors/Loaders/Backhoes	Diesel	4	84	8
	Grading	Graders	Diesel	1	148	8
		Excavators	Diesel	2	36	8
		Tractors/Loaders/Backhoes	Diesel	2	84	8
		Scrapers	Diesel	2	423	8
		Rubber Tired Dozers	Diesel	1	367	8
	Building Construction	Forklifts	Diesel	3	82	8
		Generator Sets	Diesel	1	14	8
		Cranes	Diesel	1	367	7
		Welders	Diesel	1	46	8
		Tractors/Loaders/Backhoes	Diesel	3	84	7
	Paving	Pavers	Diesel	2	81	8
		Paving Equipment	Diesel	2	89	8
		Rollers	Diesel	2	36	8
	Architectural Coating	Air Compressors	Diesel	1	37	6

**Notes:**

1. Construction equipment information was generated by CalEEMod defaults based on the Project's land uses and schedule. Equipment tier is based on a fleetwide average from CalEEMod® 2022.1.
2. Construction activities are assumed to occur during 6AM to 9PM, consistent with the construction noise ordinance in the San Joaquin County Development Title.

**Abbreviations:**

ARB - California Air Resources Board  
CalEEMod - California Emissions Estimator Model

hp - horsepower

**References:**

California Emissions Estimator Model (CalEEMod). Available at: [http://www.caleemod.com/San Joaquin County](http://www.caleemod.com/San_Joaquin_County). 2022. Development Title.  
Available online at: [https://library.municode.com/ca/san\\_joaquin\\_county/codes/development\\_title?nodeId=SJC](https://library.municode.com/ca/san_joaquin_county/codes/development_title?nodeId=SJC)

**Table 4**  
**Construction Schedule**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Phase	CalEEMod Subphase <sup>1,2</sup>	Number of Work Days	Days per Week
Phase 1	Site Preparation	9	5
	Grading	24	5
	Building Construction	234	5
	Paving	17	5
	Architectural Coating	17	5
Phase 2	Site Preparation	10	5
	Grading	21	5
	Building Construction	238	5
	Paving	17	5
	Architectural Coating	17	5
Phase 3	Site Preparation	8	5
	Grading	24	5
	Building Construction	238	5
	Paving	16	5
	Architectural Coating	16	5

**Notes:**

- <sup>1</sup>. It is assumed the Project does not involve a Demolition phase.
- <sup>2</sup>. The construction schedule was generated by CalEEMod default phase and schedule assumptions that rely on the land use sizes specified in Table 1. Construction phasing information was then adjusted based on construction start and end dates provided by the Project Sponsor.
- <sup>3</sup>. Phase 1 construction is expected to start no earlier than 4/1/2024 and last 14 months, followed by Phase 2 starting no earlier than 6/1/2026 and Phase 3 from 6/1/2028, each with a 14-month duration.

**Abbreviations:**

CalEEMod - California Emissions Estimator Model

**References:**

California Emissions Estimator Model (CalEEMod). Available at:  
<http://www.caleemod.com/>



**Table 5**  
**Traffic Volumes and Vehicle Miles Traveled**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Modeled Roadway Link <sup>1</sup>		Source Group	Total Annual Trip Rates (trips/year) <sup>2</sup>	Segment Length (miles) <sup>3</sup>	Annual VMT (miles/year) <sup>4</sup>
Warehouse Delivery Trucks	On-Site Idling	IdleB1	29,200	--	--
		IdleB2	36,500	--	--
		IdleB3	43,800	--	--
		IdleB4	43,800	--	--
		IdleB5	32,850	--	--
		IdleB6	14,600	--	--
		IdleB7	18,250	--	--
	B1 and B2 Delivery Route (Onsite)	B1_B2	65,700	1.2	80,811
	B1 and B2 Delivery Route (Offsite)	B1_B2	65,700	2.2	143,883
	B3 and B4 Delivery Route (Onsite)	B3_B4	87,600	0.8	70,956
	B3 and B4 Delivery Route (Offsite)	B3_B4	87,600	2.2	191,844
	B5 Delivery Route (Onsite)	B5	32,850	1.2	40,077
	B5 Delivery Route (Offsite)	B5	32,850	2.2	71,942
	B6 and B7 Delivery Route (Onsite)	B6_B7	32,850	0.6	18,396
	B6 and B7 Delivery Route (Offsite)	B6_B7	32,850	2.2	71,942

**Notes:**

- <sup>1</sup> See Figures 3 through 7 for a visualization of the operational modeled sources.
- <sup>2</sup> Trip rates are based on Project-specific peak hour truck trip estimates provided by the traffic study done by Kimley Horn. The warehouse delivery truck trip rates assume the following for each building:  
 Building 1: 80 truck trips per day  
 Building 2: 100 truck trips per day  
 Building 3: 120 truck trips per day  
 Building 4: 120 truck trips per day  
 Building 5: 90 truck trips per day  
 Building 6: 40 truck trips per day  
 Building 7: 50 truck trips per day
- <sup>3</sup> Segment length is based on the modeled source length in AERMOD.
- <sup>4</sup> VMT is calculated as the product of the segment length and the total number of annual trips.

**Abbreviations:**

AERMOD - AERMOD Meteorological Society/Environmental Protection Agency Regulatory Model  
 VMT - vehicle miles traveled

**Table 6**  
**Diesel Particulate Matter Emission Factors**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

EMFAC Vehicle Class	DPM Emission Factor <sup>1,2</sup>		
	Off-site Running Exhaust <sup>3</sup> (g/mile)	On-site Running Exhaust <sup>4</sup> (g/mile)	Idle Exhaust (g/idle minute)
<b>Warehouse Delivery Trucks</b>			
HHDT	0.03	0.01	0.0002

**Notes:**

- <sup>1.</sup> Data obtained from EMFAC2021 output for San Joaquin County for HHDT diesel vehicle default emissions activity.
- <sup>2.</sup> For the purposes of this analysis, DPM emissions are assumed to be equal to PM<sub>10</sub> exhaust emissions from diesel vehicles.
- <sup>3.</sup> Off-site running exhaust emission factor is based on EMFAC2021 default activity output for aggregated speeds.
- <sup>4.</sup> On-site running exhaust emission factor is based on EMFAC2021 project-level emission rate output for a speed of 5 mph.

**Abbreviations:**

DPM - diesel particulate matter  
HHDT - heavy heavy-duty trucks  
g - grams  
EMFAC - Emission FACTors model  
mph - miles per hour  
PM<sub>10</sub> - particulate matter less than 10 microns in diameter

**Table 7**  
**Delivery Truck Emission Calculations**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Source Group <sup>1</sup>	Modeled Roadway Link	Project VMT <sup>2</sup>	Project Trips <sup>2</sup>	Idle Duration (minutes/ trip)	DPM Exhaust Emissions <sup>3,4</sup>
		Annual (miles/year)	Annual (trips/year)		Annual (lb/year)
IdleB1	Building 1 On-Site Idling	--	29,200	15	0.2
IdleB2	Building 2 On-Site Idling	--	36,500	15	0.2
IdleB3	Building 3 On-Site Idling	--	43,800	15	0.3
IdleB4	Building 4 On-Site Idling	--	43,800	15	0.3
IdleB5	Building 5 On-Site Idling	--	32,850	15	0.2
IdleB6	Building 6 On-Site Idling	--	14,600	15	0.1
IdleB7	Building 7 On-Site Idling	--	18,250	15	0.1
B1_B2	Building 1 and Building 2 Delivery Route (Onsite)	80,811	--	--	2.2
B1_B2	Building 1 and Building 2 Delivery Route (Offsite)	143,883	--	--	8.9
B3_B4	Building 3 and Building 4 Delivery Route (Onsite)	70,956	--	--	1.9
B3_B4	Building 3 and Building 4 Delivery Route (Offsite)	191,844	--	--	11.9
B5	Building 5 Delivery Route (Onsite)	40,077	--	--	1.1
B5	Building 5 Delivery Route (Offsite)	71,942	--	--	4.5
B6_B7	Building 6 and Building 7 Delivery Route (Onsite)	18,396	--	--	0.5
B6_B7	Building 6 and Building 7 Delivery Route (Offsite)	71,942	--	--	4.5

**Notes:**

1. See Figures 3 through 7 for a visualization of the operational modeled sources.
2. Data was obtained from Table 5.
3. DPM running exhaust emissions were calculated using the emission factors from Table 6 along with the Project's VMT and number of trips.
4. DPM emissions for on-site vehicle idling were estimated using the number of round trips and the DPM idling exhaust emission factor from Table 6.

**Abbreviations:**

CalEEMod - CALifornia Emissions Estimator MODEL  
DPM - diesel particulate matter  
g - grams  
lb - pounds  
VMT - vehicle miles traveled



**Table 8**  
**Construction and Operation Modeling Parameters**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

**Construction Sources**

Area

Source	Number of Sources	Release Height (m)	Initial Vertical Dimension Coefficient(m)
Construction Equipment and Vendor Trips <sup>1</sup>	3	5.0	1.4

**Operational Sources**

Point

Source	Number of Sources	Stack Height (m)	Stack Velocity (m/s)	Exit Diameter (m)	Stack Temperature (°F)
Truck Idling - Buildings 1-7 <sup>2</sup>	Variable	3.84	51.71	0.1	199

Volume

Source	Number of Sources	Plume Width (m)	Release Height (m)	Initial Vertical Dimension Coefficient (m)	Initial Lateral Dimension Coefficient (m)
On-Road Delivery Trucks <sup>3</sup>	4	3.66	1.83	1.45	1.70

**Notes:**

1. Construction off-road equipment was modeled as an area source covering the parcel under construction. Three separate area sources were used to represent each phase of construction. Vendor trip emissions were modeled under this area source due to lack of vendor trip route information. The release height was set to 5 meters, and the initial vertical dimension was set to 1.4, as described in SCAQMD's LST methodology.
2. Truck idling emissions were modeled as vertical point sources, as described in SJVAPCD's HHD Truck EMS and Modeling Draft guidance. The number of point sources per building was based on daily truck traffic estimates.
3. Operational truck delivery emissions were modeled as volume sources, consistent with SJVAPCD's HHD Truck EMS and Modeling Draft guidance. Plume width is equal to SJVAPCD's recommended value of 12 feet for truck width. Release height is equal to SJVAPCD's recommended value of 6 feet for truck height. The initial vertical dimension coefficient was calculated as  $1.7 \times \text{vehicle height} / 2.15$ , and the initial lateral dimension coefficient was calculated as the plume width/2.15, as described in AERMOD's User Guide.

**Abbreviations:**

HHD - Heavy Heavy Duty  
m - meter(s)  
USEPA - United States Environmental Protection Agency  
SJVAPCD - San Joaquin Valley Air Pollution Control District  
SCAQMD - South Coast Air Quality Management District  
LST - Localized Significant Threshold  
SJVAPCD - San Joaquin Valley Air Pollution Control District

**References:**

USEPA. 2022. User's Guide for the AMS/EPA Regulatory Model (AERMOD). Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. EPA-454/B-22-007, June 2022). Available at: [https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod\\_userguide.pdf](https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_userguide.pdf)  
SCAQMD. 2008. Final Localized Significance Threshold Methodology. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>  
SJVAPCD. 2023. HHD Truck EMS and Modeling Draft. Document provided by the SJVAPCD via email.

**Table 9**  
**Exposure Parameters**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Receptor Type	Project Phase	Year	Receptor Age Group	Exposure Parameters						
				Daily Breathing Rate (DBR) <sup>1</sup>	Exposure Duration (ED) <sup>2</sup>	Exposure Frequency (EF) <sup>3</sup>	Age Sensitivity Factor (ASF) <sup>4</sup>	Averaging Time (AT) <sup>5</sup>	Worker Adjustment Factor (WAF) <sup>6</sup>	ASF-Weighted Intake Factor, Inhalation (IF <sub>inh</sub> )
				[L/kg-day]	[years]	[days/year]		[days]		[m <sup>3</sup> /kg-day]
Resident	Construction	2024	3rd Trimester	361	0.33	350	10	25,500	1.0	0.016
			0-<2	1,090	0.67		10		1.0	0.10
		2025	0-<2	1,090	1.0		10		1.0	0.15
	Operation	2025	0-<2	1,090	0.60		10		1.0	0.090
		2026+	0-<2	1,090	0.33		10		1.0	0.050
			2-<16	745	14.0		3		1.0	0.43
			16-<70	290	54		1		1.0	0.21
Offsite_Worker	Construction	2024	16-<70	230	0.75	250	1	25,500	4.2	0.0071
		2025	16-<70	230	1.0		1		4.2	0.0095
	Operation	2025	16-<70	230	0.60		1		1.0	0.0014
		2026+	16-<70	230	38		1		1.0	0.086
Daycare <sup>7</sup>	Construction	2024	Six Weeks-<2	1,200	0.75	350	10	25,500	4.2	0.52
		2025	Six Weeks-<2	1,200	1.0		10		4.2	0.69
	Operation	2025	Six Weeks-<2	1,200	0.60		10		1.0	0.099
		2026+	Six Weeks-<2	1,200	0.14		10		1.0	0.022
			2-<9	640	4.0	250	3		1.0	0.075
School <sup>7</sup>	Construction	2024	2-<9	640	0.75	250	3	25,500	4.2	0.059
		2025	2-<9	640	1.0		3		4.2	0.079
	Operation	2025	2-<9	640	0.60		3		1.0	0.011
		2026+	2-<9	640	2.3		3		1.0	0.042
		2026+	9-<16	520	5.0		3		1.0	0.076

**Notes:**

- <sup>1</sup> 95th percentile daily breathing rates from OEHHA 2015 are used for all age groups, consistent with SJVAPCD guidance.
- <sup>2</sup> The exposure duration for residential receptors and offsite workers is assumed to begin at the start of construction and continue for 70 and 40 years, respectively, as suggested in SJVAPCD guidance.
- <sup>3</sup> Default exposure frequencies from OEHHA 2015 are used for residential and offsite worker receptors.
- <sup>4</sup> Age sensitivity factors (ASFs) account for an "anticipated special sensitivity to carcinogens" of infants and children as recommended by OEHHA 2015 and SJVAPCD guidance.
- <sup>5</sup> Default averaging time from OEHHA (OEHHA 2015) are used for both residential and offsite worker receptors.
- <sup>6</sup> Worker adjustment factors are calculated based on methodology from OEHHA's Guidance Manual for Preparation of Health Risk Assessments (2015). For construction, the WAF adjusts offsite worker exposure from 24 hours/day to 8 hours/day and from 7 days/week to 5 days/week ([24 hours/8 hours] \* [7 days/5 days] = 4.20). Residential receptors are expected to be exposed 24 hours/day and 7 days/week; as a result, the WAF is 1. For operation, both residential and offsite worker receptors are expected to be exposed 24 hours/day and 7 days/week; as a result, the WAF is 1.
- <sup>7</sup> A daycare receptor is assumed to be exposed during age of 6 weeks to 6 years. A school receptor is assumed to be exposed during age of 5 to 14 years.

**Calculation:**

$$IF_{inh} = DBR * EF * ED * CF / AT$$

$$CF = 0.001 \text{ (m}^3\text{/L)} \quad DF = H_{Coin}/H_{Worker} * D_{Coin}/D_{Worker}$$

$$WAF = H_{Resident}/H_{Source} * D_{Resident}/D_{Source} * DF$$

**Abbreviations:**

AT - averaging time

ASF - Age Sensitivity Factor

DBR - daily breathing rate

ED - exposure duration

EF - exposure frequency

WAF - worker adjustment factor

$IF_{inh}$  - intake factor

kg - kilogram

L - liter

$m^3$  - cubic meter

OEHHA - Office of Environmental Health Hazard Assessment

SJVAPCD - San Joaquin Valley Air Pollution Control District

**References:**

OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. Available at <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>

SJVAPCD. Health Risk Assessment Guidance Document for AB2588 and CEQA. Document provided by the SJVAPCD staff, Kyle Melching.



**Table 10**  
**Toxicity Values**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Source	Chemical <sup>1</sup>	CAS Number	Cancer Potency Factor	Chronic Noncancer Reference Exposure Level
			(mg/kg-day) <sup>-1</sup>	(µg/m <sup>3</sup> )
PM <sub>10</sub>	DPM	9901	1.1	5.0

**Notes:**

- <sup>1</sup>. Toxicity values are taken from ARB's Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values.

**Abbreviations:**

ARB - California Air Resources Board  
CAS - chemical abstract services  
mg/kg-day - milligrams per kilogram per day  
OEHHA - Office of Environmental Health Hazard Assessment  
µg/m<sup>3</sup> - micrograms per cubic meter  
PM<sub>10</sub> - particulate matter less than 10 microns in diameter  
DPM - diesel particulate matter

**References:**

California Air Resources Board (ARB) / California Office of Environmental Health Hazard Assessment (OEHHA). 2023. Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. Updated on: May 1, 2023. Available at:  
<https://ww2.arb.ca.gov/sites/default/files/classic/toxics/healthval/contable05012023.pdf>

**Table 11**  
**Project Level Health Risk Impacts**  
**Tracy Hills Commerce Center**  
**Tracy, CA**

Source	Lifetime Excess Cancer Risk <sup>1</sup> (in a million)				Chronic HI <sup>2,3</sup>			
	Resident	Worker	Daycare	Student	Resident	Worker	Daycare	Student
<b>UTMX</b>	636537.8	636425.3	637328.3	637327.9	636537.8	636425.3	637328.3	637327.9
<b>UTMY</b>	4171250.3	4172112.8	4173735.4	4173736	4171250.3	4172387.8	4173735.4	4173735.7
<b>Project Construction</b>								
Offroad Equipment and Vendor Travel	0.2	0.2	0.6	0.07	0.00009	0.009	0.0001	0.0001
<b>Project Operation</b>								
Operational Truck Routes	2.3	3.2	0.02	0.01	0.0005	0	0	0
Truck Idling	0.004	0.006	0.001	0.0007	0.0000009	0	0	0
<b>Project Total</b>								
Construction	0.2	0.2	0.6	0.07	0.00009	0.009	0.0001	0.0001
Operation	2.3	3.2	0.02	0.01	0.0005	0	0	0
Combined	2.5	3.4	0.6	0.09	0.0006	0.009	0.0001	0.0001
<b>SJVAPCD Threshold</b>	20				1			

**Notes:**

- Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to the emissions associated with the Project was calculated based on the modeled annual average diesel particulate matter (DPM) concentration, the intake factor for the exposed population, the Cancer Potency Factor (CPF) for DPM, and the Age Sensitivity Factors (ASF).
- The potential for exposure to result in adverse chronic noncancer effects is evaluated by comparing the estimated annual average air concentration to the noncancer chronic Reference Exposure Level (REL) for each chemical. When calculated for a single chemical, the comparison yields a ratio termed a chronic hazard quotient (HQ). To evaluate the potential for adverse chronic noncancer health effects from simultaneous exposure to multiple chemicals, the chronic hazard quotients for all chemicals are summed, yielding a hazard index (HI).
- Operational chronic health impacts are zero for worker, daycare, and student receptors as the maximum chronic HI occurs during the first year of Project construction when the project is not operational.

**Abbreviations:**

UTM - Universal Transverse Mercator  
MEIR - Maximally Exposed Individual Resident  
MEIW - Maximally Exposed Individual Worker  
SJVAPCD - San Joaquin Valley Air Pollution Control District  
HI - hazard index

**References:**

SJVAPCD CEQA Thresholds of Significance. Available at: <http://www.valleyair.org/transportation/0714-GAMAQI-TACs-Thresholds-of-Significance.pdf>.

OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February. Available at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>

## FIGURES



- Buildings
- Phase 1 Project Site
- Phase 2 Project Site
- Phase 3 Project Site

## PROJECT SITE AND VICINITY

**Tracy Hills Commerce Center**  
29592 S. Corral Hollow Road

**FIGURE 01**

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY

**RAMBOLL**





Construction Trucks and Offroad Equipment

## MODELED CONSTRUCTION EMISSION SOURCES

FIGURE 02

- Phase 1
- Phase 2
- Phase 3

Tracy Hills Commerce Center  
29592 S. Corral Hollow Road

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY

**RAMBOLL**





- Buildings
- Phase 1 Project Site
- Phase 2 Project Site
- Phase 3 Project Site
- Truck Idling

## MODELED OPERATIONAL EMISSION SOURCES: TRUCK IDLING

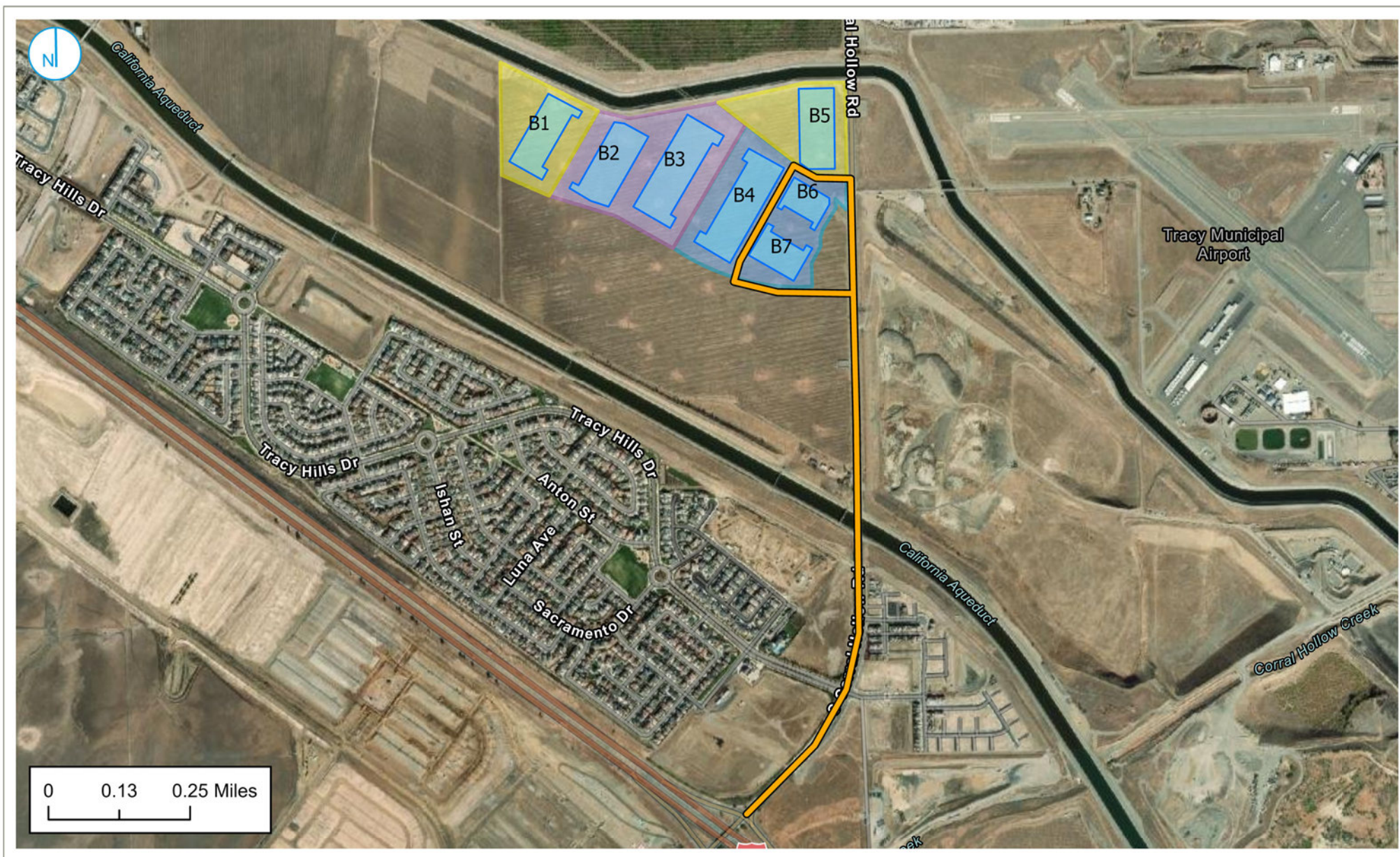
**Tracy Hills Commerce Center**  
29592 S. Corral Hollow Road

**FIGURE 03**

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY







- Buildings
- Phase 1 Project Site
- Phase 2 Project Site
- Phase 3 Project Site
- B6 and B7 Truck Route

## MODELED OPERATIONAL EMISSION SOURCES: BUILDING 6 AND 7 TRUCK ROUTES

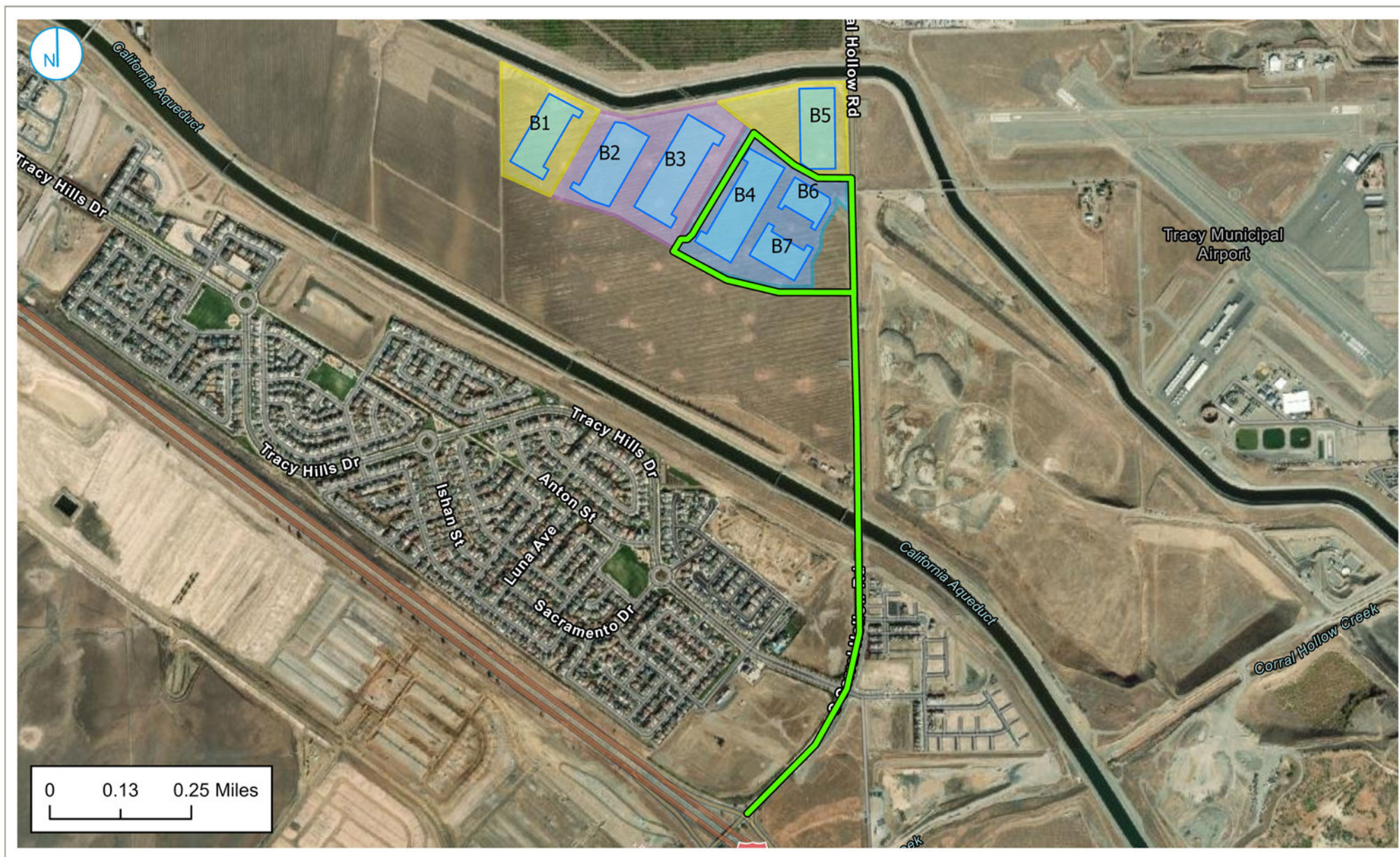
Tracy Hills Commerce Center  
29592 S. Corral Hollow Road

FIGURE 04

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY

**RAMBOLL**





- Buildings
- Phase 1 Project Site
- Phase 2 Project Site
- Phase 3 Project Site
- B3 and B4 Truck Route

## MODELED OPERATIONAL EMISSION SOURCES: BUILDING 3 AND 4 TRUCK ROUTES

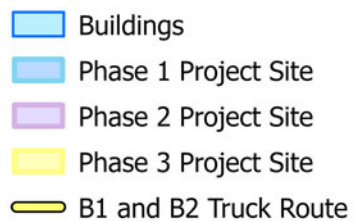
**Tracy Hills Commerce Center**  
29592 S. Corral Hollow Road

**FIGURE 05**

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY



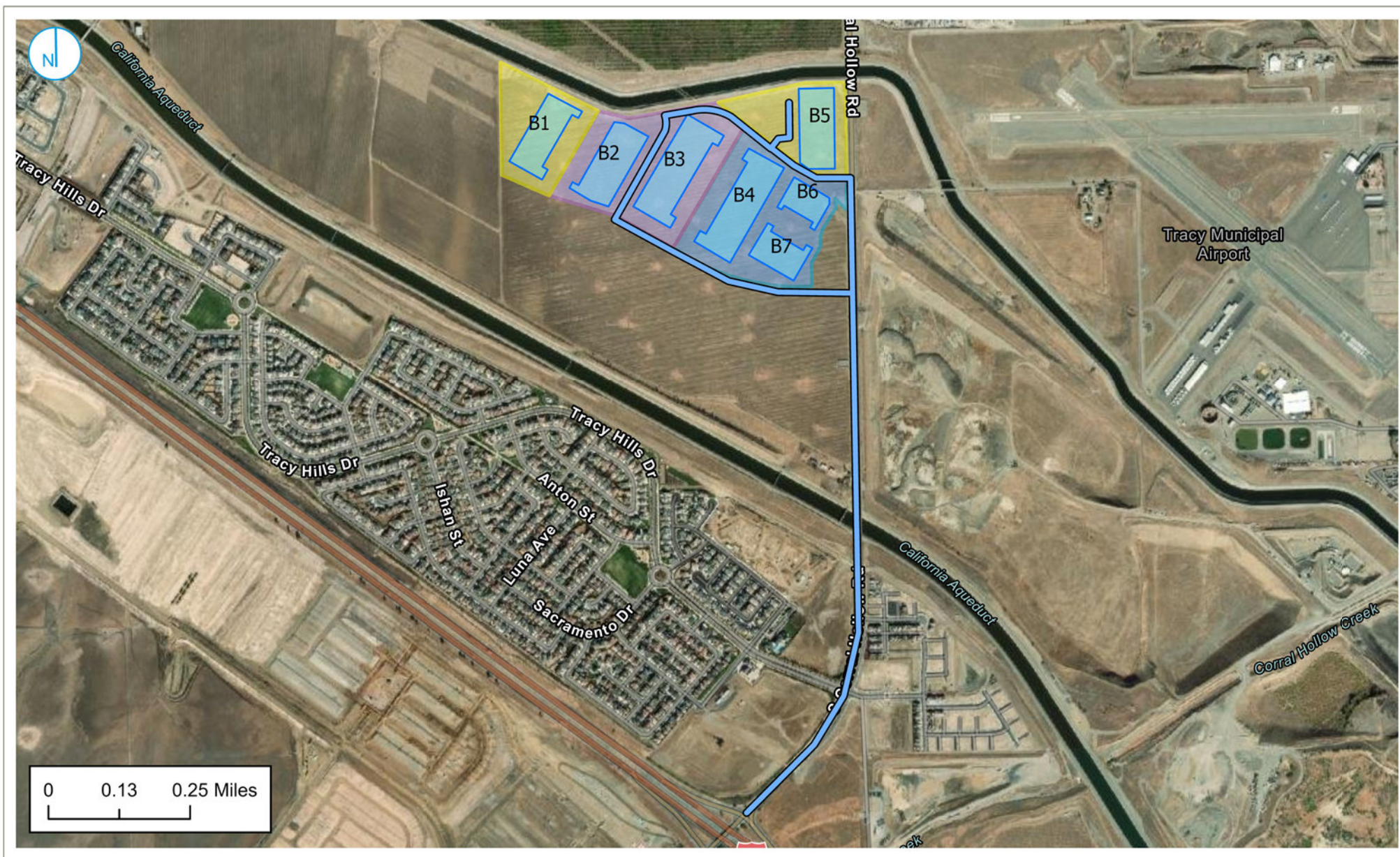




**Tracy Hills Commerce Center**  
29592 S. Corral Hollow Road

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY





- Buildings
- Phase 1 Project Site
- Phase 2 Project Site
- Phase 3 Project Site
- B5 Truck Route

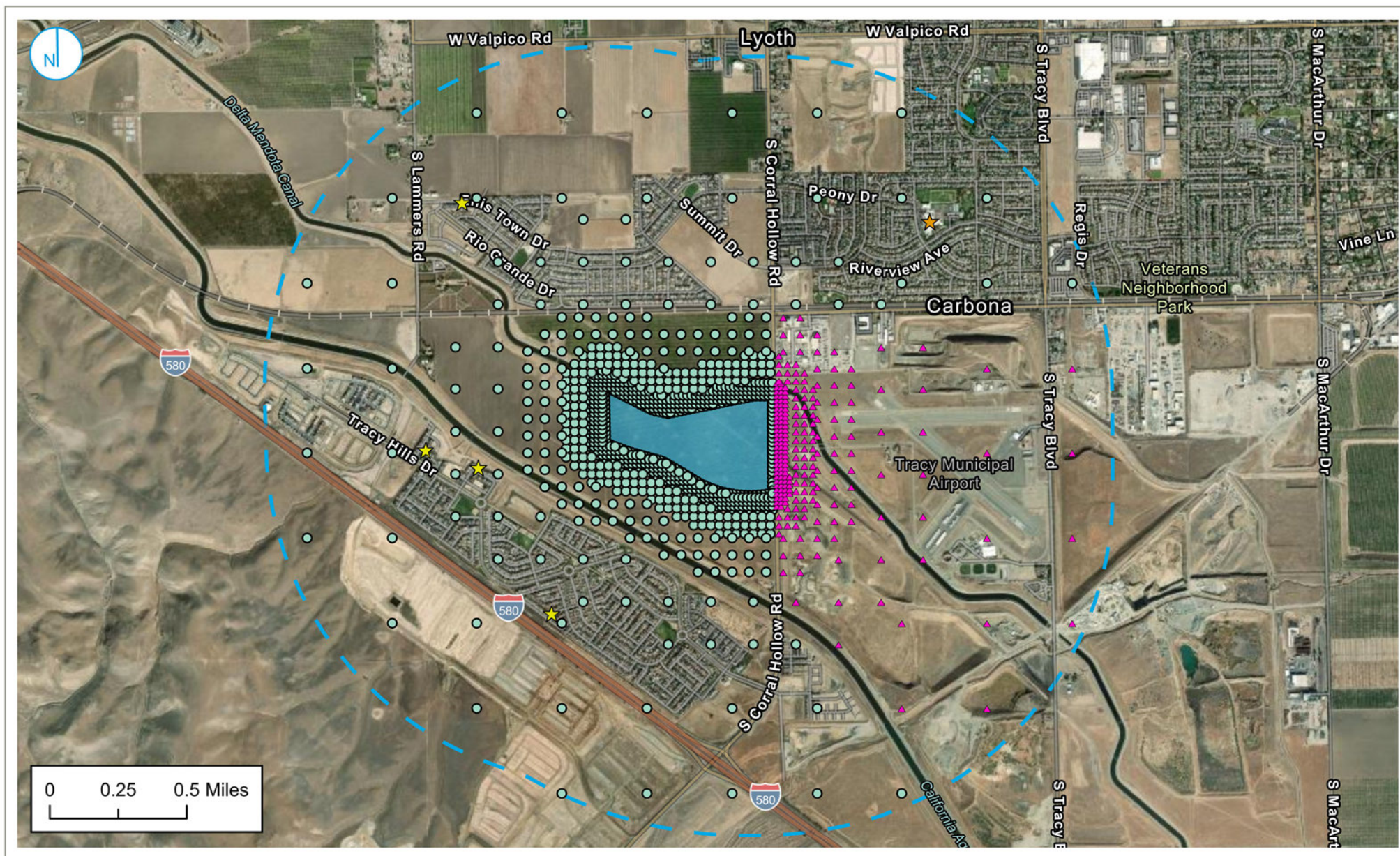
## MODELED OPERATIONAL EMISSION SOURCES: BUILDING 5 TRUCK ROUTE

Tracy Hills Commerce Center  
29592 S. Corral Hollow Road

FIGURE 07

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY





- ★ Daycare
- Receptor Grid
- ★ School
- ▲ Worker
- Facility Boundary
- └─┘ 2000m Buffer

## MODELED GRID AND SENSITIVE RECEPTORS

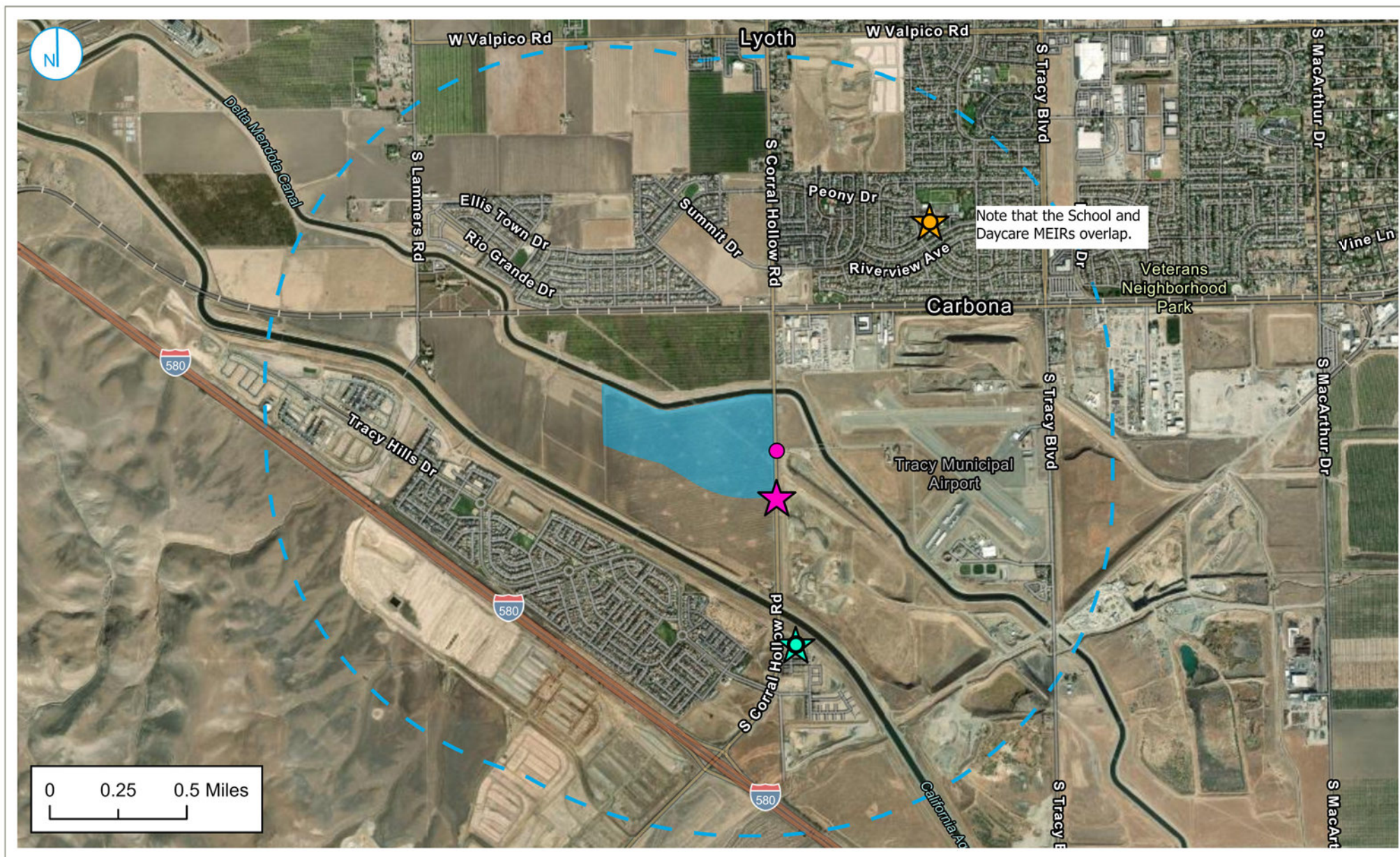
FIGURE 08

Tracy Hills Commerce Center  
29592 S. Corral Hollow Road

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY

RAMBOLL





- |                           |                         |
|---------------------------|-------------------------|
| ★ MEIR - Daycare Cancer   | ● MEIR - School Chronic |
| ● MEIR - Daycare Chronic  | ★ MEIR - Worker Cancer  |
| ★ MEIR - Resident Cancer  | ● MEIR - Worker Chronic |
| ● MEIR - Resident Chronic | ■ Facility Boundary     |
| ★ MEIR - School Cancer    | — 2000m Buffer          |

## MAXIMALLY EXPOSED INDIVIDUAL RECEPTOR LOCATIONS

**Tracy Hills Commerce Center**  
29592 S. Corral Hollow Road

**FIGURE 09**

RAMBOLL US CONSULTING, INC.  
A RAMBOLL COMPANY

**RAMBOLL**



**APPENDIX A**  
**AERMOD INPUT**  
**(provided electronically)**