1	CONTRACT NO. G-132742
2	SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION DISTRICT
3	AND
4	CITY OF FRESNO
5	This Agreement, which shall be effective as of the <u>27th</u> day of <u>June</u> 2022, by and between
6	the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION DISTRICT (hereafter "DISTRICT")
7	and CITY OF FRESNO, (hereafter "CITY").
8	RECITALS:
9	WHEREAS, California Assembly Bill 617 (AB 617) requires that the DISTRICT work
10	with disadvantaged communities within the San Joaquin Valley as selected by the California
11	Air Resources Board (CARB); and
12	WHEREAS, the DISTRICT nominated, and CARB selected, South Central Fresno as
13	a disadvantaged community that would benefit from the development of a community
14	emissions reduction program under AB 617; and
15	WHEREAS, in working with the South Central Fresno community throughout
16	implementation of AB 617, the DISTRICT identified a high-priority emissions reduction
17	strategy that would help build an understanding of the impacts of heavy-duty trucks
18	emissions on the community and to study the possible benefits of rerouting the trucks to
19	mitigate the impacts on community members; and
20	WHEREAS, the CITY is the agency charged with developing truck routes within the
21	area of concern; and
22	WHEREAS, the DISTRICT, the CITY desire to conduct a study to assess the
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1	feasibility of rerouting on-road heavy duty truck traffic in the South Central Fresno AB 617
2	community in response to community concerns (hereinafter referred to as the "Study"); and
3	WHEREAS, the CITY will enter into a contract with a qualified external consultant
4	(hereinafter referred to as the "CONTRACTOR") selected through a competitive RFP process
5	to conduct the truck traffic component of the STUDY; and
6	WHEREAS, the CITY will enter into a contract with a qualified external university
7	partner (hereinafter also referred to as the "CONTRACTOR") selected to perform a health
8	impact analysis of the STUDY; and
9	WHEREAS, the CITY has agreed to oversee the performance of such services
10	pursuant to the terms and conditions of the Statement of Work (SOW), which are attached
11	hereto and incorporated herein as Exhibit A of this Agreement; and
12	WHEREAS, this Agreement is not a public works contract as defined in California Civil
13	Code section 8038 or Public Contract Code section 1101, nor is the Project a public work of
14	improvement as defined in California Civil Code section 8050; and
15	NOW, THEREFORE, the parties hereby agree that the above recitals are incorporated
16	and made a part of this Agreement and further agree as follows:
17	1. PROJECT
18	<b>1.1.</b> The STUDY, consisting of both a feasibility analysis of rerouting on-road heavy-duty
19	truck traffic in the South Central Fresno AB 617 community and a health impact
20	analysis of said truck routes, is set forth in the SOW described in Exhibit A to this
21	Agreement and incorporated herein by reference. CITY will responsibly oversee and
22	administer the CONTRACTORS performance of the tasks and services and work
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1	products requested in Exhibit A of the Agreement.
2	<b>1.2.</b> In consideration of the CITY's execution of a contract with the CONTRACTORS,
3	DISTRICT agrees to reimburse the CITY up to Five Hundred Thousand Dollars
4	(\$500,000) subject to the following conditions:
5	<b>1.2.1.</b> All reports that the CITY receives from the CONTRACTORS per Exhibit A shall
6	be delivered to DISTRICT according to the deadlines identified in Exhibit A.
7	<b>1.2.2.</b> The CITY agrees to participate in teleconference calls and South Central
8	Fresno Community Steering Committee Meetings to discuss the progress reports
9	upon request by the DISTRICT.
10	<b>1.2.3.</b> The CITY shall ensure that the CONTRACTORS place the following language
11	in a conspicuous place on all progress reports and on the final report:
12	"The statements and conclusions in this report are those of the
13	CONTRACTOR(S) and not necessarily those of the CITY and its
14	representatives, the DISTRICT, its Governing Board, or employees.
15	The mention of commercial products, their source, or their use in
16	connection with material reported herein is not to be construed as
17	actual or implied endorsement of such products."
18	1.3. DISTRICT shall not require, and the CITY shall not undertake, any extra services in
19	excess of the total compensation specified in the Agreement without formal
20	amendment to the Agreement executed in the same manner as the Agreement.
21	2. PERIOD OF PERFORMANCE/TIMETABLE
22	2.1. The project shall proceed in accordance with the work schedule and deadlines for

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performance identified in Exhibit A of the Agreement, and shall continue until terminated as provided herein. In no event shall the term of the Agreement extend past March 31, 2024 without the express, written consent of the parties hereto.

- **2.2.** The parties hereto may mutually agree to terminate the Agreement at any time, and in such case, upon any terms as are mutually agreeable, provided that such agreement is made pursuant to a written amendment to the Agreement.
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### 3. COMPENSATION AND INVOICING

- 3.1. DISTRICT agrees to pay the CITY and the CITY agrees to receive a costreimbursable total sum not to exceed Five Hundred Thousand Dollars (\$500,000) for satisfactory services performed under the Agreement.
- 11 **3.2.** The amount to be paid to the CITY under the Agreement includes all sales and use 12 taxes incurred pursuant to the Agreement, if any, including any such taxes due on 13 equipment purchased by the CITY. The CITY shall not receive additional 14 compensation for reimbursement of such taxes and shall not decrease work to 15 compensate therefor.
- **3.3.** Advance payments shall not be permitted. Payments will be permitted only when 16 17 specified services and work products have been satisfactorily delivered. Progress 18 payments shall be subject to review by the DISTRICT Program Manager. Progress 19 payments shall be made upon receipt of a work product or deliverable specified in this 20 Agreement, an invoice, and a completed claim for payment form, which is attached as 21 Exhibit C and incorporated herein by reference. Invoices shall be sent to:

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1	Jessica Olsen
2	Director of Community Strategies and Resources
3	San Joaquin Valley Air Pollution Control District
4	1990 E. Gettysburg Avenue, Fresno, California 93726
5	Jessica.Olsen@valleyair.org
6	<b>3.4.</b> With respect to the service or work product delivered, the invoice shall set forth in
7	detail, in accordance with the Agreement budget, the amount of time expended on the
8	project, including the classification of personnel involved in such time expenditure.
9	The invoice shall also contain an itemization of all materials used for the project,
10	including the purpose of their use and their cost. Payment shall be made within thirty
11	(30) days of receipt of the invoice.
12	3.5. Upon request by DISTRICT, the CITY shall certify (i.e., through copies of issued
13	invoices, checks, or receipts) that complete payment has been made to any and all
14	subcontractors and subconsultants.
15	<b>3.6.</b> It is understood that all expenses incidental to the CITY's performance of services
16	under the Agreement shall be borne exclusively by the CITY.
17	<b>3.7.</b> DISTRICT shall be solely responsible for payment and not any of the parties to the
18	Joint Powers Agreement forming the DISTRICT.
19	<b>3.8.</b> In no event shall compensation paid by DISTRICT to the CITY for the performance of
20	all services under the Agreement exceed Five Hundred Thousand Dollars (\$500,000).
21	<b>3.9.</b> The CITY shall submit all invoices before the termination of the Agreement.
22	4. FUNDING REQUIREMENT
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1 CITY shall be required to contribute funding of not less than Two Hundred Thousand 2 Dollars (\$200,000) for the consultant agreement related to the truck rerouting portion of the 3 STUDY and Fifty Thousand Dollars (\$50,000) for all City staff costs and traffic counts. Should 4 the truck reroute analysis cost more than Two Hundred Thousand Dollars (\$200,000), the 5 District shall reimburse the CITY for any remaining costs. Additionally, the District shall 6 reimburse the CITY for the total cost of the university study on the health impact analysis. 7 Prior to the end of the Project Term, the CITY shall provide District sufficient documentation 8 on the amount of CITY funds committed and contributed for the truck reroute analysis.

### 9 **5. INDEPENDENT CONTRACTOR(S)**

5.1. In performance of the work, duties, and obligations assumed by the CITY under this
 Agreement, it is mutually understood and agreed that the CITY, including any and all
 of the CITY's officers, agents, and employees, will at all times be acting and
 performing as an independent contractor, and shall act in an independent capacity
 and not as an officer, agent, servant, employee, joint venturer, partner, or associate of
 the DISTRICT or the Policy Committee.

5.2. Furthermore, DISTRICT shall have no right to control, supervise, or direct the manner
 or method by which the CITY shall perform its work and function. However,
 DISTRICT shall retain the right to administer the Agreement so as to verify that the
 CITY is performing its obligations in accordance with the terms and conditions thereof.
 The CITY and DISTRICT shall comply with all applicable provisions of law and the
 rules and regulations, if any, of governmental authorities having jurisdiction over
 matters the subject thereof.

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5.3. Because of its status as an independent contractor, the CITY shall have absolutely no right to employment rights and benefits available to DISTRICT employees. The CITY shall be solely liable and responsible for providing all legally required employee benefits. In addition, the CITY shall be solely responsible and save DISTRICT harmless from all matters relating to payment of the CITY's employees, including compliance with Social Security, withholding, and all other regulations governing such matters. It is acknowledged that during the term of the Agreement, the CITY may be providing services to others unrelated to DISTRICT or to the Agreement.

### 9 6. INDEMNIFICATION AND INSURANCE

10 **6.1.** CITY agrees to indemnify, save, defend and hold one another, its boards, 11 committees, representatives, officers, agents, and employees harmless from and 12 against any and all costs and expenses (including reasonable attorney fees and litigation costs), damages, liabilities, claims, and losses (whether in contract, tort, or 13 14 strict liability, including, but not limited to, personal injury, death, property damage or copyright infringement) which arises or is alleged to arise directly or indirectly from 15 any act or omission of the CITY, its officers, agents, or employees in their 16 17 performance of the Agreement, and from any and all costs and expenses (including 18 reasonable attorney fees and litigation costs), damages, liabilities, claims, and losses 19 (whether in contract, tort, or strict liability, including, but not limited to, personal injury, 20 death, and property damage) occurring or resulting to any person, firm, corporation, or 21 entity who may be injured or damaged when such injury or damage arises from any 22 act of omission of the CITY, its officers, agents, or employees in their performance of

the Agreement, save and except claims arising out of the sole negligence or sole willful misconduct of DISTRICT. Provided nothing herein shall constitute a waiver by City of Fresno of governmental immunities including California Government Code section 810 et seq..

- 6.2. The CITY warrants that it is self-insured and that it has sufficient funds and assets to
   provide coverage of at least One Million Dollars (\$1,000,000) per occurrence for
   general commercial liability and One Million Dollars (\$1,000,000) per occurrence for
   commercial automobile liability, without contribution from the DISTRICT or its
   insurers. The CITY's responsibility for worker injuries is governed by California law,
   and/or other applicable statutes.
- 6.3. In the event that the CITY fails to keep in effect at all times insurance coverage as
   herein required, DISTRICT may, in addition to other remedies it may have, suspend
   or terminate the Agreement upon the occurrence of such event.
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### 7. AUDITS AND INSPECTIONS

- 7.1. The CITY shall at mutually agreeable times during business hours, and as often as
   DISTRICT may deem necessary, make available to DISTRICT for examination all of
   its records and data with respect to the matters covered by the Agreement. The CITY
   shall, upon request by DISTRICT, permit DISTRICT to audit and inspect all of such
   records and data necessary to ensure the CITY's compliance with the terms of the
   Agreement.
- 7.2. The CITY shall maintain books, records, documents, and other evidence pertaining to
   the reimbursable time and materials and hold them available for audit and inspection

1	by DISTRICT for a minimum of three (3) years from the date the Agreement is
2	completed or otherwise terminated.
3	8. NOTICES
4	8.1. The persons and their addresses having authority to give and receive notices under
5	the Agreement include the following:
6 7 8 9 10	Samir Sheikh Executive Director/APCO San Joaquin Valley Air Pollution Control District 1990 East Gettysburg Avenue Fresno, California 93726-0244
11 12 13 14 15 16	Scott Mozier Public Works Director City of Fresno, Public Works Department 2600 Fresno Street, 4 <sup>th</sup> Floor Fresno, California 93721-3623
18	8.2. Any and all notices between DISTRICT and the CITY provided for or permitted under
19	the Agreement or by law shall be in writing and shall be deemed duly served when
20	personally delivered to one of the parties, or in lieu of such personal services, when
21	deposited in the United States mail, postage prepaid, addressed to such party.
22	9. GOVERNING LAW
23	9.1. Venue for any action arising out of or relating to this Agreement shall only be in
24	Fresno County, California.
25	9.2. The rights and obligations of the parties and all interpretation and performance of this
26	Agreement shall be governed in all respects by the laws of the State of California.
27	10. DISPUTES
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In the event, there is a dispute regarding or related to the Agreement, the CITY and
 DISTRICT shall meet and will attempt to resolve the dispute. If the dispute cannot be
 resolved within sixty (60) days from the notice of the dispute, the CITY and DISTRICT shall
 try in good faith to settle the dispute by mediation before resorting to arbitration or litigation.

### 5 11.COMPLIANCE WITH LAWS

The CITY shall comply with all federal and state laws, statutes, regulations, rules, and
guidelines which apply to its performance under the Agreement.

### 8 12. CONFLICT OF INTEREST

No officer, employee, or agent of DISTRICT who exercises any function or
responsibility for planning and carrying out the services provided under the Agreement shall
have any direct or indirect personal financial interest in the Agreement. The CITY shall
comply with all applicable federal and state conflict of interest laws, statutes, and regulations
which shall be applicable to all parties and beneficiaries under the Agreement and any officer,
agent, or employee of DISTRICT.

### 15 **13. MODIFICATION**

Any matters of the Agreement may be modified from time to time by the written consent of all the parties without, in any way, affecting the remainder.

### 18 **14. SEVERABILITY**

In the event that any one or more provisions contained in the Agreement shall for any
reason be held to be unenforceable in any respect by a court of competent jurisdiction, such
holding shall not affect any other provisions of the Agreement, and the Agreement shall then
be construed as if such unenforceable provisions are not a part hereof.

### 15.NON-ASSIGNMENT

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Neither party shall assign, transfer, or subcontract the Agreement nor their rights or
duties under the Agreement without the prior, express written consent of the other party.

4 **16. BINDING UPON SUCCESSORS** 

This Agreement, including all covenants and conditions maintained herein, shall be
binding upon and inure to the benefit of the parties, including their respective successors-ininterest, assigns, and legal representatives.

8 || **17.WAIVER** 

9 No waiver of any breach of the Agreement shall be held to be a waiver of any other or 10 subsequent breach. All remedies afforded in the Agreement shall be taken and construed as cumulative, that is, in addition to every other remedy provided therein or by law. The failure 11 12 of DISTRICT to enforce at any time any of the provisions of the Agreement or to require at 13 any time performance by the CITY of any of the provisions therefor, shall in no way be 14 construed to be a waiver of such provisions nor in any way affect the validity of the Agreement or any part thereof or the right of DISTRICT to thereafter enforce each and every 15 such provision. 16

### 17 **18. ENTIRE AGREEMENT**

This Agreement, including all attached exhibits and documents which are referred to
and incorporated herein, constitutes the entire Agreement between the CITY and DISTRICT
with respect to the subject matter hereof and supersedes all previous negotiations, proposals,
commitments, writings, advertisements, publications, and understandings of any nature
whatsoever unless expressly included in the Agreement.

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement as of the 1 2 day and year first herein above written through their respective duly appointed and authorized 3 representatives. 4 CITY OF FRESNO, DISTRICT San Joaquin Valley Unified Air Pollution a California municipal corporation 5 Control District 6 DocuSigned by: By. JE3864D7F7352485..., PE, TE Monte Reyes \_\_\_\_\_ 7 By 10101110 100986AD80E3498.... 8 Chair, Governing Board 9 Director Public Works Department 10 San Joaquin Valley Unified Air Pollution 11 Control District 12 DocuSigned by: 13 APPROVED AS TO LEGAL FORM: Samir Sheikle \_\_\_\_\_ DOUGLAS T. SLOAN 14 By \_\_\_\_\_21AF2A26B1B7499.... 15 **City Attorneys** -DocuSigned by: Executive Director/APCO 16 Taylor Rhoan \_\_\_\_\_ 17 By \_\_\_\_\_\_E204C2946C944B8 \_\_\_\_\_\_\_Jan Approved as to legal form: 18 San Joaquin Valley Unified Air Pollution 19 Deputy City Attorney Control District 20 21 ATTEST: -DocuSigned by: 22 TODD STERMER, CMC Annette Ballatore 23 City Clerk Arine E4F9634B74C541D... 24 25 District Counsel DocuSigned by: Bernard Canez 26 Approved as to accounting form: \_\_\_\_2F1BC57F778C4E1... San Joaquin Valley Unified Air Pollution 27 By. Deputy Clerk Control District 28 -DocuSigned by: Sheraz Gill for \_\_\_\_\_ 29 S E8F920DCDF8F4EF... 30 31 Deputy Air Pollution Control Officer 32

### Reimbursement Agreement between the San Joaquin Valley Air Pollution Control District and City of Fresno

### Exhibit A:

Scope of Work

(20 Pages)

### **Scope of Services**

### **Task 1: Project Management**

The project management effort will be led by Mike Arizabal, who will serve as the primary point of contact for project partners and will be responsible for the deliverables submitted under this contract. The project management effort will be ongoing throughout the duration of the project. This task includes oversight of the consultant team, and the administrative tasks required to support the overall project. Within this task, IBI Group will manage and oversee all administrative, contractual, and technical aspects, of the study to ensure timely and integrated production of tasks to achieve the study objectives.

### **Kick-Off Meeting**

Our first order of work after the Notice to Proceed (NTP) will be to schedule a project kick-off meeting with all project partners including at a minimum City of Fresno, the District, Fresno COG, and the County of Fresno. This meeting will have the purpose to introduce the team, review project objectives and requirements, and establish lines of communication and procedures/protocol, recurring project meeting frequency, progress reporting, scheduling and invoicing, and other relevant project information. IBI will have reviewed all previous and current planning efforts related to the AB 617 area and ensure work efforts are coordinated and that information is shared accordingly. The IBI Team shall be responsible for providing a summary of the meeting and identification of key action items.

### Work Plan

This proposal and associated deliverables within this proposal are the first steps in creating an effective work plan. The work plan is intended to serve as a quick reference to the project management team, task leads, and the City and District. The work plan will include procedures and protocol for managing resources, communications, budgeting and the project milestones and schedule. The work plan will also allow for clear monitoring, reporting, and quality assurance of each individual task status. The work plan will identify and foresee all potential issues and constraints and prepare for their effective resolution before they may potentially occur.

### **Project Schedule**

The project schedule will also be presented at the kick-off meeting. The schedule will be finalized as a Gantt chart and will include individualized and detailed work tasks, start dates, activity durations, product submittal dates, key project milestones, and relationships among work tasks, including critical path items. The project schedule will be no greater than 18 months from the start date as stated in the RFP. IBI Group understands that the submitted draft project schedule will be reviewed by the City Project Manager and key stakeholders throughout the study process. A final schedule will be included in the work plan.

### **Project Management Calls/Meetings**

IBI Group will conduct regular project status meetings with the City and District Project Managers on a bi-weekly basis throughout the duration of the project (up to 20 meetings). These meetings would be conducted via video conference call (Teams, Zoom, or Skype) and will be scheduled for an hour depending on project needs. We will establish a regular meeting schedule and time that works for all parties. The purpose of these meetings will be to discuss ongoing and upcoming project work efforts and to ensure that IBI and project partners are on the same page with regard to the project progress. A key element of these progress meetings will be to discuss work efforts in relation to the overall project schedule and budget. IBI's Project Manager, Mike Arizabal, will be available for impromptu "check-ins" via phone or email throughout the duration of the project.

KPA will participate in these project team meetings to provide community meeting and stakeholder meeting summaries, issues, and attitudes towards mitigation measures. KPA will also respond to phone calls and emails to maintain communication with the team through the duration of the project. For budget purposes, KPA is assuming 6 hours a month for every month of project communications. Well before each meeting, IBI Group will send out agendas for the Project Management Calls that will include the project status, updates on the project schedule, deliverables, and summaries of meetings with the advisory committee and stakeholders. These meetings will be complete with notes, minutes, and summaries that will be uploaded to a file sharing system soon after the conclusion of each project management meeting.

### **Filing Sharing System**

IBI Group will set up a file sharing system shortly after the conclusion of the initial Project Kick-off Meeting. The service platform that will serve as the file sharing system will be chosen in the Kick-off meeting. In past projects, IBI Group has used a secure and protected Microsoft SharePoint project folder that would be specifically created for this project. The file sharing system would be a site to exchange draft and final work products, schedule information, contact information, meeting info and minutes, and all necessary information required to complete the study. IBI also uses Microsoft Teams, Miro, and Google Drive as means to share files and collaborate if necessary.

### **Project Invoicing and Quarterly Reports**

In the management of this project, IBI Group will prepare invoice packages with the City to submit these to District staff for review and approval based on milestone completion. The invoices and progress reports will conform to City requirements. The invoicing will include the budgeted amount, percent complete, and the remaining balance for each task and subtask. The purpose of the monthly invoices and progress reports is to document the project progress against projected efforts and allow for timely payment of prime and sub-contractors consistent with efforts expended and progress achieved.

IBI Group is aware that the City and District will be submitting quarterly reports to the AB 617 Community Steering Committee (CSC) and City Council members providing a summary of project performance and funding expenditures. IBI Group will coordinate with the City and District on these reports.

### **Task 1 Deliverables**

- Kick-off Meeting Materials and Summary Notes
- Project Work Plan and Schedule
- Bi-Weekly Project Call Meeting Notes and Summaries
- Project File Sharing System, Invoicing Template and Quarterly Reports

### Task 2: Outreach and Engagement

The IBI Group Team understands that the public and agency outreach effort is an important component

of the project and has teamed with Katherine Padilla & Associates to deliver a public outreach approach that will integrate the input of stakeholders within the South Central Fresno community, while providing the best possible solutions. The IBI Team recognizes the importance of developing a robust and dynamic public outreach approach to engage as many community members and stakeholders as possible and to expand the reach of the project to a diverse audience.

IBI understands the challenges related to outreach, especially in disadvantaged communities. Traditionally, outreach to disadvantaged communities can be a challenge as residents are apprehensive to engage with public officials and staff due to immigration status or distrust of the traditional planning process. The IBI Team has a long history of implementing public outreach strategies that are truly innovative and engaging across California. As a part of our recent work efforts on the Metro Transit Supportive Planning Toolkit, we helped to identify a variety of public outreach tools and strategies for local agencies to use to communicate their projects. The toolkit outlines specific public outreach tools for engaging a wide variety of community members and to keep them engaged. Some of these tools and strategies that would be applied for the South Central Fresno community include:

- Multiple Modes of Communication Using multiple modes of communication can extend project reach and ensure multiple groups feel heard. Aside from the conventional in-person community meetings, other engagement tools such as live streaming or web streaming of meetings should be made available to those who are unable to attend.
- Make Engagement Interactive Using actionoriented, interactive, and in-the-field outreach strategies makes it easier for people to digest projects and to submit input to revise, test, and fix ideas. Interactive engagement also casts a wider net of measurable responses because citizens are encouraged to participate, not just listen to potential solutions.
- Use Visual Tools to Engage Visual tools such as 3D models or renderings should be incorporated into community outreach efforts to illustrate how projects can be tailored to fit and remain consistent with existing community characteristics.

### Stakeholder and Public Engagement Plan

At the kick-off meeting, or shortly thereafter, KPA proposes holding a Stakeholder Analysis Session with City and District staff to discuss key stakeholders, such as community-based organizations, key trucking companies and their representatives, and representatives from affected neighborhoods, in order to match outreach tactics with the stakeholders' communication needs and the appropriate level of engagement. KPA will present a preliminary list of CBOs, businesses, transportation groups, government entities, and other stakeholders for discussion purposes.

After the stakeholders analysis session, KPA will produce a Stakeholder and Public Engagement Plan which will include social media and traditional media strategies, development of press releases, and describe how we will tap into the city's channels of information and those of other key organizations to maximize the exposure of project information and input opportunities. Engagement strategies may include briefings, interviews with stakeholders, focus groups, announcements and presentations to CBOs, or emails and invitations, social media and press releases.

As part of the Stakeholder and Public Engagement Plan, KPA will also develop Key Messages ("talking points") that describe the project, its goals and objectives, the schedule, and opportunities for community input and feedback, especially to seek the opinions to traditionally disenfranchised communities. The Key Messages serve as a foundation for communication about the project. Additionally, KPA will produce a "process diagram" which will graphically illustrate in a community-friendly manner all strategies, community input opportunities, and how they are aligned with decision points leading to Study milestones. It is understood that KPA will work closely with the City and District to finalize and execute the Stakeholder and Engagement Plan.

The Plan will include the methodology for soliciting, responding to, and documenting stakeholder input and will also describe the role of stakeholders in the decision-making process and will detail how study progress will be disseminated. The Plan will include a section outlining and identifying procedures for integrating and accommodating diverse and conflicting priorities among stakeholders.

The Plan will include a full methodology describing the specific outreach strategies used to accommodate participation for those who speak various languages, with a focus on Spanish and Hmong speakers as over 44% of residents in the affected region are of either of Hispanic or Hmong origin and about a quarter of residents in the same region speak English less than "very well". In this task, outreach will be provided in other languages as deemed beneficial to reach as many members of the public as possible. Not only will the Spanish and Hmong languages be full represented in all community outreach events, but IBI Group will ensure an equal opportunity for all community members to participate. Importantly, community input will provide the foundation for guiding principles, evaluation criteria for mitigation measures, and recommendations, which shall also be informed by technical analysis and best practices presented by the Project Team.

### **Project Database**

Over the course of this study, IBI Group and KPA will foster a deep knowledge and understanding of stakeholders and their issues, concerns, and recommendations. For this study, we recommend strategically targeting our engagement efforts and developing a project database to facilitate on-going communication with key property owners, residents, local businesses (especially the affected industrial complexes), local schools, Chambers of Commerce, major employers, City offices, elected officials, civic groups, transportation and transit agencies, sensitive receptors, emergency responders, private entities, community organizations, and other identified local stakeholders to be determined. IBI Group and KPA will build upon existing lists provided by the City/ District and original research. The contact list will be updated on a regular basis and/or as needed.

### Technical Steering Group and Community Advisory Group

In coordination with the Project Team and the City, the IBI Group and KPA will assist with the formation of a Technical Steering Group (TSG) and Community Advisory Group (CAG) comprised of representatives of key stakeholder groups to serve as a sounding board. These groups would offer input to the project team about our methodology, assumptions, project milestones, and key deliverables, including outreach strategies, Guiding Principles, evaluative criteria for mitigation strategies, and draft recommendations. IBI Group Team will work with the City and District to schedule TSG and CAG meetings to solicit feedback about the overall project, as well as on specific deliverables, including the Project Guiding Principles.

KPA will establish the CAG and TSG in coordination with the City and District. KPA will provide a draft email-letter to send to invitees that describes the project background, objectives, expected number of meetings, committee role and responsibilities. KPA will support TSG and CAG meetings by conducting the following tasks: coordinate the logistics of meetings, notifications, attend the meetings, and provide action-oriented minutes with 48 hours of the meetings. It is understood that Technical Team members will provide the content and agenda for the meetings. KPA shall attend up to six (6) TSG meetings as needed and shall convene and facilitate six (6) CAG meetings and provide summary notes.

IBI Group will prepare a schedule for each TSG and CAG meeting that will show project objectives and deliverables. Coordination activities include securing meeting venues, notification, agendas, exhibits and presentation materials. Meetings may be in-person, via videoconference or teleconference.

### Stakeholder Interviews (up to 16)

In collaboration with the Project Team, KPA shall interview two groups of 6-8 key stakeholders to be selected by the City and District to identify key concerns and opportunities for mitigation options. Group 1 shall consist of businesses and Group 2 to be composed of residents. KPA shall work with the team to develop the interview guide to explore key questions and shall write a report summarizing key issues and opportunities.

### **Task 2 Deliverables**

- Engagement Strategy, Final Version
- Stakeholder Coordination and Public Engagement Plan
- Outreach and Engagement Summaries, Materials, and Attendance Lists
- Project Guiding Principles, Draft Version
- Establish TSG and CAG, with preparation and attendance at up to six (6) meetings per group (12 total), along with meeting materials, agendas, and minutes
- Up to 16 interviews with stakeholder groups, with interview guides and written summaries

### Task 3: Existing Conditions Report

Creating a foundation of data of existing conditions is crucial for the accurate assessment of the study area. The existing conditions will serve as the baseline for all recommended improvements related to truck rerouting. The Existing Conditions Report will include an introduction (background and purpose), study area description (location, regional significance, transportation facilities), demographic conditions (population and employment), land use (existing land use, key destinations/activity centers/employment centers), relevant planning documents and data (transportation/mobility, general plans, specific plans, regional plans, climate plans, etc.), truck mobility conditions (volumes, VMT, OD, collisions), policy review (local transportation policies, regional and state policies and guidelines), and equity analysis (disadvantaged communities, public health metrics/ conditions and demographic conditions. Highlights of the Existing Conditions report include:

### Literature Review and Data Synthesis

IBI Group has already began the literature review process of relevant previous studies, plans, and other documents for the South Central Fresno area, for developing a meaningful and thoughtful project understanding. The extended review will include City, County, and Caltrans truck permitting processes, National Freight Network, current truck routes, and local agency plans such as truck restriction ordinances and routing plans. IBI Group will synthesis and summarize all the pertinent studies, policies, plans, and other documents with the goal of identifying gaps and/or areas that need updating. This information will be crucial in identifying alternative truck routes and what level of coordination is needed.

### **Existing Data Sources**

IBI Group will review and obtain all existing data related to truck trip origin-destination, traffic volumes on current and proposed truck routes, truck GPS data. Understanding who the major truck trip generators are and where they originate and where they are destined to is paramount to this study. IBI Group will obtain outputs from the Regional Travel Demand Model (Fresno Council of Governments (COG) Activity Based Model (ABM)) related to travel patterns, VMT, and volumes. IBI Group will work with the City, County, Caltrans and District to identify and obtain all sources of existing traffic count and classification data. Recent and/or current planning studies in the area will also be reviewed to identify additional sources of traffic data.

### **Data Collection Plan**

While synthesizing data that currently exists is only one aspect of the data collection process, IBI Group recognizes that much of the necessary traffic data is not readily available through existing avenues. Because of this, a strategy will be implemented outlining best practices to acquire all necessary traffic data required to accurately present existing conditions. It is assumed that the City of Fresno will collect and provide classified count data along all existing and proposed truck routes for the South Central Fresno Community, as shown on the September 2005 Truck Route Map. Additional classified count data will be provided by the City of Fresno along potential routes proposed through the community engagement process or as requested by the AB 617 subcommittee on Truck Re-Route Study. However, IBI will develop an existing data collection plan based on any gaps identified in the existing literature and data source review. New data collection can include, but not be limited to, traffic counts, vehicle classification counts, OD studies, license plate surveys, street geometries/signage, active transportation data, rail volumes and train frequencies.

### Existing Physical Characteristics and Community Impacts

IBI Group will provide a comprehensive summary of all existing physical characteristics of the study area, along with an identification of community impacts related to truck movements. IBI will conduct a search of the Statewide Integrated Traffic Records System (SWITRS) and the Transportation Injury Mapping System (TIMS) to review collision reports for the most recent five-year period in the area and research air quality issues through the California Air Resources Board (CARB) Community Air Monitoring Plan for the South Central Fresno community, IBI will also utilize GIS along with the California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen to develop indicators related to exposure, environmental effects, sensitive population, and socioeconomic factors to score the South Central Fresno Community. This task will also inventory roadway characteristics and pavement condition, noise issues, VMT impacts (from the model),

operational impacts (localized intersection, freeway, and roadway segment level of service and capacity analysis), and the interface between high volume truck routes and school, pedestrian, and bicycle facilities.

### **Conceptual Design**

IBI's Civil and Traffic Engineers will develop conceptual plans and truck turning templates (AutoTurn) along all identified new truck routes, with samples at up to ten (10) locations. Conceptual drawings will be planning-level with the purpose of showing sample cross-sections and improvements within available right-of-way.

### **Task 3 Deliverables**

• Truck Routing Study Existing Conditions Report, Final Version

### Task 4: Report NationalBest Practices forAccommodating Trucks

IBI Group has an existing data base of national best practices related to minimizing truck impacts in and around neighborhood communities. This data base was created for IBI's work on the Wilmington Freight Mitigation Study and will be utilized for this study. This includes literature from Federal Highway Administration (FHWA), various Departments of Transportations across the United States, and various NCHRP reports that discuss truck parking, truck demand management (alternative delivery schedules), and neighborhood intrusion.

### **Task 4 Deliverables**

• Truck Management Approaches Report

### Task 5: Recommended Truck Routes, Community Strategies, and Implementation Plan

The culmination of all work in the previous tasks will be presented in the Truck Routing and Implementation Plan. The elements from Tasks 2 through 4 will culminate in a "state of the system" chapter of the Implementation Plan. This will include socioeconomic data, transportation policies, major truck origin/destination patterns, roadway conditions, and regulatory framework. The IBI Group team will use the data from the existing conditions analysis, previous planning efforts and public outreach feedback to design and map the proposed new truck routes. Connectivity to existing and planned facilities in adjacent cities will be considered to develop a complete and detailed list of future projects that will be prioritized for implementation. Each project will include a brief project description, including projectspecific information and potential constraints, such as right-of-way acquisition and grades.

Prioritization directly supports future grant applications since most grants require evidence that prioritization was considered when ranking potential projects. The IBI team will work with City and District staff to create a framework and metrics for prioritizing and ranking projects based on the data and input collected during previous tasks, giving special emphasis to values and priorities expressed by the public. Criteria may be weighted to reflect relative importance for achieving project objectives and goals. The criteria may be presented to the TSG and CAG, or publicly via community engagement events, for feedback to verify the prioritization approach.

The prioritization process will also consider community needs; regional, county, physical and social barriers, safety, and statewide policy and funding frameworks; and the timeframe for implementation, including TSG, CAG, City, County, and District staff input.

The IBI Group Team has extensive experience developing prioritization frameworks that reflect local values and consider both the strategic and implementation criteria needed to inform decision making. Strategic criteria are used to inform program design, reflecting core values and longer-term ambitions, whereas implementation criteria include elements such as readiness and partner support.

The outreach and engagement effort, coupled with the existing context and challenges for the future of the transportation system will inform the potential truck routing solutions that will be developed. The IBI Group team will focus on recommendations that address equity, safety, and community concerns, while maintaining the efficient movement of goods.

The IBI Group Team collectively brings a deep and diverse understanding of local, state, and federal funding sources and programs. Additionally, our team's extensive work with regional planning agencies allows us to provide the City and district with the benefit of our experience in evaluating how available funding should be allocated as part of a regional plan to ensure equitable access to funding opportunities. As part of this element of the Implementation Plan, we will prepare a funding matrix that identifies sources, pursuit requirements, potential uses of funding, timelines, and eligible projects and programs.

IBI Group will provide a complete, clear, and concise report that documents all the work efforts from Tasks 2 through 4, including tables, maps, and/ or other graphics. One of the maps will be the proposed updated to the 2005 City of Fresno Truck Route Map. IBI will also provide the City and District with a section that describes any modifications to the City's Truck Route Ordinance. The report format and structure will lean towards one that is easily digestible by the public or others that may wish to utilize the document for guidance on future planning efforts and grants in the South Central Fresno community area.

IBI assumes up to two (2) rounds of review of the Draft Implementation Plan by the City and District and one (1) round of public review. IBI will provide one (1) set of consolidated and reconciled comments on all draft documents to the City and District. IBI Group has also allocated time for up to one (1) Planning Commission Hearing and two (2) City Council Hearings.

### **Task 5 Deliverables**

- Truck Routing and Implementation Strategy
- Revised City of Fresno Truck Route Map
- City of Fresno Truck Route Ordinance

# University of California, Merced



# Scope of Work Statement

# Health impacts of air pollution in Fresno, CA

Sponsor: City of Fresno, California

Prepared by: <u>Sandie Ha</u>
Version: 3
Date: _Jan 14, 2022

Last updated: March 11, 2022

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## 1. Problem statement

work, very few studies have comprehensively evaluated health impacts of air pollution in central California, an area with significant air adverse health outcomes include oxidative stress, systemic inflammation, and endocrine disruption.7,8 Despite a significant body of respiratory irritation to cardiorespiratory complications and even premature death.<sup>1-6</sup> Biologic mechanisms linking air pollution to Air pollutants including fine particles and ozone have been consistently linked to many health outcomes ranging from minor pollution levels, marked health disparities, and severely limited access to care.<sup>9,10</sup>

## 2. Objectives

childhood asthma, and cardiovascular events in the city of Fresno, CA from 2008-2019. Second, to inform policy and planning efforts, The objectives of this health impact assessment are three-fold. First, we seek to assess the extent to which air pollution impacts that are relevant to air pollution in the region. This assessment is designed to be consistent with the World Health Organization's estimates refer to the number of cases that could be prevented if air pollution levels are minimized. Additionally, we will also explore general principles of health risk assessment of air pollution<sup>11</sup>, while incorporating important information that is relevant to the city of conduct a community-based health survey to explore residents' concerns, behaviors, health outcomes, and health needs whether the health impacts of air pollution differ in neighborhoods with high and low socioeconomic indicators. Third, we seek to the risk of common health outcomes across the lifespan. These health outcomes include infant mortality, preterm delivery we also calculate the excess number of cases that are attributed to air pollution in the region. Stated differently, these Fresno.

## 3. Administration

months. During the study period, the PI will be available for public meeting to provide updates and/or discuss any potential issues or The study will be led by Dr. Sandie Ha from the University of California, Merced. The assessment is expected to be completed in 18 questions.

Administrative activities including IRB approval, data request, and survey design will be started prior to the study period (but after contract approval) to ensure timely completion.

## 4. Brief research methods

including 1) a population-based health risk assessment and 2) a community health survey. The population-based health risk To provide a comprehensive assessment the community's health related to air pollution, the study will consist of two components assessment will provide population-based estimates that are useful for health impact estimation, policy decisions and community planning. Meanwhile, the community health needs survey will provide more details about residents' concerns, behaviors, health status, and needs that will further support policy decisions and intervention efforts.

# 4.1 Population-based health risk assessment

### 4.1.1 Overview.

opportunity to evaluate whether air pollution exposures are associated with the risk of specific health outcomes of interest across the In the population-based health risk assessment, we will be spatiotemporally linking large population-based health databases to air pollution estimation surfaces as well as other social environment indicators (more details on data sources are described in section 4.1.3). The resulting dataset will provide estimation of air pollution exposures by individuals at any space-time and allows the lifespan.

## 4.1.2 Health outcomes of interest

in different age groups. These specific health outcomes include infant mortality and preterm birth among pregnant women and infants To capture the wide range of potential health impacts of air pollution, we will be assessing multiple health effects across the lifespan 4 year, asthma among children <18 years, and cardiovascular events (i.e., stroke, heart attack, etc) among adults ≥18 years in</li> Fresno, CA. To address environmental injustice, we will also evaluate whether certain neighborhoods, indicated by area-level socioeconomic indicators, are more susceptible to the health effects of air pollution.

## 4.1.3 Data sources

exposures, neighborhood characteristics, distance from major roads, and health information for each individual (e.g., all births and all geographical indicator available due to data privacy. The resulting linked file allows a comprehensive estimation of daily air pollution pregnancy outcomes (i.e., infant mortality, preterm birth), and healthcare encounters (i.e. ED visits, hospitalization) for asthma and (Table 1). Data for air pollution, traffic/highway, truck routes, meteorological conditions, environmental injustice indicators, adverse The research team will be linking large population-based databases from a several well-known sources to ensure generalizability cardiovascular disease will be geocoded and spatiotemporally linked based on residential zip-code. Zip-code is the smallest emergency room visits and hospitalizations) in the databases.

Ces			
	Data source	Year	Data description
	San Joaquin Valley Air District	2007-2020	Daily concentration of air pollution estimated for all zip-
	Caltrans	2008-2019	Major roadways, truck routes, traffic density in Fresno
ш	EPA Air Monitoring Network	2007-2020	Daily meteorological data at local monitors located in Fresno
00	alifornia Vital Statistics Birth cohort Data	2008-2018 (2018 is the latest year	Linked birth and death certificates for all births
		available)	registered in Fresno
Ű Ű	alifornia's Office of atewide Health Plannind	2008-2019 (2019 is the latest vear	Patient-level administrative data abstracted from individual
ar	Development (OSPHD)	available)	patient records and facility-level
			utilization data on healthcare
			services from hospitals and
			healthcare facilities in Fresno
ပိ	ILENVIROSCREEN 4.0 from the	2021	Environmental scores for all
È	ie Office of Environmental		census tracts in Fresno based
Ť	alth Hazard Assessment		on potential exposures to
Ō	EHHA)		pollutants, adverse
			environmental conditions,
z *	ote: a new version is		socioeconomic factors and
av	ailable but the older 2018		prevalence of certain health
a a	ersion is closer to the study eriod.		conditions.
Þ.	merican Community Survey	2010	Provides neighborhood
g	nd US Census		socioeconomic indicators (e.g.,
			income, education, etc) for all
_			

# For adverse pregnancy outcomes, addresses are available for more detailed spatial analyses. (See Section 4.1.4 below)

# 4.1.4. Study design and analytic approach

innovative approach is commonly and increasingly used to evaluate the effects of air pollution on acute outcomes in the literature.<sup>12-16</sup> To assess potential delayed effects of air pollution, we will evaluate risks within one week of exposure. Conditional logistic regression We will be using the time-stratified case-crossover design and analyses to fully control for potential time-invariant confounding. This models will be used to calculate excess risk of health outcomes associated with air pollution exposures.

routes, or the distribution center are associated with elevated risk of adverse pregnancy outcomes. Such analysis will compare births mentioned above, we will also perform a more detailed spatial analysis which assesses whether proximity to major roadways, truck For pregnancy outcomes, we will be able to obtain residential address of the mother at delivery. Thus, in addition to the analyses

<500m away from a source to those who live further away. Potential confounders of interest will be evaluated using directed acyclic graphs.

level of air pollution exposure, we will identify whether certain communities have more health impacts compared to others (i.e. more We will also explore differences in health impacts of air pollution based on neighborhood characteristics. For example, at the same susceptible to impact of air pollution)

# 4.2 Community-based health survey

### 4.2.1 Overview

In order to supplement the population-based health risk assessment, we will also conduct a community-based health survey to obtain more details regarding residents' health status, concerns, awareness, and needs. We will be working with our established community The survey we will be administered by trained interviewers, and will assess residents' concerns, health status, behavior, and health partner to conduct a survey of ~1000-2,000 randomly selected Fresno residents living at varying distance from distribution center. needs that are relevant to air pollution exposures.

## 4.2.2 Health outcomes of interest

behaviors; knowledge, perception and practice related to air pollution; sources of air pollution and health information; neighborhood The survey will be capturing several important health domains that are relevant with respect to pollution exposures. These include address (for geocoding); demographics; health conditions; surrounding environmental conditions; employment; general health concerns; and healthcare utilization and access.

# 4.2.3 Study design and analytical approach

square tests as appropriate. Comparisons will also be made between those who live closer to the distribution center and those who section 4.2.2. We will also compare needs, concerns and other health indicators across demographic groups using t-tests or chi-This survey will employ a cross-sectional design. We will be providing descriptive statistics of the health outcomes described in live further away.

## 5. Deliverables

Through the contract period, the researchers and sponsor will be engaged in ongoing discussion to ensure timely and high-quality deliverables. Deliverables and their tentative due dates are presented in Table 2 below.

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Table 2. Expected deliverable	Se	
Deliverables	Description	Expected delivery
HRA 1 – Associations	-Descriptive statistics of characteristics of study participants and	December 31, 2022
between air poliution and adverse pregnancy	distributions of air poliution (ozone, Prw2.5) over space and time. -Associations (odds ratios, 95% confidence intervals) between air pollution	
outcomes	exposures (ozone, $PM_{2:6}$ ) and infant mortality & preterm birth -Excess number of infant mortality and preterm births that were	
	attributable to air pollution -If applicable data will be presented separately for disadvantaged and	
	affluent neighborhoods -An assessment comparing adverse pregnancy outcomes between those	
	who live within 500m of a major roadway/truck road vs. those who do not -Assessment comparing adverse pregnancy outcomes between those who live within 500m of the distribution center vs. those who do not.	
HRA 2 – Associations between air pollution and	<ul> <li>-Descriptive statistics of characteristics of study participants</li> <li>-Associations (odds ratios, 95% confidence intervals) between air pollution</li> </ul>	June 30, 2023
childhood asthma	(ozone, PM <sub>2.5</sub> ) exposures and childhood asthma ED visits	
(ED) visits in Fresno, CA	-Excess runner of dimunood asuma that were autobutable to an pointion of applicable data will be presented separately for disadvantaged and	
	arfluent neighborhoods	
HRA 3 – Associations between air pollution and	<ul> <li>-Descriptive statistics of characteristics of study participants</li> <li>-Associations (odds ratios, 95% confidence intervals) between air pollution</li> </ul>	August 15, 2023
cardiovascular disease	exposures (ozone, PM2.5) and cardiovascular event hospitalization and ED	
emergency department visits	visits (stroke, neart attack, neart tailure, etc.) -Excess number of cardiovascular events that were attributable to air	
	pollution	
	-If applicable data will be presented separately for disadvantaged and affluent neighborhoods	
Health needs assessment	<ul> <li>Descriptive statistics of resident's concerns, needs, and health status relevant to air pollution</li> </ul>	December 01, 2023
FINAL REPORT		December 31, 2023

## 6. Expected Timeline

	20	21						2022										Ñ	023					
Activities	Q2	Q3	-	ш	Σ	A	Σ		<u> </u>	~	6	2		ш	Σ	∢	Σ	<b>ر</b>	~	∢	S	0	z	
Finalize scope of work	Î																							
Assemble an interdisciplinary team		1																						
Start weekly meetings with team		Î																						
Survey design							1																	
IRB and data requests							倉	-	-	-	_	_												
Receipt of data								-	•	-	_	_	_											
Geocode birth certificate data								_	-	Î	_	_												

Health needs assessment survev		×
Data management and linkage (Vital statistics)		
HRA 1 (adverse pregnancy outcomes)		
Data management and linkage (OSHPD)		
HRA 2 (childhood asthma)		
HRA 3 (cardiovascular events)		
FINAL Report		×

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7. Estimated Budget Please see attached Excel sheet

Principal Investigator: Sandie Ha					Budget Start Dat	te: 1/1/22							
Sponsor: City of Fresno Preiost Title: Health Impacts of air pollution	in Emona CA				Budget End Date	e: 6/30/23				# De	monnel P	los Ve	
rojee. The real intracts of air pollution	riesho, GA		Year 2: Six					<b></b>	Y- 4	# Pe	w- 0	ST II	W- 5
Salaries	Monthly Rate	Year 1	months	Year 3	Year 4	Year 5	Total	Personnel	11.1	fr 2	173	rr 4	Tro
PI: Sandie Ha	\$ 11,322.2	2 33,967	11,662	-	-	-	45,629	PI: Sandie Ha	1	1 1			
Co-PI 1		-	-	-		-	-	Co-PI 1					
Co-PI 2		-	-	-	-	-	-	Co-PI 2	I	1		1	1
Co-PI 3		-	-	-		-	-	Co-PI 3					
Co-PI 4		-	-			-	-	Co-PI 4	I	1		1	
PI Salary: Course Buyout					-	-	-	PI Salary: Course Buyout					
Postdoc Level			-				-	Postdoc Level	1				
Staff (Exempt)			-				-	Staff (Exempt)	1	1	1		1
Staff (Non-Exempt)								Staff (Non-Exempt)					
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GSR-AT (Pail): Step V	\$ 4,902.0	3 11,009		-	-	-	11,009	000 AV (0-1): 01 )/				-	-
GSR-AY (Spring): Step V	\$ 4,902.8	3 11,009	11,340	-	-	-	22,349	GSR-AT (Spring): Step V					
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Professional Research Scientist (Exempt)		-	-	-	-	-	-	Professional Research Scientist (Exempt)					
Professional Research Scientist (Non-Exempt)		-	-	-	-	-	-	Professional Research Scientist (Non-Exempt)					
Project Scientist (Exempt)		-	-	-	-	-	-	Project Scientist (Exempt)					
Project Scientist (Non-Exempt)				-	-	-	-	Project Scientist (Non-Exempt)					
Project Coordinator (Exempt)		-			-	-		Project Coordinator (Exempt)	1				
Project Coordinator (Non-Exempt)							-	Project Coordinator (Non-Exempt)					
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Co-PI 4	3.0	% -	-	-	-	-	-	Co-PI 4	1	1		1	1
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Postdoc Level	14.0	% -	-				-	Postdoc Level	1				
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Professional Research Scientist (Exempt)	45.7	% -		-	-	-	-	Professional Research Scientist (Exempt)	L			<u> </u>	<u> </u>
Professional Research Scientist (Non-Exempt)	53.5	% -	-				-	Professional Research Scientist (Non-Exempt)	1				
Project Scientist (Exempt)	45.7	% -						Project Scientist (Exempt)	1				
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Equipment							-	COPPI 1					
Equipment							-	Co-PI 2					
Equipment							-	C0-PI 3					
Total Equipment					-		-	Co-PI 4					
								PI Salary: Course Buyout					
Travel								Postdoc Level					
Travel-domestic		4.000	6.000				10.000	Staff (Exempt)					
Travel-international		2 000					2 000	Staff (Non-Exempt)					
Total Travel		6.000	6 000				12 000	Undergraduate Academic Year	30.0%				
Participant Support		0,000	0,000				12,000	Undergraduate: summer holidave	75.0%				
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Travel							-	GSR-AY (Spring): Step V	49.9%	49.9%			
Subsistence							-	GSR- Sumr: Step V	49.9%	49.9%			
Other:							-	Professional Research Scientist (Exempt)					
Total Participant Support		-			-			Professional Research Scientist (Non-Exempt)					
Subawards								Project Scientist (Exempt)					
Subaward 1: TBD Fresno CBO							-	Project Scientist (Non-Exempt)				L	
Subaward 2							-	Project Coordinator (Exempt)	1	1	1	1	1
Subaward 3							-	Project Coordinator (Non-Exempt)	1	1	1	1	1
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JC Subaward 6								Personnel	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Total Subawards								PI: Sandie Ha	3	3 1	0	0 1	0 0
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Non-resident Supplemental Tuition **	7,551 7.55	1 -						Undergraduate Academic Year	2.7	0	0	0 1	0 0
Student Services Fee **	564 54	4 1 1 28	1 241				2 369	Undergraduate: summer, holidays	2.25	5 0	0	0 1	0 0
Health Insurance **	1.356 1.90	9 3 255	3 500				6.825	GSR-AY (Fall): Step V	2.2455	5 0			0 0
Sub-Total Tuition & Fees	1,000 1,08	15,200	17 407				22 222	GSR-AY (Spring): Step V	2 2455	2 2455			
Cotal Other Direct Costs		10,025	17,407				116 700	GSR- Sumr Step V	2 994	0.499			
Stat Other Direct Costs		99,375	17,407				116,782	Profaceional Research Scientist (Evennet)	2.094	0.489			
I otal Direct Costs		191,415	49,694		-		241,110	Professional Research Scientist (Exempt)	-	0			
Portion of Sub-award to be charged IDC		-					-	Proressional Research Scientist (Non-Exempt)	1 0	0	0	1	9
MTDC (less equipment, Stdnt fees, & SK's >	25,000)	175,590	32,287	-	-	-	207,877	Project Scientist (Exempt)	-	0	0		0
Total Indirect Costs	0.3	52,677	9,686				62,363	Project Scientist (Non-Exempt)	0	0 0	0		0 0
Total Request		244,092	59,381				303,473	Project Coordinator (Exempt)	0	0 0	0	0	0 0
				GSR Total	Is Per Year			Project Coordinator (Non-Exempt)	0	0 0	0		0 0
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Total	Fall	Semester #	# GSR			
	Salar	36,698	13,859	-	-	-	50,557	I	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
	Fring	e 1.101	416	-			1,517	Tuition **	1	1	0	0	0 0
Consortium IDC		1						Non-resident Supplemental Tuition **	1	1		1	1
Direct costs less consortium IDC		191 415	49.694		1		241 110	Student Services Fee **	1	1	ſ	0	0 0
		101,410	40,054				241,110	Health Insurance **	1	1 1			
0		EX 0000	EV 0055	FX 000 -	EX agar	EV 0055	EV 0005	Onda	a Semestor	# GSP	L C		1 C
Composite Benefit Rates per year		FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Sprin	y centester	wook			
Other Academic and Exempt Staff		45.79	45.7%	45.7%	45.7%	45.75	6 45.7%	r	11.1	ff 2	173	Yr 4	Tr 5
Faculty (Academic Year)		37.09	37.0%	37.0%	37.0%	37.09	6 37.0%	Tuition **	1	1	0	0	0 0
Post Doctoral Scholars	-	14 09	14.0%	14.0%	14.0%	14.05	6 14.0%	Non-resident Supplemental Tuition **					
imited Renefits Fligibility (including Faculty Sur	mmer Salariee)	3.09	3 0%	3 0%	3.0%	3.05	3.0%	Student Services Fee **	1	1	0	0 1	0 0
Non Example Proff		5.07		5.0%	0.0%	3.07	. 3.0%	Health Insurance **	1	i i		n	
NON Exempt Statt		53.59	53.5%	53.5%	53.5%	53.5%	•j 53.5%		Terror 1			<u> </u>	4
									fuition li	ncrease (do	not edit)	1. 1.	1



FY to use FY 2021 FY 2022 FY 2023 FY 2024

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### **BUDGET JUSTIFICATION:**

PI: Sandie Ha Project Title: Health impacts of air pollution in Fresno, CA Project Period: 1/01/2022 - 6/30/2023

### A. SENIOR PERSONNEL:

A.1. Dr. Sandie Ha will commit a total of 3 person months. She will work on, and supervise the research assistants working on the project.

### **B. OTHER PERSONNEL:**

- B.1. The Graduate Student Researcher (TBD) will commit 13 person academic months and 4 person summer months. The GSR will help with data management and analyses during the academic year. During summer two Graduate Student Researchers will help with survey data cleaning, management, and analysis.
- B.2. The Undergraduate Student Assistant will assist with recruitment efforts, survey instrument design, data cleaning and management. The student will also be helping with administrative tasks such as IRB application and data acquisision.

Salaries are based on current actual salaries and are projected to include a 3% annual costof-living adjustment (and merit, if applicable) effective each year, consistent with institutional policy.

### C. FRINGE BENEFITS:

- a. 3% benefit rate is used for PI/Co-PIs.
- **b.** 45.7% benefit rate is used for Research Scientists.
- c. 14% benefit rate is used for Post-Doctoral Scholars.
- **d.** 3% benefit rate is used for Graduate Student Researchers.

The University of California, Merced Composite Fringe Benefit Rates (CFBR) have been reviewed and federally approved by the Department of Health and Human Services (DHHS) for use by all fund sources for FY21. Rates beyond June 30, 2021 are estimates and are provided for planning purposes only. Future CFBR rates are subject to review and approval by DHHS on an annual or bi-annual basis. Fringe benefits are assessed as a percentage of the respective employee's salary. *For more information, please see:* https://bfs.ucmerced.edu/departments/costing-and-policy/cbr

### D. TUITION AND FEES:

The University of California, Merced provides full remission of tuition, all fees, and graduate student health insurance to all graduate students who are employed on-campus at 25% time or greater during the academic year. The rates are based on current graduate fees and are escalated annually in the budget at a rate of 10% per year. Additional information regarding the fee remission program can be found at:

https://catalog.ucmerced.edu/content.php?catoid=17&navoid=1626#fee\_schedule

### E. TRAVEL:

E.1. Domestic: Funding is requested for domestic travel for conferences for professional development and learn relevant methods for the project. Estimated breakdown of costs are as follows:

ltem	Year 1	Year 2	Total
Airfare	1,500	1,500	3,000
Lodging	800	800	1,600
Meals	300	300	600
Conference Registration	300	300	600
Transportati on	100	100	200
TOTAL:	3,000	3,000	6,000

E.2. Foreign: Funding is requested for foreign travel for conferences for professional development and learn relevant methods for the project. Estimated breakdown of costs are as follows:

ltem	Year 1	Year 2	Total
Airfare	3,000	0	3,000
Lodging	1,500	0	1,500
Meals	300	0	300
Conference Registration	600	0	600
Transportati on	600	0	600
TOTAL:	6,000	0	6,000

International per diem rates can be found here: <u>https://aoprals.state.gov/web920/per\_diem.asp</u>

### F. OTHER DIRECT COSTS:

- F.1. Materials and Supplies: Funding is requested for purchasing:
  - F.1.1. Four (4) high performance computers for the management and linkage of large datasets.
  - F.1.2. Software: ArcGIS will be used to link spatial data
  - F.1.3. Vital statistics requests
  - F.1.4. Data storage: A larger server to accomondate the large amount of data necessary to conduct the proposed studies.
- F.2. Consultant Services: Funding is requested for consultant (TBD). Environmental justice expert consultants will advise on issues surrounding incorporating environmental justice measures into the analyses.
- F.3. UCM Biostatistics Core: An on-site recharge facility will provide comprehensive statistical and data analysis support.
- F.4. Geocoding: UC Merced GIS Lab will be consulted to assist with geocoding birth certificate data.

### G. INDIRECT COSTS:

Per the sponsor's policy, indirect costs have been limited to 30% of total direct costs.