Arizona Department of Transportation
Environmental Planning

Project Level Carbon Monoxide (CO) and Particulate Matter (PM10) Consultation Document

SR 303L, 51st Ave to I-17 &
SR 303L, Lake Pleasant Parkway to 51st Avenue

Project No. 303 MA 136 F0562 01C & 303 MA 131 F0561 01C
Federal No. 303-A(203)T & 303-A(229)T

October 17, 2024

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ADOT pursuant to 23 U.S.C. 326 and a Memorandum of Understanding dated December 20, 2023, and executed by FHWA and ADOT.

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Project- Level Conformity Interagency Consultation

Purpose and Description

The Arizona Department of Transportation's (ADOT) Project No. 303 MA 136 F0562 01C [Federal Reference Number 303-A(203)T] and Project No. 303 MA 131 F0561 01C [Federal Reference Number 303-A(229)T] are within the same general the State Route 303 Loop (Loop 303) project area and may be bid together. Therefore, per coordination with the US Environmental Protection Agency (EPA), for the purposes of air quality analysis, these two projects will be evaluated for CO & particulate matter (PM) hot spot analysis in one consultation document.

F0562 Project Setting and Description

ADOT Project No. 303 MA 136 F0562 01C is a project to prepare the final design for the proposed a third general-purpose lane (GPL) in each direction on the Loop 303 between 51st Avenue and Interstate 17 (I-17), as well as direct-connecting system ramps to and from Loop 303 to I-17. The project limits on Loop 303 are between milepost (MP) 136.00 near 51st Avenue to the Loop 303/I-17 interchange, and along I-17 between MP 220.65 near Dixileta Drive and MP 223.30 near Dove Valley Road within the City of Phoenix, in Maricopa County, Arizona. Temporary traffic control would extend 2 miles west along SR 303L, 1 mile north and south along I-17, and 1 mile east along Sonoran Desert Drive. In addition, spot overhead traffic sign installation improvements would occur on I-17 at MP 219.24 and MP 224.91.

Several northwest valley communities, including those along the Loop 303 corridor, have been identified as among the fastest growing in the region. New residential and commercial growth along the Loop 303 and I-17 corridors is contributing to increasing traffic congestion in this area. Loop 303 serves as one of the main travel routes in the west valley, stretching for approximately 35 miles from the City of Goodyear to I-17, where it becomes Sonoran Desert Drive.

This section of Loop 303 was built in 2011 as an interim facility with two 12-foot lanes in each direction of travel and a wide unpaved median, with the intention to increase capacity over time. The purpose of this project is to continue the planned expansion of the existing Loop 303 to meet future travel demands of this region, provide congestion relief for I-17 and surrounding communities, and accommodate the expanding business, residential, and economic area growth that is expected.

The scope of work for the project consists of:

- Adding a GPL in both directions on Loop 303 from just west of 51st Avenue to I-17
- Grading and paving the median along Loop 303
- Constructing flyover direct ramp connections (bridges) between Loop 303 and I-17
- Constructing new retaining walls along ramps where needed
- Widening the outside of I-17 to accommodate new ramp connections and lane tapers
- Restriping lanes on Loop 303 and I-17
- Removing and replacing pavement, curb, and gutter as needed along the existing Loop 303 and ramps
- Repairing concrete pavement on Loop 303 near MP 137.40
- Removing, replacing, and installing roadway loop detectors and CCTV equipment
- Removing, replacing and adding concrete barriers, as needed

- Removing and replacing end treatments, as needed
- Constructing noise abatement, if determined necessary through a noise evaluation
- Installing new drainage ditches and catchments, storm drains, catch basins, and manholes
- Extending existing drainage pipes, as necessary
- Installing permanent and temporary erosion control measures
- Removing, replacing and adding traffic signs, signals and ITS
- Removing, replacing, and adding overhead street lights, pull boxes, and conduit
- Installing overhead traffic structures on I-17 at northbound MP 219.24 and southbound MP 224.91
- Relocating existing utilities and installing new utilities including ITS conduit
- Staging and stockpiling equipment and construction materials within the project limits
- Vegetation removal, as needed
- Installing landscape and irrigation measures, as needed
- Removing temporary connector roads (previous I-17 connection)

The project would occur within the existing ADOT right-of-way (ROW) through private lands and ADOT easement through Arizona State Land Department (ASLD) lands. No new ROW, easement, or temporary construction easements are required. Construction funding for this project has not yet been programmed. If obtained, construction could begin as early as spring 2025 and is expected to take approximately two years.

F0561 Project Setting and Description

ADOT Project No. 303 MA 131 F0561 01C is proposing a roadway widening project on Loop 303 from MP 131.2 to MP 136.6 in the City of Peoria and City of Phoenix, Maricopa County, Arizona. The project would occur within ADOT ROW and ADOT easement on ASLD lands and Bureau of Reclamation (BOR) lands.

Loop 303 consists of two 12-foot through lanes in each direction with 10-foot minimum outside shoulders and 12-foot minimum inside shoulders. The purpose of this project is to increase capacity on Loop 303 by adding a GPL to provide a total of three 12-foot lanes in each direction.

The scope of work for this project includes:

- Widen Loop 303 toward the median to provide three lanes in each direction
- Construct new Loop 303 mainline and bridges at 67th Avenue
- Construct new pavement, curb and gutter, barriers, guardrails, and retaining walls, as needed
- Remove and reconstruct roadside barriers and/or guardrail, as needed
- Construct temporary roadway to facilitate repair and/or replacement of existing pavement and subgrade, as needed
- Remove temporary roadway, as needed
- Repair and/or replace existing pavement and subgrade, as needed
- Modify existing drainage facilities and construct new drainage facilities to accommodate new mainline improvements
- Install lighting, as needed
- Remove and reconstruct fence, as needed
- Remove existing signage and provide new signage, including embedded advance warning signs

- Obliterate and install roadway striping, raised pavement markers, and rumble strips
- Install Freeway Management System (FMS) infrastructure
- Remove/trim vegetation
- Install temporary and/or permanent stormwater measures, as needed
- Install irrigation and landscaping, as needed
- Construct new utilities and relocate utilities, as needed
- Conduct utility potholing and geotechnical investigations, as needed

No new ROW, easement, or temporary construction easements will be required for the project. Staging/stockpiling areas have yet to be determined and will be the responsibility of the contractor. Temporary lane closures and/or lane shifts will be necessary during construction. Temporary traffic control signing will be utilized to alert the travelling public of the upcoming traffic changes. The construction start date is dependent on funding. Once a funding source has been established, additional schedule information will be developed and distributed during final design. The anticipated construction duration is approximately 14 months.

These projects are within the Phoenix CO maintenance area and a nonattainment area for PM10 and Ozone. Though these projects are split, a combined proposed project is included in the *Maricopa Association of Governments (MAG) Regional Transportation Plan (RTP) MOMENTUM 2050.* In addition, the combined project is included in the *FY 2022-2025 MAG Transportation Improvement Program*.

Figure 1. Project Vicinity Map

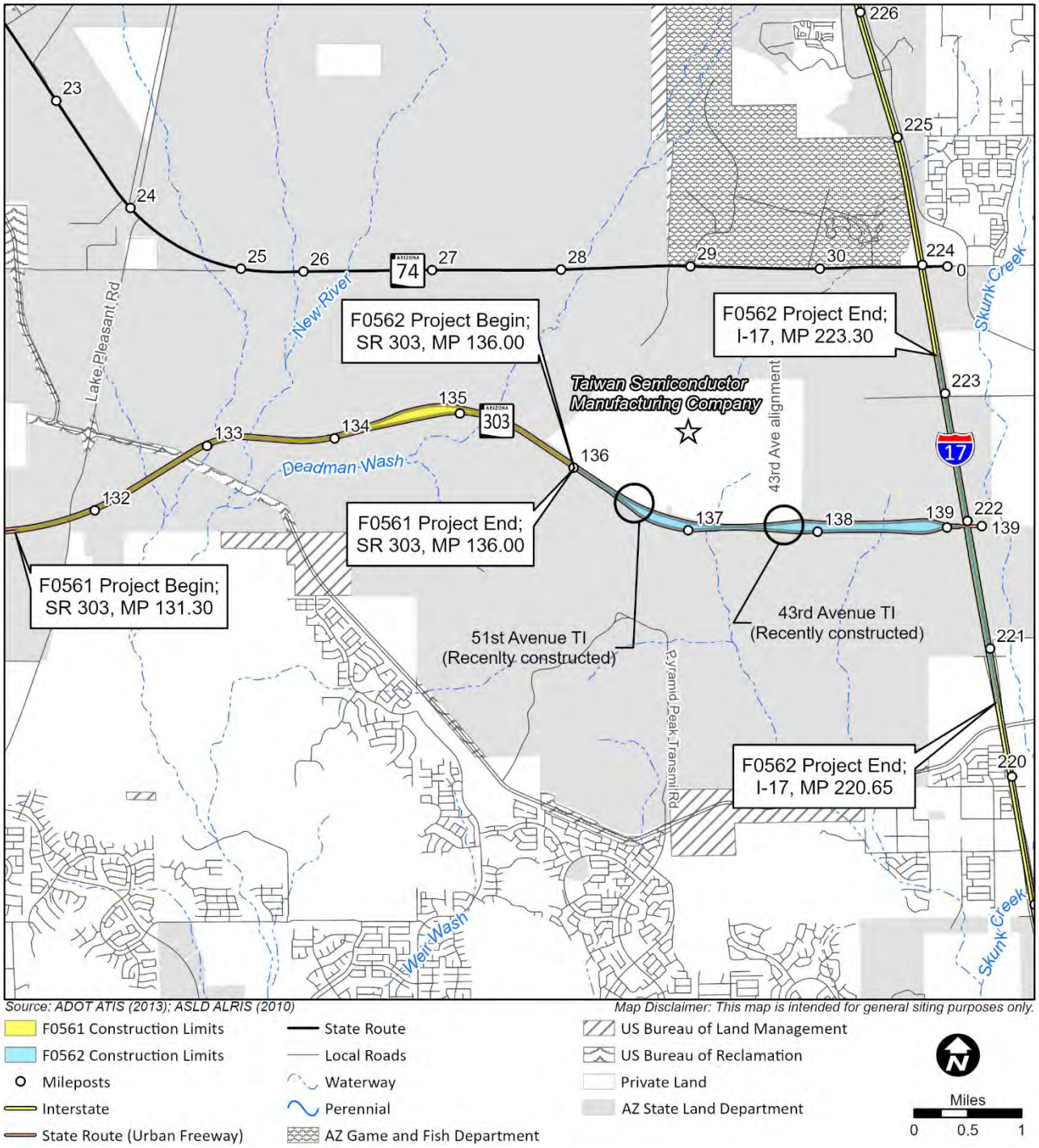


Figure 2. Project Improvments

Source: [Loop 303, Lake Pleasant Parkway to I-17 Improvements | Department of Transportation (azdot.gov)]

CO Project Assessment – Part A

The following questionnaire is used to compare the proposed project to a list of project types in 40 CFR 93.123(a) requiring a quantitative analysis of local CO emissions (Hot-spots) in nonattainment or maintenance areas, which include:

i) Projects in or affecting locations, areas, or categories of sites which are identified in the applicable implementation plan as sites of violation or possible violation;
ii) Projects affecting intersections that are at Level-of-Service D, E, or F, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes related to the project;
iii) Any project affecting one or more of the top three intersections in the nonattainment or maintenance area with highest traffic volumes, as identified in the applicable implementation plan; and
iv) Any project affecting one or more of the top three intersections in the nonattainment or maintenance area with the worst level of service, as identified in the applicable implementation plan.

If the project matches one of the listed project types in 40 CFR 93.123(a)(1) above, it is considered a project of local air quality concern and the hot-spot demonstration must be based on quantitative analysis methods in accordance to 40 CFR 93.116(a) and the consultation requirements of 40 CFR 93.105(c)(1)(i).

Projects Affecting CO Sites of Violation or Possible Violation

Does the project affect locations, areas or categories of sites that are identified in the CO applicable plan or implementation plan submissions, as appropriate, as sites of violation or potential violation?

NO – This project does not affect locations, areas or categories of sites that are identified in the MAG 2013 Carbon Monoxide Maintenance Plan for Maricopa County as sites of violation or potential violation.

Projects with Congested Intersections

Is this a project that affects a congested intersection (LOS D or greater) will change LOS to D or greater because of increased traffic volumes related to the project?

YES – For F0561 project, the project would not affect a congested intersection will change LOS to D or greater because of increased traffic volumes. For F0562 project, among the 10 intersections, 3 intersections in AM peak hour and 3 intersections in PM peak hour operate at LOS D or greater under existing condition. One intersection would result in LOS D in the 2050 build scenario. ADT volume increase at intersections range from –48,545 vehicles to23,598 vehicle and truck ADT volume increase at intersections range from -5,748 vehicle to 1,681 vehicles.

Table 1A – Freeway Mainline & Intersection ADT and Truck ADT in Existing, No Build and Build Conditions (F0561)

	AADT and Truck Volumes	2023 Existing		2050 No-Build		2050 Build		Difference (Build - No- Build)		
		ADT	Truck (%)	ADT	Truck (%)	ADT	Truck (%)	ADT	Truck ADT	Truck (%)
Mainline	SR 303L East of 67th Ave. to 51st Ave	17,199	12.38%	53,374	10.31%	98,509	11.23%	45,136	5,563	0.92%
Mainline	SR303L between 67th Ave. & Lake Pleasant Parkway	17,199	12.38%	53,374	10.31%	96,298	11.40%	42,924	5,474	1.09%
Mainline	SR 303L West of Lake Pleasant Parkway	21,852	12.93%	61,119	9.77%	93,309	12.22%	32,190	5,430	2.45%
Intersection	Lake Pleasant Parkway & SB SR303L	10,406	9.62%	46,587	3.30%	27,170	6.67%	-19,417	276	3.37%
Intersection	Lake Pleasant Parkway & NB SR303L	8,748	8.29%	43,500	3.11%	25,244	5.94%	-18,256	146	2.83%
Intersection	67th Avenue & SB SR303L	---	---	---	---	37,853	11.83%	---	---	---
Intersection	67th Avenue & NB SR303L	---	---	---	---	24,445	9.54%	---	---	---

Note: Truck% includes heavy truck and medium truck. ADT at intersections include volumes on approach lanes.
Source: MAG traffic demand model received from Kimley Horn on April 3, 2024

Table 1B – Freeway Mainline & Intersection ADT and Truck ADT in Existing, No Build and Build Conditions (F0562)

	AADT and Truck Volumes	2023 Existing		2050 No-Build		2050 Build		Difference (Build - No- Build)		
		ADT	Truck (%)	ADT	Truck (%)	ADT	Truck (%)	ADT	Truck ADT	Truck (%)
Mainline	SR 303L between 51st Ave & 43rd	27,289	13.77%	73,709	11.15%	115,512	12.98%	41,803	6,776	1.83%
Mainline	Sonoran Desert Dr between 43rd Ave & I-17	29,947	14.74%	77,899	11.19%	95,411	13.21%	17,512	3,880	2.01%
Mainline	I-17 south of Dexileta Dr	141,166	13.48%	250,198	16.45%	194,016	16.65%	-56,181	-8,857	0.20%
Mainline	I-17 between Dexileta Dr & Sonoran Desert Dr	138,861	13.58%	239,749	16.81%	233,692	17.84%	-6,057	1,389	1.03%
Mainline	I-17 between Sonoran Desert Dr & Dove Valley Rd	110,845	14.03%	180,162	18.85%	140,367	21.52%	-39,796	-3,765	2.66%
Mainline	I-17 between Dove Valley Rd & Carefree Hwy	117,668	13.80%	176,817	19.04%	153,885	20.33%	-22,932	-2,389	1.28%
Intersection	51st Avenue & SB SR 303L	7,017	19.59%	36,074	7.72%	42,525	8.95%	6,451	1,024	1.24%
Intersection	51st Avenue & NB SR 303L	5,853	18.85%	16,848	7.13%	34,279	7.35%	17,431	1,320	0.23%
Intersection	43rd Avenue & SB SR 303L	7,399	17.94%	23,716	8.25%	37,660	7.89%	13,944	1,016	-0.36%
Intersection	43rd Avenue & NB SR 303L	947	12.25%	10,009	8.22%	33,607	7.45%	23,598	1,681	-0.77%
Intersection	Dexileta Dr & NB I-17	---	---	---	---	14,663	6.67%	---	---	---
Intersection	Dexileta Dr & SB I-17	---	---	---	---	12,655	6.97%	---	---	---
Intersection	Sonoran Desert Dr & NB I-17	29,881	12.78%	70,907	9.45%	44,042	7.97%	-26,865	-3,188	-1.48%
Intersection	Sonoran Desert Dr & SB I-17	35,570	13.84%	86,569	10.63%	38,024	9.09%	-48,545	-5,748	-1.54%
Intersection	Dove Valley Rd & NB I-17	16,196	8.21%	39,348	4.52%	35,082	3.65%	-4,266	-499	-0.87%
Intersection	Dove Valley Rd & SB I-17	11,023	9.09%	49,700	5.57%	35,605	3.40%	-14,095	-1,558	-2.17%

Note: Truck% includes heavy truck and medium truck. ADT at intersections include volumes on approach lanes.
Source: MAG traffic demand model received from Jacobs on March 11, April 16, 2024, and May 10, 2024

Table 2A – Intersections LOS in the Project Area (F0561)

Level of Service (LOS)		2023 Existing		2050 No-Build		2050 Build	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
		LOS (delay)	LOS (delay)	LOS (delay)	LOS (delay)	LOS (delay)	LOS (delay)
Overall Intersection LOS	67th Avenue & SB SR 303L	---	---	---	---	C (20.9)	B (19.9)
	67th Avenue & NB SR 303L	---	---	---	---	B (15.9)	B (13.8)

Notes:
67th Avenue TI does not currently exist.
Lake Pleasant Parkway intersections have LOS C or better in 2020 existing, and 2040 Build per Final Traffic Report, SR303, Lake Pleasant Parkway to I-17 (completed in 2022).
Source: Initial Traffic Memo provided by Kimley Horn on April 3, 2024.

Table 2B – Intersections LOS in the Project Area (F0562)

Level of Service (LOS)		2023 Existing		2050 No-Build		2050 Build	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
		LOS (delay)	LOS (delay)	LOS (delay)	LOS (delay)	LOS (delay)	LOS (delay)
Overall Intersection LOS	51st Avenue & SB SR 303L	A (0)	A (0)	B (11.9)	B (12.3)	B (14.8)	B (12.1)
	51st Avenue & NB SR 303L	A (0)	A (0)	C (23.5)	A (8.8)	D (42.5)	B (13.7)
	43rd Avenue & SB SR 303L	B (10.1)	A (5.0)	C (20.5)	B (19.7)	C (20.5)	B (19.8)
	43rd Avenue & NB SR 303L	B (11.3)	A (7.7)	B (16.8)	B (13.6)	C (28.2)	C (20.5)
	Dexileta Dr & NB I-17	---	---	A (0)	A (0)	A (0)	A (0)
	Dexileta Dr & SB I-17	---	---	A (0)	A (0)	A (0)	A (0)
	Sonoran Desert Dr & NB I-17	E (63.5)	F (195.8)	F (358.1)	F (329.4)	B (18.0)	B (19.4)
	Sonoran Desert Dr & SB I-17	E (74.6)	F (87.5)	F (375.7)	F (447.9)	B (16.8)	B (15.0)
	Dove Valley Rd & NB I-17	C (33.3)	C (34.7)	C (33.7)	C (27.2)	C (27.1)	C (26.1)
	Dove Valley Rd & SB I-17	D (46.8)	D (38.8)	C (30.9)	D (50.1)	C (26.5)	C (25.4)

Notes:
Source: LOS data provided by Jacobs on April 8 and April 15, 2024.

Projects Affecting Intersections with Highest Traffic Volumes

Does the project affect one or more of the top three intersections in the CO maintenance area with highest traffic volumes identified in the CO applicable implementation plan?

*Three Highest Intersections in Current Plans

MAG[1]
16th St & Camelback Rd
107th Ave & Grand Ave
Priest Dr & Southern Ave

[1]MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area

NO. This project does not affect one or more of the top three intersection in the carbon monoxide maintenance area with the highest traffic volumes identified in the MAG 2013 Carbon Monoxide Maintenance Plan for Maricopa County.

Projects Affecting Intersections with the Worst Level of Services
Does the project affect one or more of the top three intersections in the CO maintenance area with the worst level of services identified in the CO applicable implementation plan?

NO – This project does not affect one or more of the top three intersections with the worst LOS in the MAG 2013 Carbon Monoxide Maintenance Plan for Maricopa County.

*Three Worst LOS Intersections in Current Plans

MAG[1]
7th Ave & Van Buren St
German Rd & Gilbert Rd
Thomas Rd & 27th Ave

[1]Same as above

Project Assessment – Part B

Hot-Spot Determination

Decide which type of hot-spot analysis is required for the project by choosing a category below.

☒ **If answered "Yes" to any of the questions in the Project Assessment – Part A**

- A quantitative CO hot-spot analysis is required under 40 CFR 93.123(a)(1).

☒ Check **If** a formal air quality report for conformity is required for this project.

- The applicable air quality models, data bases, and other requirements specified in 40 CFR part 51, Appendix W (Guideline on Air Quality Models) should be completed using **"Project Level CO Quantitative Hot-Spot Analysis – Consultation Document"** circulated through interagency consultation for review and comments for 30 days prior to commencing any modeling activities.

- **Or**

☐ Check **If** the project fits the condition of the "**CO Categorical Hot-Spot Finding"**. In the January 24, 2008, Transportation Conformity Rule Amendments, EPA included a provision at 40 CFR 93.123(a)(3) to allow the U.S. DOT, in consultation with EPA, to make categorical hot-spot findings in CO nonattainment and maintenance areas if appropriate modeling showed that a type of highway or transit project would not cause or contribute to a new or worsened air quality violation of the CO NAAQS or delay timely attainment of the NAAQS or

required interim milestone(s), as required under 40 CFR 93.116(a).

Projects Fitting the Condition of the CO Categorical Hot-Spot Finding
Do the project's parameters fall within the acceptable range of modeled parameters (Use "Table 1: Project Parameters and Acceptable Ranges for CO Categorical Hot-Spot Finding" or enter the project information into FHWA's web based tool: https://www.fhwa.dot.gov/environment/air_quality/conformity/policy_and_guidance/cmcf_2017/tool.cfm)?

NO – This project's parameters do not fall within the acceptable range of modeling parameters for a CO Categorical Hot-spot Finding in Appendix Table 1 on next page.

Table 1: Project Parameters and Acceptable Ranges for CO Categorical Hot-Spot Finding for Urban Intersection

Parameter	**Acceptable Range**
Analysis year	Greater than or equal to 2017
Angle of cross streets for intersection (degrees)	90
Maximum grade for the intersection (%)	Less than or equal to 2
Maximum grade on cross street for the intersection (%)	0
Number of through lanes	Less than or equal to 4
Number of left turn lanes	Less than or equal to 2
Lane width (ft)	12
Median width (ft)	0
Peak hour average approach speed (mph)	Greater than or equal to 25
Peak hour approach volume (vph)	Less than or equal to 2640
Peak hour Level of Service	A through E
Ambient temperature (°F)	Greater than or equal to -10
Heavy-duty trucks (%)	Greater than or equal to 5
1-hour background CO concentrations (ppm)	Less than or equal to 32.6
8-hour background CO concentrations (ppm)	Less than or equal to 7.3
Persistence factor	Less than or equal to 0.7

☐ **If answered "No" to all of the questions in the Project Assessment – Part A**

- A qualitative CO analysis is required under 40 CFR 93.123(a)(2). The demonstrations required by 40 CFR 93.116 Localized CO, PM10, and PM2.5 violations (hot-spots) may be based on either:
- **(i) Quantitative methods that represent reasonable and common professional practice;**

  ☐ Check **If** an Air Quality Report includes CO modeling for NEPA EA/EIS use this report to satisfy option (i)

- **Or**

- **(ii) A qualitative consideration of local factors, if this can provide a clear demonstration that the requirements of 40 CFR 93.116 are met.**

  ☐ Check **If** there is an Air Quality Report that does not include CO modeling for NEPA EA/EIS use this report to satisfy (ii)

  ☐ Check **If** the project is a CE under NEPA that does not require Air Quality Report for NEPA EA/EIS use this Questionnaire to add additional justification to satisfy (ii)

The F0562 project requires a quantitative hot-spot analysis for carbon monoxide. The intersections to be modeled were determined using EPA's Guideline for Modeling Carbon Monoxide from Roadway Intersections (EPA, 1992). The intersections with the highest volumes and longest delays were identified for the 2050 build alternative. The top three intersections ranked by volume are as follows:

- Sonoran Desert Dr & NB I-17
- 51st Avenue & SB SR 303L
- Sonoran Desert Dr & SB I-17

The top three intersections ranked by LOS and delay are as follows:

- 51st Avenue & NB SR 303L (AM Peak Hour)
- 43rd Avenue & NB SR 303L (AM Peak Hour)
- Dove Valley Rd & NB I-17 (AM Peak Hour)

Based on the top intersections ranked by volume and by LOS and delay, the intersection modeling analysis will be performed for the following four TI intersections' peak hours of the days:

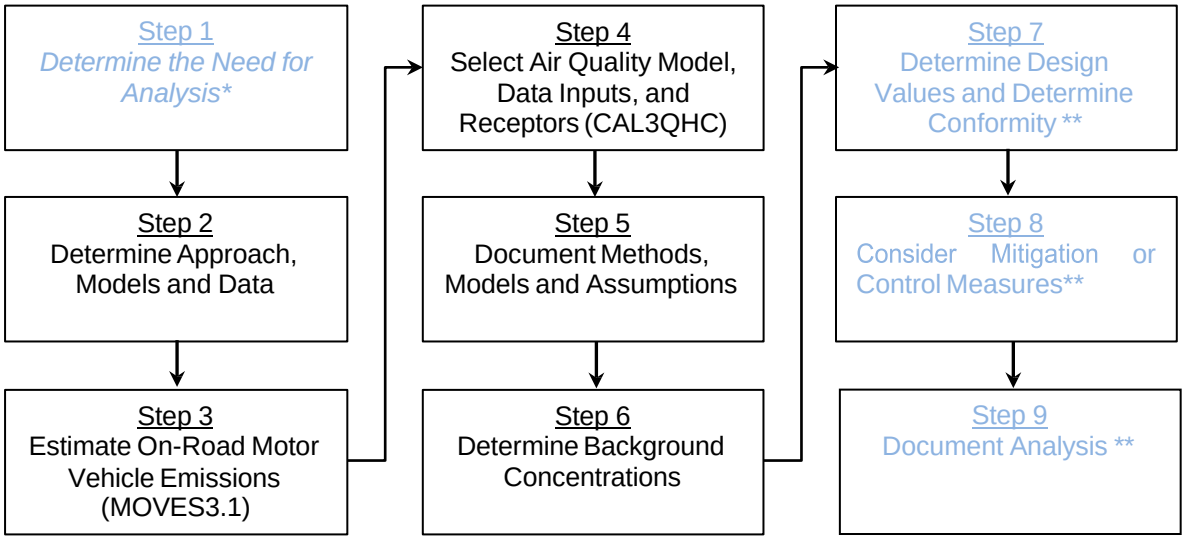
- 51st Avenue & SB SR 303L
- 51st Avenue & NB SR 303L
- 43rd Avenue & NB SR 303L
- Sonoran Desert Dr & NB I-17
- Sonoran Desert Dr & SB I-17
- Dove Valley Rd & NB I-17

Modeling will be performed under the worst case scenario using the 2026 MOVES emission rates (the highest CO emission rates) with the 2050 traffic data (the maximum traffic volumes). 2026 is selected because it is the opening year. It is assumed that if the selected worst-case intersections do not show an exceedance of the NAAQS, none of the intersections will. Refer to the enclosed supplemental traffic study.

Project Level CO Quantitative Hot-Spot Analysis – Consultation Document

Completing a Carbon Monoxide (CO) Hot-Spot Analysis

The general steps required to complete a quantitative CO hot-spot analysis are outlined below and described in detail in the EPA Office of Transportation and Air Quality guidance document "Using MOVES3.1 in Project-Level Carbon Monoxide Analyses" EPA-420-B-21-047, December 2021, and "Guideline for Modeling Carbon Monoxide from Roadway Intersections" EPA-454/R-92-005, November 1992.



* Described in the previous section
** These Steps will be described and documented in a final air quality analysis report.

Step 2: Determine the Approach, Models, and Data

a. Describe the project area (area substantially affected by the project, 58 FR 62212) and emission sources.
b. Determine general approach and analysis year(s) – year(s) of peak emissions during the time frame of the transportation plan (69 FR 40056).
c. Determine CO National Ambient Air Quality Standards (NAAQS) to be evaluated.
d. Select emissions and dispersion models and methods to be used.
e. Obtain project-specific data (e.g., fleet mix, peak-hour volumes and average speed).

Step 3: Estimate On-Road Motor Vehicle Emissions with MOVES3.1

a. Generate RunSpec and enter project-specific data into Project Data Manager
b. Estimate on-road motor vehicle emissions.

Step 4: Select Air Quality Model, Data Inputs, and Receptors for CAL3QHC

a. Obtain and input required site data (e.g., meteorological).
b. Input MOVES outputs (emission factors).

c. Determine number and location of receptors, roadway links, and signal timing.
d. Run air quality dispersion model and obtain concentration results.

Step 5: Document Methods, Models and Assumptions

a. Summarize the methods, models and assumptions based on Step 3 & 4 (see the example in Table 1).
b. Submit the summary document to ADOT for review.

Step 6: Determine Background Concentrations

a. Determine background concentrations from nearby and other emission sources excluding the emissions from the project itself.

Step 7: Calculate Design Values and Determine Conformity

a. Add step 5 results to background concentrations to obtain values for the Build scenario.
b. Determine if the design values allow the project to conform.

Step 8: Consider Mitigation or Control Measures

a. Consider measures to reduce emissions and redo the analysis. If mitigation measures are required for project conformity, they must be included in the applicable SIP and be enforceable.
b. Determine if the design values from allow the project to conform after implementing mitigation or control measures.

Step 9: Document Analysis

a. Determine if the project conforms or not based on the results of step 7 or step 8.
To support the conclusion that a project meets conformity under 40 CFR 93.116 and 93.123, at a minimum the documentation will include:

- *Description of proposed project, when it is expected to open, and projected travel activity data.*
- *Analysis year(s) examined and factors considering in determining year(s) of peak emissions.*
- *Emissions modeling data, model used with inputs and results, and how characterization of project links.*
- *Model inputs and results for road dust, construction emissions, and emissions from other source if needed.*
- *Air Quality modeling data, included model used, inputs and results and receptors.*
- *How background concentrations were determined.*
- *Any mitigation and control measures implemented, including public involvement or consultation if needed.*
- *How interagency and public participation requirements were met.*
- *Conclusion that the proposed project meets conformity requirements.*
- *Sources of data for modeling.*

Methods, Models and Assumptions for CO

Table 1. Methods, Models and Assumptions		
Estimate On-Road Motor Vehicle Emissions (Step 3)		
MOVES3.1	**Description**	**Data Source**
Scale	*On road, Project, Inventory*	EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.3.2
Time Span	*EPA 1992 Guideline conservatively uses a typical peak-hour traffic activity in one MOVES run to generate emission rates: The worst case scenario using the January, weekdays, hours of 7:00- 7:59 in 2026 MOVES emission rates (the highest CO emission rates) with the 2050 traffic data (the maximum traffic volumes) will be selected.*	EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.3.3
Geographic Bounds	*Maricopa County*	EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.3.4
Onroad Vehicles	*All Fuels and Source Use Types will be selected*	EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.3.5
Road Type	*Urban Restricted and Urban Unrestricted access*	EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.3.6
Pollutants and Processes	*CO Running Exhaust, CO Crankcase Running Exhaust*	EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.3.7
Output	*Database will be created, Grams, Miles, Distance Traveled, Population will be selected. Emissions process will be selected in the Output Emissions Detail. Emission rates for each process can be appropriately summed to calculate aggregate CO emission rates for each link.*	EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.3.10
Project Data Manager	*Database and MOVES3.1 templates will be created to include local project data and information provided by MPO, e.g., MAG's or PAG's I/M programs, Age Distribution data which are consistent with the regional models. The average temperature and humidity in January for metrology data and the default MOVES fuel data will be used. Links and Link Source Type will be specific to project as provided by the traffic analysis, any missing information will use default MOVES3.1 data. After running MOVES, the MOVES CO_CAL3QHC_EF post-processing script is run.*	EPA 1992 Guideline, Section 4.7.1., Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.1, 2.4 for Links; the required data necessary to be consistent with regional emissions analysis (40 CFR 93.123(c)(3)). See Table 2 below for details.
Select Air Quality Model, Data Inputs, and Receptors (Step 4)		
CAL3QHC	**Description**	**Data Source**

Emissions Sources	*Emissions Rates in grams/mile will be developed using the inputs described in MOVES3.1 section above. The free flow and queue links defined for modeling with MOVES3.1 will be used as input into CAL3QHC.*	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, EPA-454/R-92-005, November 1992. Section 3.2 & 4.2.3.1 of Appendix W to 40 CFR Part 51, CO screening analyses of intersection projects should use the CAL3QHC dispersion model.
Receptor Locations	*At least 3m from the roadways at a height of 1.8m, nearby occupied lot, vacant lot, sidewalks, and any locations near breathing height (1.8m) to which the general public has continuous access.*	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 2.2
Traffic and Geometric Design	*Lane Configuration, Lane Width, Signalization, Turning Movements, Median Width, Traffic Volume, Level of Service, Grade, % of Heavy-Duty Trucks, and Peak Hour Average Approach Speed.*	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 4.7.4
Meteorology	*Temperature, Wind Speed, Wind Direction, Atmospheric Stability Class, Mixing Heights and Surface Roughness.*	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 4.7.1
Persistence Factor	*Local persistence factor based on monitoring data. If it is not available, use a default persistence factor of 0.7. Will use persistence factor of 0.7 because local measured monitored concentrations are not available.*	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 4.7.2
Determine Background Concentrations (Step 6)		
Background Monitor	*The West Phoenix (WP) monitor located at 39th Avenue & Earll Drive in Phoenix was selected as background CO monitor because it is closest to the project site and has similar environment settings as the project corridor. Three years of monitoring data (2021--2023) show a maximum 8-hour value of 3.5 ppm. 5.0 ppm (which is the 8-hour concentration divided by a persistence factor of 0.7) will be added to the maximum modeled hourly concentration for comparison to the NAAQS. 3.5 ppm will be added to the maximum 8-hour modeled concentration. The same background values will be used for all analysis years.*	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 4.7.3

Table 2. Project Data Manager Inputs		
Input	**Level of Detail/notes**	**Possible Data Source**
Meteorology	*Same for build and no-build scenarios. The average temperature and humidity were determined by averaging temperature values for January 2021, 2022, and 2023 at the Phoenix Sky Harbor International Airport Station. (source: National Weather Service)* *The average temperature of 55.5 degrees F and the average relative humidity of 43.7% were uses in all MOVES runs, regardless of analysis year or time of day.*	ADEQ, MPO EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.1
Age Distribution	*Same for build and no-build scenarios, unless something about the project would change them: The latest local age distribution data from MAG regional CO conformity analysis (Approved Sprint 2023) will be used. No change would be*	ADOT, MPO EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.2
Fuel	*Same for build and no-build scenarios. MOVES default fuel supply and formulation information will be used.*	MPO, MOVES defaults EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.3
I/M Programs	*Same for build and no-build scenarios. Projects in Area A and B should define the I/M programs. Use MPO data. If not available, may use the MOVES default I/M programs but review the details and make any necessary changes before use. Will use I/M local data from MAG AQ conformity analysis.*	MPO, MOVES defaults EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.4
Retrofit Data	*If necessary. For example, a bus terminal project might include plans to mitigate emissions by retrofitting the bus fleet.*	Project specific modeling EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.5
Links	*Four selected TI intersections (51st Ave & SR303L, 43rd Ave & SR303L, Sonoran Desert Dr & I-17, and Dove Valley Rd & I-17) will be divided into links and each link's length (in miles), traffic volume (vehicle per hour), average speed (miles per hour) and road grade (percent) will be specified. Other roadway segments within 1000 feet of the intersection will be included. (See attachment for graphical representation of model setup)*	Project specific modeling, ADOT, MPO EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.6
Link Source Types	*Option 2 in the EPA's CO MOVES3 Guidance Section 2.4.7 will be used.*	Project specific modeling, ADOT, MPO EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.7
Link Drive Schedules, Operating Mode	*Average speeds and road types through the Links Importer will be used. Option 1 was used because of data availability.*	Project specific modeling, ADOT, MPO EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.8, 2.4.9

Off-Network, Hotelling	*If necessary. For example, a project analysis includes areas where vehicles are not driving on the project links, but still contributing to the project's emissions.*	EPA Using MOVES3 in Project-Level Carbon Monoxide Analyses, Section 2.4.10

Table 3. Construction Emissions *(Only if Applicable)*		
Construction Emissions	*Construction Emissions need to be addressed if construction lasts longer than 5 years at any individual site. In the context of CO, this is usually excess CO emissions due to traffic delay and/or detours.*	40CFR93.123(c)(5)"Each site which is affected by construction-related activities shall be considered separately, using established "Guideline" methods." If applicable, include analysis as an Appendix to the Air Quality Report.

Preliminary Link Configurations and Receptor Placements for CO Hot-Spot Analysis

The following graphics present the preliminary link configurations and receptor placements for the four intersections that will be modeled as part of the CO hot-spot analysis in CAL3QHC. The following applies to all figures:

- Free flow links extend 1000 feet away from center of signalized intersection
- Graphic representation of free flow links includes 10 foot mixing zone
- Traffic activity within 1000 feet from intersections are included
- Yellow circles are receptors located on the existing R/W (more than 10 feet from the edge of roadway).
- Receptors are spaced at 25-meter intervals at the height of 1.8 meters outside of the mixing zone.
- Receptor location coordinates will be provided by a separate file

Figure 1. SR303 and 51st Avenue TI Receptors and Roadway Links

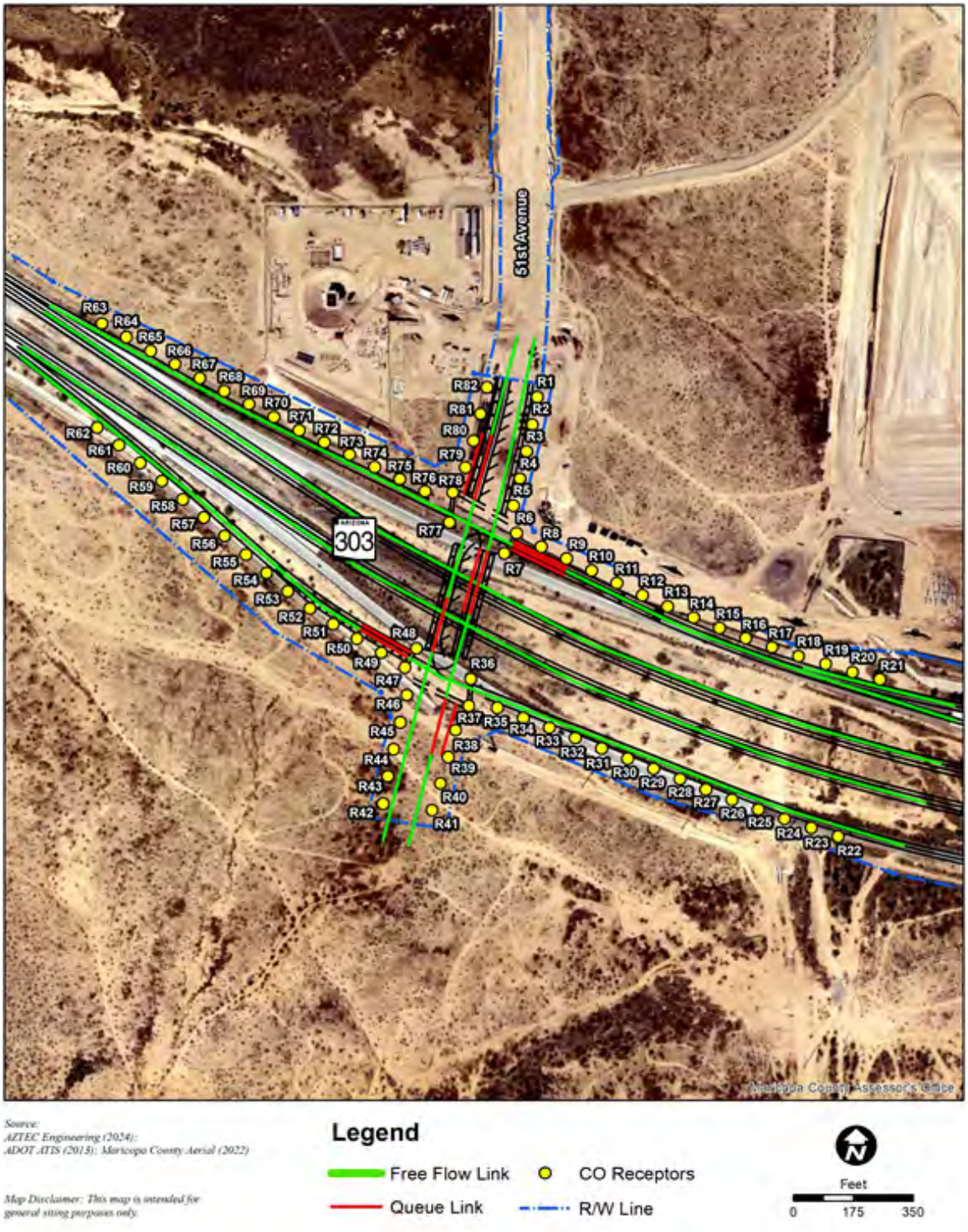


Figure 2. SR303 and 43rd Avenue TI Receptors and Roadway Links

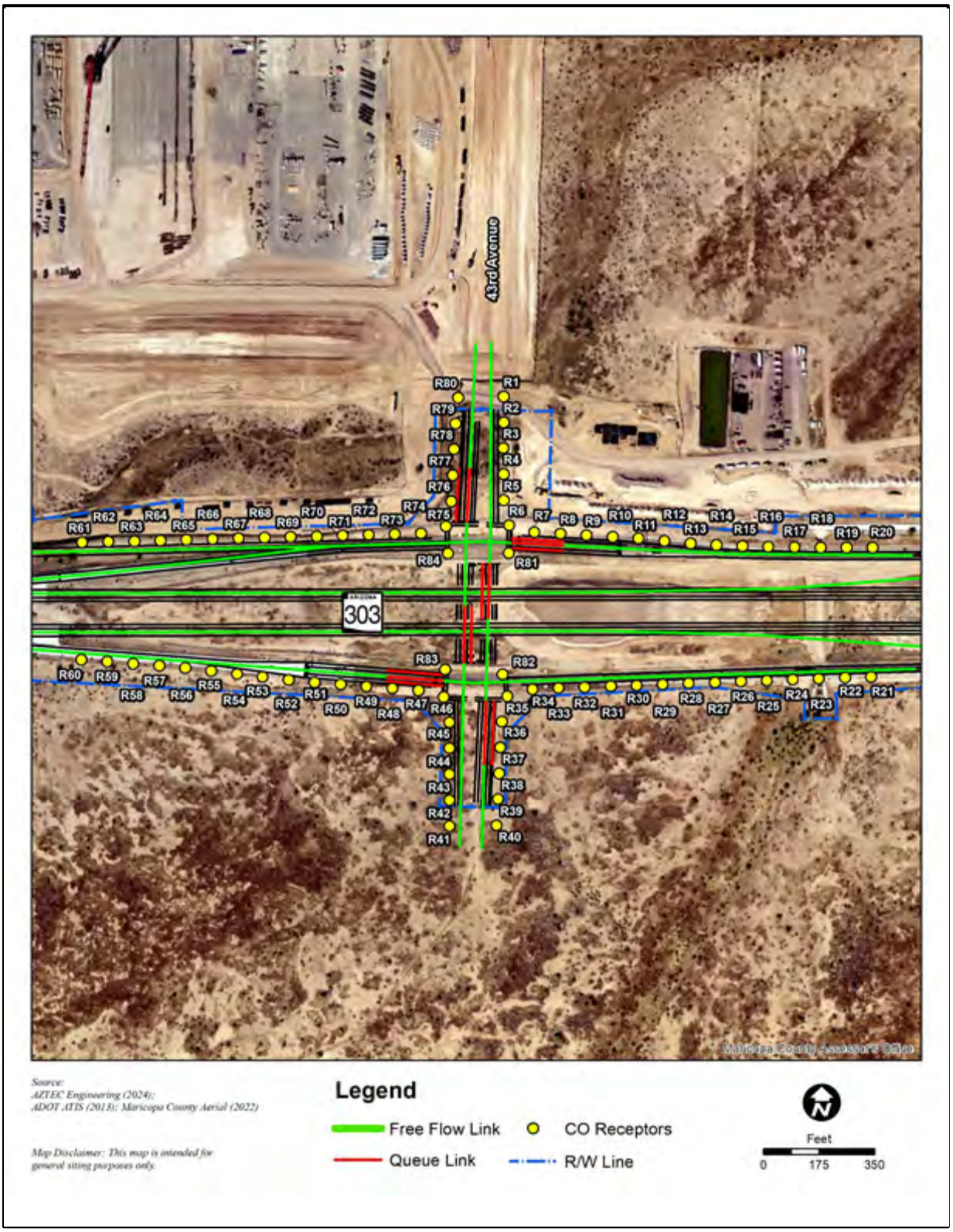


Figure 3. I-17 and Sonoran Desert Dr TI Receptors and Roadway Links

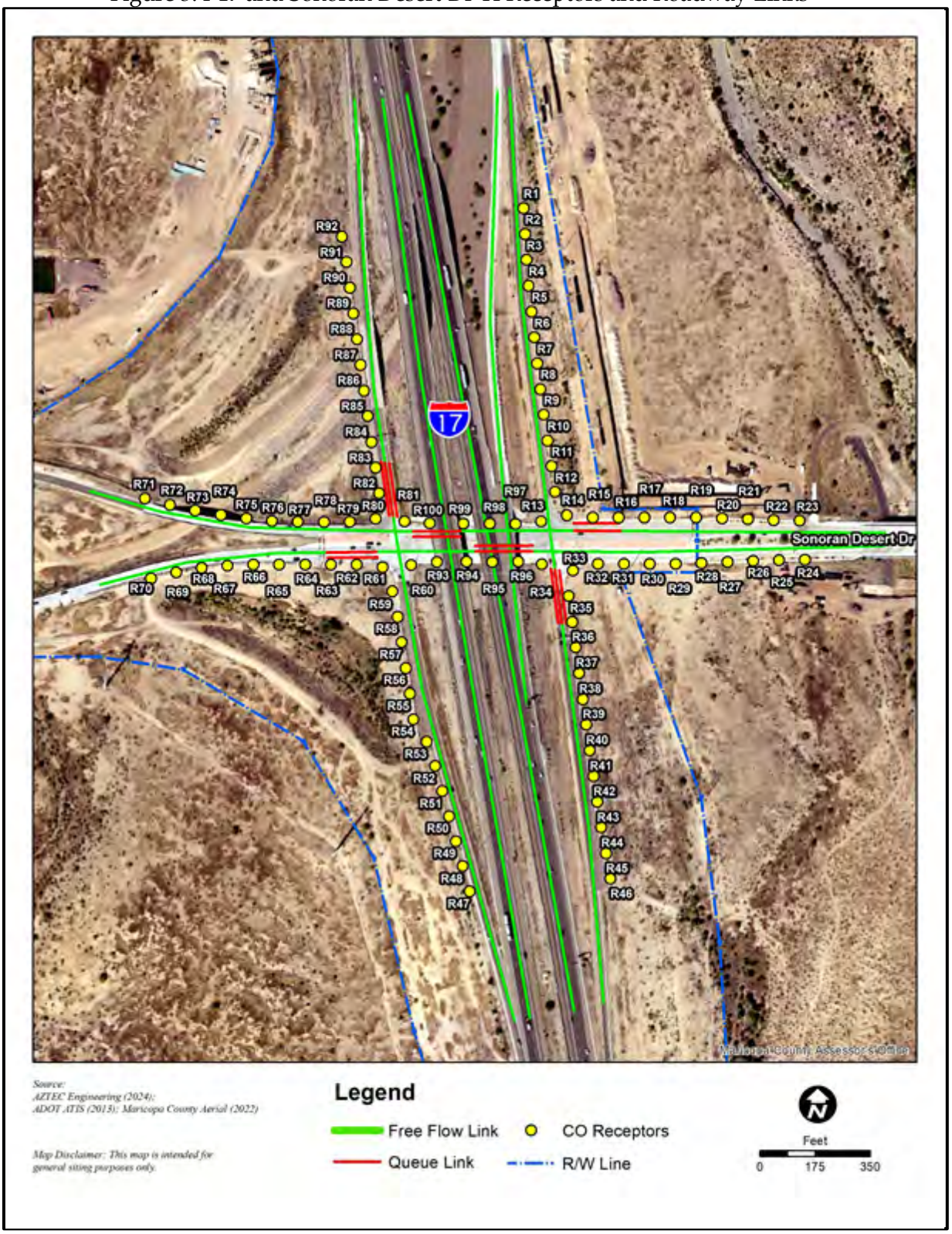
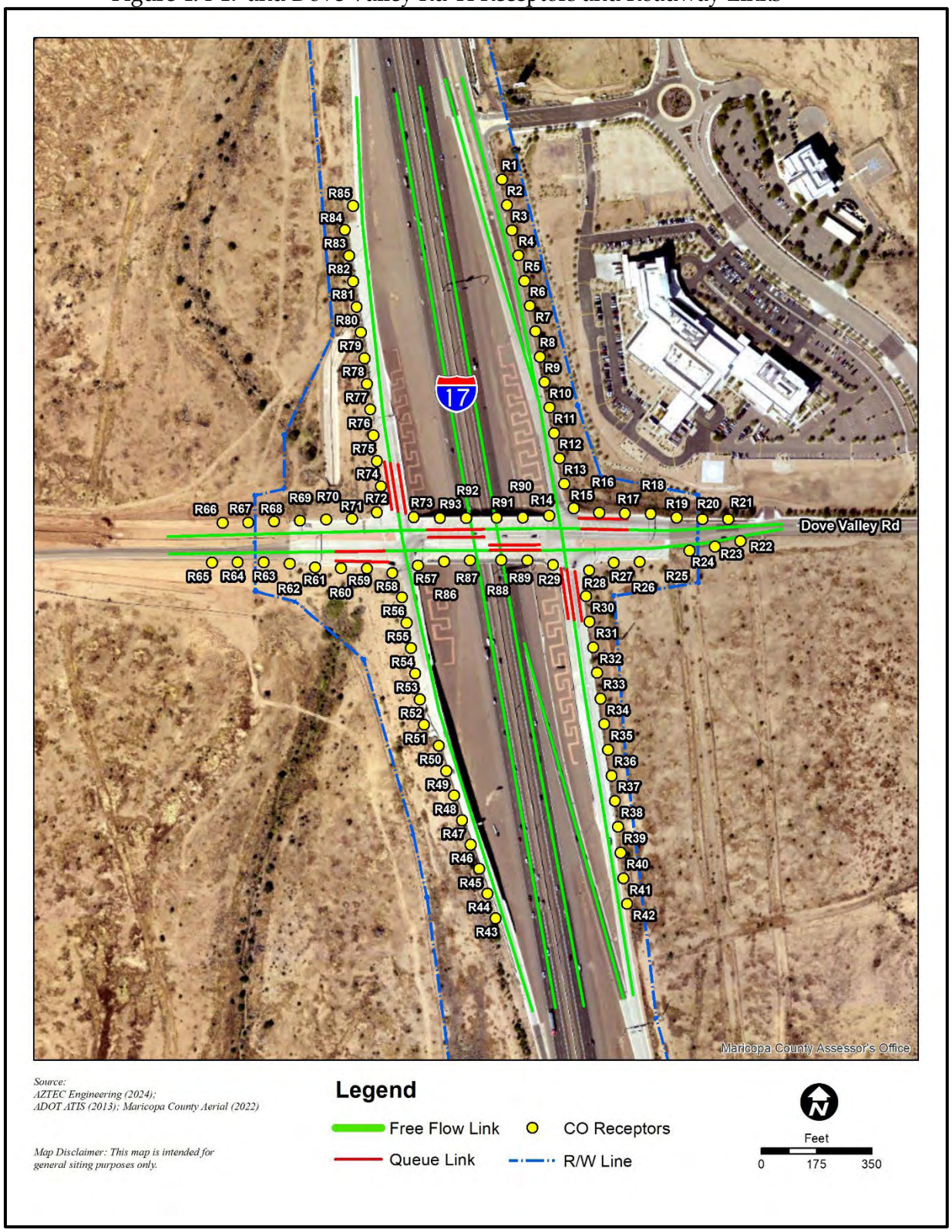


Figure 4. I-17 and Dove Valley Rd TI Receptors and Roadway Links



West Phoenix (WP) (04-013-0019)

Site Location	39th Ave. & Earll Dr., Phoenix
Spatial Scale	Neighborhood
Site Type	Population Exposure for CO, NO_2, O_3, PM_{10}, and Highest Concentration for $PM_{2.5}$

Site Description: This site began operating in January 1984. This SLAMS location monitors for CO, NO_2, O_3, PM_{10}, and $PM_{2.5}$. Meteorological monitoring includes ambient temperature, barometric pressure, and wind speed/direction. The site is in an area of stable, high-density, residential properties. This is the QA collocation site for $PM_{2.5}$ where one filter based $PM_{2.5}$ FRM sampler operates alongside a continuous $PM_{2.5}$ FEM analyzer as per *40 CFR Part 58 Appendix A*.

Project Level PM Quantitative Hot-Spot Analysis

Project Assessment

The following questionnaire is used to compare the proposed project to a list of project types in 40 CFR 93.123(b) requiring a quantitative analysis of local particulate emissions (Hot- spots) in nonattainment or maintenance areas, which include:

i) New highway projects that have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles;

ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of an increase in traffic volumes from a significant number of diesel vehicles related to the project;

iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM_{10} or $PM_{2.5}$ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

If the project matches one of the listed project types in 40 CFR 123(b)(1) above, it is considered a project of local air quality concern and the hot-spot demonstration must be based on quantitative analysis methods in accordance to 40 CFR 93.116(a) and the consultation requirements of 40 CFR 93.105(c)(1)(i). If the project does not require a PM hot- spot analysis, a qualitative assessment will be developed that demonstrates that the project will not contribute to any new localized violations, increase the frequency of severity of any existing violations, or delay the timely attainment of any NAAQS or any required emission reductions or milestones in any nonattainment or maintenance area.

On March 10, 2006, EPA published *PM2.5 and PM10 Hot-Spot Analyses in Project-Level Transportation Conformity Determinations for the New PM2.5 and Existing PM10 National Ambient Air Quality Standards; Final Rule* describing the types of projects that would be considered a project of air quality concern and that require a hot-spot analysis (71 FR 12468- 12511). Specifically on page 12491, EPA provides the following clarification: "Some examples of *projects of air quality concern* that would be covered by § 93.123(b)(1)(i) and (ii) are: A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic;" .." Expansion of an existing highway or other facility that affects a congested intersection (operated at Level-of-Service D, E, or F) that has a significant increase in the number of diesel trucks;" These examples will be used as the baseline for determining if the project is a project of air quality concern.

New Highway Capacity

Is this a new highway project that has a significant number of diesel vehicles? *Example: total traffic volumes ≥125,000 annual average daily traffic (AADT) and truck volumes ≥10,000 diesel trucks per day (8% of total traffic).*

NO – This project is not a new highway project.

Expanded Highway Capacity

Is this an expanded highway projects that have a significant increase in the number of diesel vehicles? *Example: the build scenario of the expanded highway or expressway causes a significant increase in the number of diesel trucks compared with the no-build scenario, truck volumes > 8% of the total traffic.*

YES – This highway project has a significant increase in the number of diesel vehicles. The ADT and truck percentage for the Build alternative were compared to the No Build alternative on 3 mainline sections and 4 intersections along the project corridor for F0561 project, as summarized in Table 1A. The percentage increase in the medium and heavy trucks ranges from a 0.92% to 2.45% on mainline and from 2.83% to 3.37% at the intersections, and the total increase in medium and heavy truck ranging from 5,430 to 5,563 vehicles on mainline and from 146 to 276 vehicles at the intersections. Table 1B summarizes ADT and truck percentage for the Build alternative compared to the No Build alternative on 6 mainline sections and 10 intersections for F0562 project. The percentage increase in the medium and heavy trucks ranges from a 0% to 13.21% on mainline and from 0% to 9.09% at the intersections, and the total increase in medium and heavy truck ranging from -10,604 to 12,601 vehicles on mainline and from 0 to 3,455 vehicles at the intersections.

Table 1A – Freeway Mainline & Intersection ADT and Truck ADT in Existing, No Build and Build Conditions (F0561)

AADT and Truck Volumes		2023 Existing		2050 No-Build		2050 Build		Difference (Build - No- Build)		
		ADT	Truck (%)	ADT	Truck (%)	ADT	Truck (%)	ADT	Truck ADT	Truck (%)
Mainline	SR 303L East of 67th Ave. to 51st Ave	17,199	12.38%	53,374	10.31%	98,509	11.23%	45,136	5,563	0.92%
	SR303L between 67th Ave. & Lake Pleasant Parkway	17,199	12.38%	53,374	10.31%	96,298	11.40%	42,924	5,474	1.09%
	SR 303L West of Lake Pleasant Parkway	21,852	12.93%	61,119	9.77%	93,309	12.22%	32,190	5,430	2.45%
Intersection	Lake Pleasant Parkway & SB SR303L	10,406	9.62%	46,587	3.30%	27,170	6.67%	-19,417	276	3.37%
	Lake Pleasant Parkway & NB SR303L	8,748	8.29%	43,500	3.11%	25,244	5.94%	-18,256	146	2.83%
	67th Avenue & SB SR303L	---	---	---	---	37,853	11.83%	---	---	---
	67th Avenue & NB SR303L	---	---	---	---	24,445	9.54%	---	---	---

Note: Truck% includes heavy truck and medium truck. ADT at intersections include volumes on approach lanes.
Source: MAG traffic demand model received from Kimley Horn on April 3, 2024

Table 1B – Freeway Mainline & Intersection ADT and Truck ADT in Existing, No Build and Build Conditions (F0562)

	AADT and Truck Volumes	2023 Existing		2050 No-Build		2050 Build		Difference (Build - No- Build)		
		ADT	Truck (%)	ADT	Truck (%)	ADT	Truck (%)	ADT	Truck ADT	Truck (%)
Mainline	SR 303L between 51st Ave & 43rd	27,289	13.77%	73,709	11.15%	115,512	12.98%	41,803	6,776	1.83%
	Sonoran Desert Dr between 43rd Ave & I-17	29,947	14.74%	77,899	11.19%	95,411	13.21%	17,512	3,880	2.01%
	I-17 south of Dexileta Dr	141,166	13.48%	250,198	16.45%	194,016	16.65%	-56,181	-8,857	0.20%
	I-17 between Dexileta Dr & Sonoran Desert Dr	138,861	13.58%	239,749	16.81%	233,692	17.84%	-6,057	1,389	1.03%
	I-17 between Sonoran Desert Dr & Dove Valley Rd	110,845	14.03%	180,162	18.85%	140,367	21.52%	-39,796	-3,765	2.66%
	I-17 between Dove Valley Rd & Carefree Hwy	117,668	13.80%	176,817	19.04%	153,885	20.33%	-22,932	-2,389	1.28%
Intersection	51st Avenue & SB SR 303L	7,017	19.59%	36,074	7.72%	42,525	8.95%	6,451	1,024	1.24%
	51st Avenue & NB SR 303L	5,853	18.85%	16,848	7.13%	34,279	7.35%	17,431	1,320	0.23%
	43rd Avenue & SB SR 303L	7,399	17.94%	23,716	8.25%	37,660	7.89%	13,944	1,016	-0.36%
	43rd Avenue & NB SR 303L	947	12.25%	10,009	8.22%	33,607	7.45%	23,598	1,681	-0.77%
	Dexileta Dr & NB I-17	---	---	---	---	14,663	6.67%	---	---	---
	Dexileta Dr & SB I-17	---	---	---	---	12,655	6.97%	---	---	---
	Sonoran Desert Dr & NB I-17	29,881	12.78%	70,907	9.45%	44,042	7.97%	-26,865	-3,188	-1.48%
	Sonoran Desert Dr & SB I-17	35,570	13.84%	86,569	10.63%	38,024	9.09%	-48,545	-5,748	-1.54%
	Dove Valley Rd & NB I-17	16,196	8.21%	39,348	4.52%	35,082	3.65%	-4,266	-499	-0.87%
	Dove Valley Rd & SB I-17	11,023	9.09%	49,700	5.57%	35,605	3.40%	-14,095	-1,558	-2.17%

Note: Truck% includes heavy truck and medium truck. ADT at intersections include volumes on approach lanes.
Source: MAG traffic demand model received from Jacobs on March 11, April 16, 2024, and May 10, 2024

Projects with Congested Intersections

Is this a project that affects a congested intersection (LOS D or greater) that has a significant number of diesel trucks, OR will change LOS to D or greater because of an increase in traffic volumes from a significant number of diesel trucks related to the project?

YES. For F0561 project, none of the intersections would experience LOS D or greater, as shown in Table 2A. F0562 project is a project that affects a congested intersection of LOS D or will change LOS to D or greater which has a significant number of diesel trucks, see Table 2B. The intersection operation analysis shows 3 intersections have a LOS of D, E, or F under existing condition with 1,002 to 4,923 truck ADT, and 1 intersection has a LOS D in 2050 Build with 2,520 truck ADT, as shown in previous Table 1B.

Table 2A – Intersections LOS in the Project Area (F0561)

Level of Service (LOS)		2023 Existing		2050 No-Build		2050 Build	
		AM Peak LOS (delay)	PM Peak LOS (delay)	AM Peak LOS (delay)	PM Peak LOS (delay)	AM Peak LOS (delay)	PM Peak LOS (delay)
Overall Intersection LOS	67th Avenue & SB SR 303L	---	---	---	---	C (20.8)	B (19.9)
	67th Avenue & NB SR 303L	---	---	---	---	B (15.9)	B (13.8)

Notes:
67th Avenue TI does not currently exist.
Lake Pleasant Parkway intersections have LOS C or better in 2020 existing, and 2040 Build per Final Traffic Report, SR303, Lake Pleasant Parkway to I-17 (completed in 2022).
Source: Initial Traffic Memo provided by Kimley Horn on April 3, 2024.

Table 2B – Intersections LOS in the Project Area (F0562)

Level of Service (LOS)		2023 Existing		2050 No-Build		2050 Build	
		AM Peak LOS (delay)	PM Peak LOS (delay)	AM Peak LOS (delay)	PM Peak LOS (delay)	AM Peak LOS (delay)	PM Peak LOS (delay)
Overall Intersection LOS	51st Avenue & SB SR 303L	A (0)	A (0)	B (11.9)	B (12.3)	B (14.8)	B (12.1)
	51st Avenue & NB SR 303L	A (0)	A (0)	C (23.5)	A (8.8)	D (42.5)	B (13.7)
	43rd Avenue & SB SR 303L	B (10.1)	A (5.0)	C (20.5)	B (19.7)	C (20.5)	B (19.8)
	43rd Avenue & NB SR 303L	B (11.3)	A (7.7)	B (16.8)	B (13.6)	C (28.2)	C (20.5)
	Dexileta Dr & NB I-17	---	---	A (0)	A (0)	A (0)	A (0)
	Dexileta Dr & SB I-17	---	---	A (0)	A (0)	A (0)	A (0)
	Sonoran Desert Dr & NB I-17	E (63.5)	F (195.8)	F (358.1)	F (329.4)	B (18.0)	B (19.4)
	Sonoran Desert Dr & SB I-17	E (74.6)	F (87.5)	F (375.7)	F (447.9)	B (16.8)	B (15.0)
	Dove Valley Rd & NB I-17	C (33.3)	C (34.7)	C (33.7)	C (27.2)	C (27.1)	C (26.1)
	Dove Valley Rd & SB I-17	D (46.8)	D (38.8)	C (30.9)	D (50.1)	C (26.5)	C (25.4)

Notes:
Source: LOS data provided by Jacobs on April 8 and April 15, 2024.

New Bus and Rail Terminals

Does the project involve construction of a new bus or intermodal terminal that accommodates a significant number of diesel vehicles?

NO – This project does not construct any new bus or rail terminals.

Expanded Bus and Rail Terminals

Does the project involve an existing bus or intermodal terminal that has a large vehicle fleet where the number of diesel buses (or trains) increases by 50% or more, as measured by

arrivals?

NO – This project does not expand any bus or rail terminals.

Projects Affecting PM Sites of Violation or Possible Violation

Does the project affect locations, areas or categories of sites that are identified in the PM_{10} or $PM_{2.5}$ applicable plan or implementation plan submissions, as appropriate, as sites of violation or potential violation?

NO – The project location is not listed in MAG's 2012 SIP as a site of violation or potential violation.

POAQC Determination

F0562 and F0561 projects are expanded highway projects that has a significant increase in the number of diesel vehicles on mainline and at intersections. Therefore, ADOT is recommending these two projects for interagency consultation in accordance with 40 CFR93.105 as a Project of Air Quality Concern and thereby will require a PM hot-spot analysis.

For F0562 project, the top three intersections ranked by volume are as follows:

- Sonoran Desert Dr & NB I-17
- 51st Avenue & SB SR 303L
- Sonoran Desert Dr & SB I-17

And, the top three intersections ranked by LOS and delay are as follows:

- 51st Avenue & NB SR 303L (AM Peak Hour)
- 43rd Avenue & NB SR 303L (AM Peak Hour)
- Dove Valley Rd & NB I-17 (AM Peak Hour)

Based on the top intersections ranked by volume and by LOS and delay, the intersection modeling analysis will be performed for the following four TI intersections' peak hours of the days for F0562 project:

- 51st Avenue & SB SR 303L
- 51st Avenue & NB SR 303L
- 43rd Avenue & NB SR 303L
- Sonoran Desert Dr & NB I-17
- Sonoran Desert Dr & SB I-17
- Dove Valley Rd & NB I-17

For F0561 project, the intersection modeling analysis will be performed for two intersections' peak hours of the days including 67th Avenue & SB SR303L and 67th Avenue & NB SR303L.

For PM hotspot analysis, receptors are placed around the concerned TI/intersections and extended along the on and off-ramps to the mainline gore area. Receptors are not placed on freeway mainline between the gore area of two adjacent TIs on SR303. The reason is because high PM concentrations normally occur adjacent to the intersections because of greater traffic volumes, worse LOS, and close proximity to public.

Section 3.3.2 of EPA's PM Hot Spot Guidance indicates the geographic area to be covered by a PM hot-spot analysis is to be determined on a case-by-case basis. The guidance states that it may be appropriate to focus the PM hot-spot analysis only on locations of highest air quality concentrations, and that if conformity requirements are met at such locations, then it can be assumed that conformity is met throughout the project area.

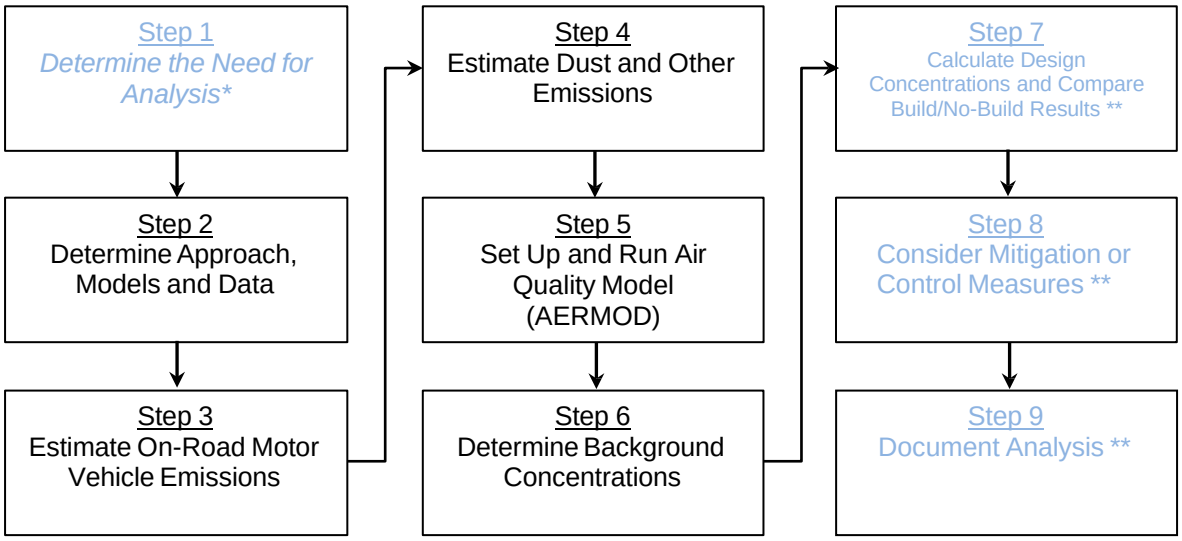
Receptors could not be modeled along SR303L West of Lake Pleasant Parkway NB offramp because it is outside of project limit and no design files/data are available.

Based on the above reasons, we believed the five TIs selected for PM hotspot analysis in the consultation document are the locations that would result in highest air quality concentrations.

Project Level PM Quantitative Hot-Spot Analysis – Consultation Document for Project of Air Quality Concern

Completing a Particulate Matter (PM) Hot-Spot Analysis

The general steps required to complete a quantitative PM hot-spot analysis are outlined below and described in detail in the EPA Office of Transportation and Air Quality guidance document "Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas" EPA-420-B-21-037, October 2021.



* Described in the previous section.
** These Steps will be described and documented in a final air quality analysis report.

Step 2: Determine the Approach, Models, and Data

- Describe the project area (area substantially affected by the project, 58 FR 62212) and emission sources.
- Determine general approach and analysis year(s) – year(s) of peak emissions during the time frame of the transportation plan (69 FR 40056).
- Determine National Ambient Air Quality Standards (NAAQS) and PM types to be evaluated.
- Select emissions and dispersion models and methods to be used.
- Obtain project-specific data (e.g., fleet mix, peak-hour volumes and average speed).

Step 3: Estimate On-Road Motor Vehicle Emissions

a. Estimate on-road motor vehicle emissions using MOVES.

Step 4: Estimate Dust and Other Emissions

□ Estimate road dust emissions using AP-42 Paved Roads.
□ Do emissions from other sources (e.g., locomotives) need to be considered?

Step 5: Set Up and Run Air Quality Model (AERMOD)

- Obtain and input required site data (e.g., meteorological).
- Input MOVES and AP-42 outputs (emission factors).
- Determine number and location of receptors, roadway links, and signal timing.
- Run air quality dispersion model and obtain concentration results.

Step 6: Determine Background Concentrations

a. Determine background concentrations from nearby and other emission sources excluding the emissions from the project itself.

- Nearby TMCS emissions are included
- Atypical Events Report will be needed.

Step 7: Calculate Design Concentrations and Compare Build/No-Build Results

* Add step 5 results to background concentrations to obtain values for the Build scenario.
* Determine if the design values allow the project to conform.

Step 8: Consider Mitigation or Control Measures

a. Consider measures to reduce emissions and redo the analysis. If mitigation measures are required for project conformity, they must be included in the applicable SIP and be enforceable.
b. Determine if the design values from allow the project to conform after implementing mitigation or control measures.

Step 9: Document Analysis

a. Determine if the project conforms or not based on the results of step 7 or step 8.

To support the conclusion that a project meets conformity under 40 CFR 93.116 and 93.123, at a minimum the documentation will include:

- *Description of proposed project, when it is expected to open, and projected travel activity data.*
- *Analysis year(s) examined and factors considering in determining year(s) of peak emissions.*
- *Emissions modeling data, model used with inputs and results, and how characterization of project links.*
- *Model inputs and results for road dust, construction emissions, and emissions from other source if needed.*
- *Air Quality modeling data, included model used, inputs and results and receptors.*
- *How background concentrations were determined.*
- *Any mitigation and control measures implemented, including public involvement or consultation if needed.*
- *How interagency and public participation requirements were met.*
- *Conclusion that the proposed project meets conformity requirements.*
- *Sources of data for modeling.*

Table 1. Proposed Inputs, Parameters and Data Sources

Estimate On-Road Motor Vehicle Emissions (Step 3)		
MOVES3.1	**Input**	**Data Source/Detail**
Scale	*Onroad, Project Scale and Inventory*	*MAG Regional Conformity Data (Spring, 2023)*
Time Spans	*2050, 16 runs* *PM_{10} emission factors were developed for an analysis year of 2050, which represents the year peak emissions from the project are expected. Vehicle emissions of PM10 are a combination of vehicle exhaust, brakewear, tirewear, and road dust. Road dust is the largest contributor to the overall emissions. Because road dust is highly dependent on vehicle volumes, the analysis year of 2050 was selected as the year of peak emissions because it was the year with the greatest vehicle volumes. This has been reflected in the 2021 MAG Conformity Analysis budget test, which resulted in highest PM10 emissions in 2050 due to largest VMT and the most surrounding PM emissions.*	*4 seasons (Jan, Apr, July & Oct) x 4 weekday time periods (6-9AM, 9AM-4PM, 4-7PM & 7PM-6AM)*
Geographic Bounds	*Maricopa County*	*EPA Hot Spot Guidance Section 4.4.4*
Onroad Vehicles	*All Fuels and Source Use Types*	*EPA Hot Spot Guidance Section 4.4.5*
Road Type	*Urban Restricted and Urban Unrestricted access*	*EPA Hot Spot Guidance Section 4.4.6*
Pollutants and Processes	*Primary Exhaust PM10-Total(for Running Exhaust and Crankcase Running Exhaust), Break Wear Particulate, Tire Wear Particulate*	*EPA Hot Spot Guidance Sections 2.5, 4.4.7*
General Output and Output Emissions Detail	*Output Database TBD*	*EPA Hot Spot Guidance Section 4.4.8, 4.4.9 & 4.6*
Create Input Database	*Input database will be created and modified for Project level using required Regional Inputs from latest Regional Conformity Analysis.*	*MAG Regional Conformity Data (Spring, 2023)*
Project Data Manager	*Database will be created and MOVES3.1 templates will be created to include local project data and information provided by MAG, e.g., Fuel, Age Distribution, Meteorology Data, to be consistent with the regional model. Links and Link Source Type will be specific to project as provided by the traffic study, any missing information will use default MOVES3.1 data.*	*EPA Hot Spot Guidance Sections 4.5 &Appendix D*
Meteorology	*Calculated from ADEQ Phoenix AERMET data based on 4 seasons and 4 weekday time periods from year 2017 to 2021.*	*16 meteorology data set, 4 seasons (Jan, Apr, July & Oct) x 4 weekday time periods*
Age Distribution	*MAG local specific data (sourceTypeID: 11 – 62, yearID: 2050, ageID: 0 -30)*	*MAG Regional Conformity Data (Spring, 2023)*
Fuel	*MOVES default*	*EPA Hot Spot Guidance Section 4.5.3*

I/M Programs	*MAG local specific data (countyID: 4013, yearID: 2050)*	*MAG Regional Conformity Data (Spring, 2023)*
Retrofit Data	*Not used*	
Links	*Please see attached the link maps.*	
Link Source Types	*Option 2 in the EPA's PM Hot- spot Guidance Section 4.5.7 will be used.*	*MAG Regional Conformity Data (Spring, 2023)*
Link Drive Schedules, Operating Mode Distribution	*Options 1 in the EPA's PM Hot-spot Guidance Section 4.5.8 will be used. Average speeds and road types through the Links Importer will be used.*	
Off-Network, Hoteling	*Not used*	
Estimate Dust and Other Emissions (Step 4)		
AP-42, Fifth Edition, 2011	**Parameter**	**Data Source/Detail**
Average Weight Vehicles	*Freeways 3.83 tons in 2025, 3.87 tons in 2030, 3.97 tons in 2040, and 4.08 tons in 2050. Arterials 2.48 tons in 2025, 2.49 tons in 2030, 2.48 tons in 2040, and 2.48 tons in 2050*	*Conformity Analysis for the FY 2022-2025 MAG TIP and the Momentum 2050 RTP, dated December, 2021.*
Silt Loading	*Section 13.2.1 Paved Roads from AP 42 will be used, consistent with the Regional analysis from MAG. Emission factors for road and construction dust should be added to the emission factors generated for each link by MOVES. Ex. Silt loading – Freeways .02 g/m^2, Arterials >10,000 ADT .067g/m^2, Low traffic roads <10,000 ADT .23g/m^2.*	*EPA Hot Spot Guidance Section 6, When estimating emissions of re-entrained road dust from paved roads, site-specific silt loading data must be consistent with the data used for the project's county in the regional emissions analysis (40 CFR 93.123(c)(3)).*
Construction Dust	*Construction Emissions will not be addressed because the construction of this project is not expected to last longer than 5 years. There are no other sources (e.g., locomotives) that need to be considered for most projects.*	EPA Hot Spot Guidance Section 6.5
Precipitation	*In 2008-2012 SIP/Regional Conformity used average of 32 days with at least .01 inch of precipitation County.*	*The MAG 2012 Five Percent Plan for PM-10 (used for the Conformity Analysis for the FY 2022-2025 MAG TIP and the Momentum 2050 RTP, dated December, 2021).*
Set Up and Run Air Quality Model (AERMOD) (Step 5)		
AERMOD v.23132	**Parameter**	**Data Source/Detail**
Model Setup (CO Pathway)		*EPA Hot Spot Guidance Section 7.1, 7.2 & Appendix J, AERMOD User's Guide Section 2.3.2 & 3.2*
TITLEONE	*TBD*	
MODELOPT	*CONC FLAT. Initial modeling will be done with all sources and receptors at grade.*	*Modeling Concentrations and Flat Terrain*
AVERTIME	*24*	*Average across each 24-hour period from the available met data*
URBANOPT	*1,645,000*	*Population of Phoenix, AZ https://www.census.gov/quickfacts/fact/table/phoenixcityarizona/PST045222*

FLAGPOLE	*Receptor height in meter, 1.8*	
POLLUTID	*PM10*	

Source Types and Characters (SO Pathway)		
LOCATION	*Srcid Srctyp (VOLUME)*	
SRCPARAM	*Srcid Vlemis Relhgt Syinit Szinit*	*VOLUME Source parameters See EPA Hot Spot Guidance Appendix J.3.1*
URBANSRC	*ALL*	*All urban source*
EMISFACT	*Emission rate=1, Use SEASHR (season by hour-of-day)* *As directed by the PM Hot Spot Guidance, emissions were input in a manner to reflect changes in emission factors and vehicle volumes throughout the day. This was represented in AERMOD by specifying an emission rate of 1 g/s/m² with the variable variable emission rate option to specify the emission rate of 96 emission factors (4 seasons/24 hours per day) for each emission source. Excel files that outline this process are included with MOVES and AERMOD modeling files for agency review.*	*Total 16 MOVES run=4 seasons x 4 time periods to 96 factors (4 seasons/24 hours) See PM hot-spot training slides (FHWA, 2022)*
SRCGROUP	*ALL*	
Meteorological Data (ME Pathway)		
SURFFILE	*Phoenix2017-2021.sfc* *ADOT followed up with ADEQ on the AERMET files- the Phoenix Sky Harbor Airport dataset. ADEQ provided a document detailing the AERMET data completeness, their representativeness of meteorology of the project area, and QA/QC.*	*ADEQ Phoenix AERMET files*
PROFFILE	*Phoenix2017-2021.pfl* *ADOT followed up with ADEQ on the AERMET files- the Phoenix Sky Harbor Airport dataset. ADEQ provided a document detailing the AERMET data completeness, their representativeness of meteorology of the project area, and QA/QC.*	*ADEQ Phoenix AERMET files*
SURFDATA	*23183 2017*	*ADEQ Phoenix AERMET files*
UAIRDATA	*23160 2017*	*ADEQ Phoenix AERMET files*
PROFBASE	*0*	*ADEQ Phoenix AERMET files*
Run Met Pre-Processor	*Not used*	

Urban or Rural Sources	*Specifications for URBANSRC (SO Pathway). The emission sources are SR 303L and I-17 mainlines, ramps, frontage roads, and cross streets. No nearby emission sources other than the roadway links included in the model run would be affected by the project. All emission sources used URBANOPT to specify urban dispersion coefficients. The PM Hot-spot Guidance recommends "in urban areas, sources should generally be treated as urban." Appendix W recommends multiple procedures to identify an area as urban. Using the Auer land use procedure described in Section 7.2.1.1(b)(i). Based on aerial maps, this project is in the urban fringe of Phoenix that is partially developed. Currently, residential takes 5% of the land use, open space takes 35%, and vacant land takes 31%, other minor land use includes industrial and commercial. Therefore, the use of urban dispersion coefficients is appropriate for the project area.*	*EPA Hot Spot Guidance Section 7.5.5 & Appendix J.4, AERMOD Implementation Guide, Section 7.2.3 of Appendix W to 40 CFR Part 51*
Receptors (RE Pathway)	*Please see attached receptor maps on pages 14 to 18. 67th Avenue TI, 51st Avenue TI, 43rd Avenue TI, Sonoran Desert Dr TI, and Dove Valley Rd TI were selected for PM hotspot analysis that were ranked by ADT volumes on mainline and at intersections, and LOS and delay at intersections. The receptor placement is consistent with the guidance. Receptors were placed 5m from the edge of the roadway. Receptors were placed at 25 meters spacing. (total 969 receptors for 67th Ave TI, 979 receptors for 51st Ave TI, 977 receptors for 43rd Ave TI, 750 receptors for Sonoran Desert Dr TI, and 966 receptors for Dove Valley Rd TI). the highest PM concentration would normally occur at receptors near the roadway sources. the PM concentrations would decrease further away from the roadway sources, and receptor placements further away from the source would not affect the highest PM concentration design value for the intersection and analysis results.*	*EPA Hot Spot Guidance Section 7.6, AERMOD User's Guide Section 2.3.4 & 3.4, Section 7.2.2 of Appendix W to 40 CFR Part 51, See PM hot-spot training slides*
DISCCART	*X Y (Z)*	*Z is optional if FLAGPOLE is already defined in CO Pathway.*
GRIDCART	*Not used*	
Output (OU Pathway)		
RECTABLE	*24 6th*	*Since PM should be one or less exceedance per year, with 5 years of met data, the 6th highest concentration at each receptor*

PLOTFILE	*Not used*	
POSTFILE	*Not used*	
Model Runs		
Determine Background Concentrations (Step 6)		
Source Type	**Description**	**Data Source/Detail**
Nearby Sources	*TSMC AZ project has gone through the NEPA process, see link at:* https://www.nist.gov/chips/national-environmental-policy-act-nepa *Below is the excerpt from the AQ section from its Draft Environmental Assessment:* *TSMC AZ has modeled and CPO has reviewed the estimated criteria pollutant emissions from all three phases (assuming emissions from semiconductor manufacturing at the technology nodes noted in Section 2.2.2) using the same air dispersion modeling software (i.e., AERMOD v21112 and AERMAP v18081) that TSMC used to obtain its current permit for Phases 1 and 2. Background pollutant concentrations were determined from the closest ambient air monitors to the Facility. To achieve a conservative estimate of criteria pollutant emissions from all three phases, TSMC factored all anticipated emissions from full use of the SME and tools that would be installed in Phases 1 through 3 into its modeling approach. The resulting Facility-wide impact from the operations of Phases 1, 2, and 3 was added to the ambient air background levels to determine the total impact of the Proposed Project. This modeling showed that emissions under the Proposed Project would not cause an exceedance of NAAQS standards.* *TSMC AZ would have no significant effects with mitigation and BMPs for the air quality.* ***TSMC SZ was modeled in the PM10 hotspot analysis per EPA's correspondence on October 2, 2024. 148-point sources and/or volume sources were exported from original TSMC AERMOD model provided by EPA and imported into SR303 AERMOD model. See materials provided.***	Maricopa Air Quality Permit Application, and email provided by EPA email, October 4, 2024

Other Sources (Ambient Monitoring Data)	*Please see the selected monitor's location map and monitoring data with wind rose information. Zuni Hills (ZH) monitor was selected as PM background monitor.* *The background concentration data of Zuni Hills (ZH) monitor is representative for the project area because:* *1. Similar characteristics between the monitor location and project area including density, mix of emission sources, land use, terrain, etc.* *2. Distance of monitor from the project area. ZH monitor is closer to the project and have concentration most similar to the project area.* *3. Wind patterns between the monitor and the project area. ZH monitor shows significant upwind patterns.* *Atypical Events Report is under preparation. See Atypical Events Report for detailed monitor data, calculations, and resulting recommended background concentrations when ready.* *For the design concentration, the highest sixth-highest value among all receptors should be added to the fourth highest background monitor value (Section 9.3.4 of PM Hot-spot Guidance). The design concentration will then be compared to NAAQS threshold for conformity determination.*	*EPA Hot Spot Guidance Section 8.3, PM hot-spot training slides Module 5 & 6*

References

PM Hot-spot guidance, EPA-420-B-21-037, October 2021.

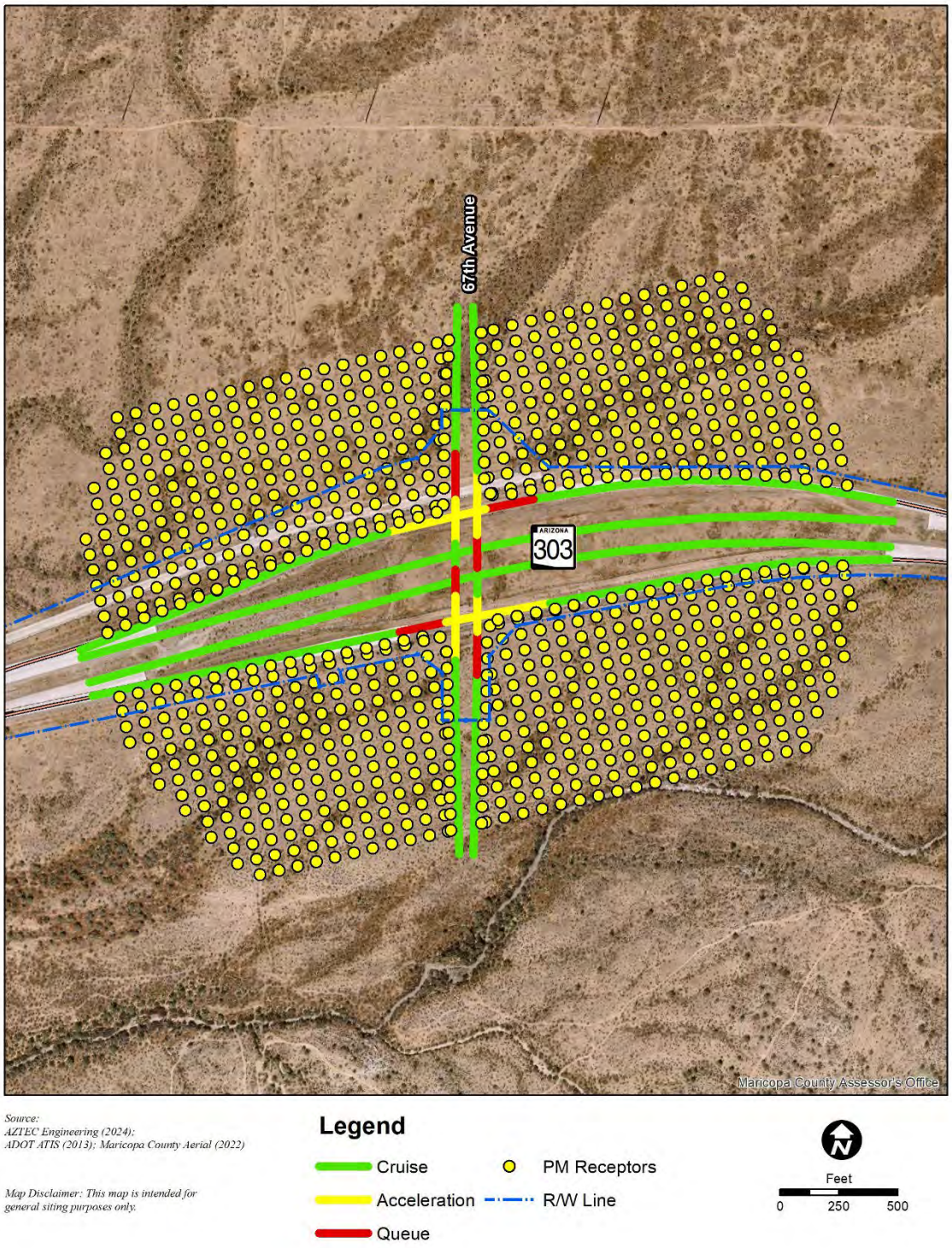
User's Guide for the AMS/EPA Regulatory Model (AERMOD), EPA-454/B-21-001, April 2021.

AERMOD Implementation Guide, EPA-454/B-21-006, July 2021.

User's Guide for the AERMOD Meteorological Preprocessor (AERMET), EPA-454/B-22-006, June 2022.

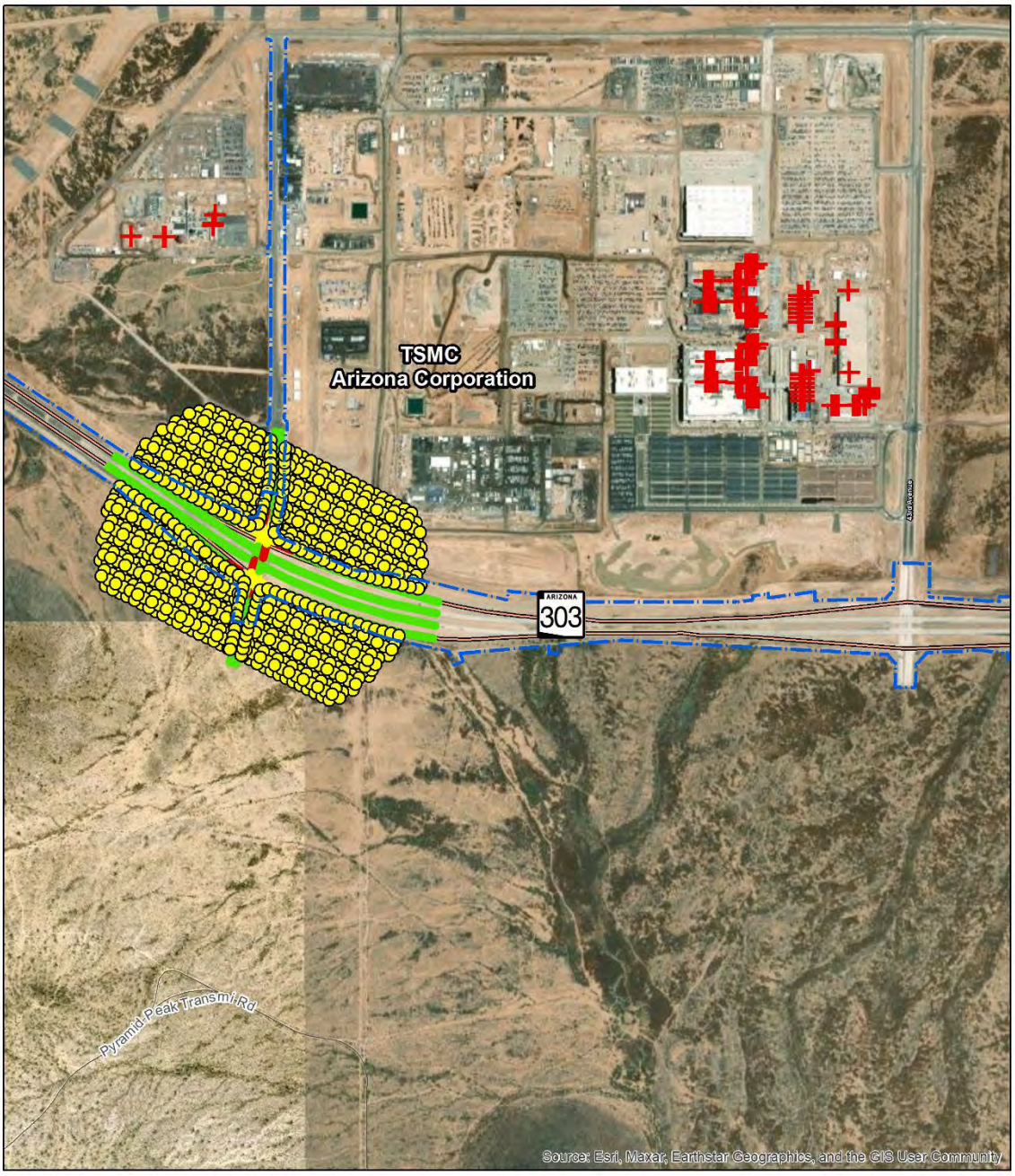
Completing Quantitative PM Hot-spot Analyses: 3-Day Course, FHWA, October 2022.

Figure 1. PM Links and Receptors Placement for Air Quality Modeling
(67th Avenue & SR303L, F0561)



There are no existing developments or sidewalks beyond the freeway mainline at 67th Avenue. In addition, there will be no planned developments for the next 10 years. Thus, the proposed sidewalks at the TI are for future use as there are currently no connections to the north or south of the TI, the likelihood of the sidewalks being used would be minor. No PM receptors would be placed on the sidewalks as a result.

Figure 2. PM Links and Receptors Placement for Air Quality Modeling
(51st Avenue & SR303L, F0562)



Source:
AZTEC Engineering (2024);
ADOT ATIS (2013); World Imagery

Map Disclaimer: This map is intended for general siting purposes only.

Legend

- Cruise
- Acceleration
- Queue
- TSMC Sources
- PM Receptors
- R/W Line

Feet
0 610 1,220

Figure 3. PM Links and Receptors Placement for Air Quality Modeling
(43rd Avenue & SR303L, F0562)

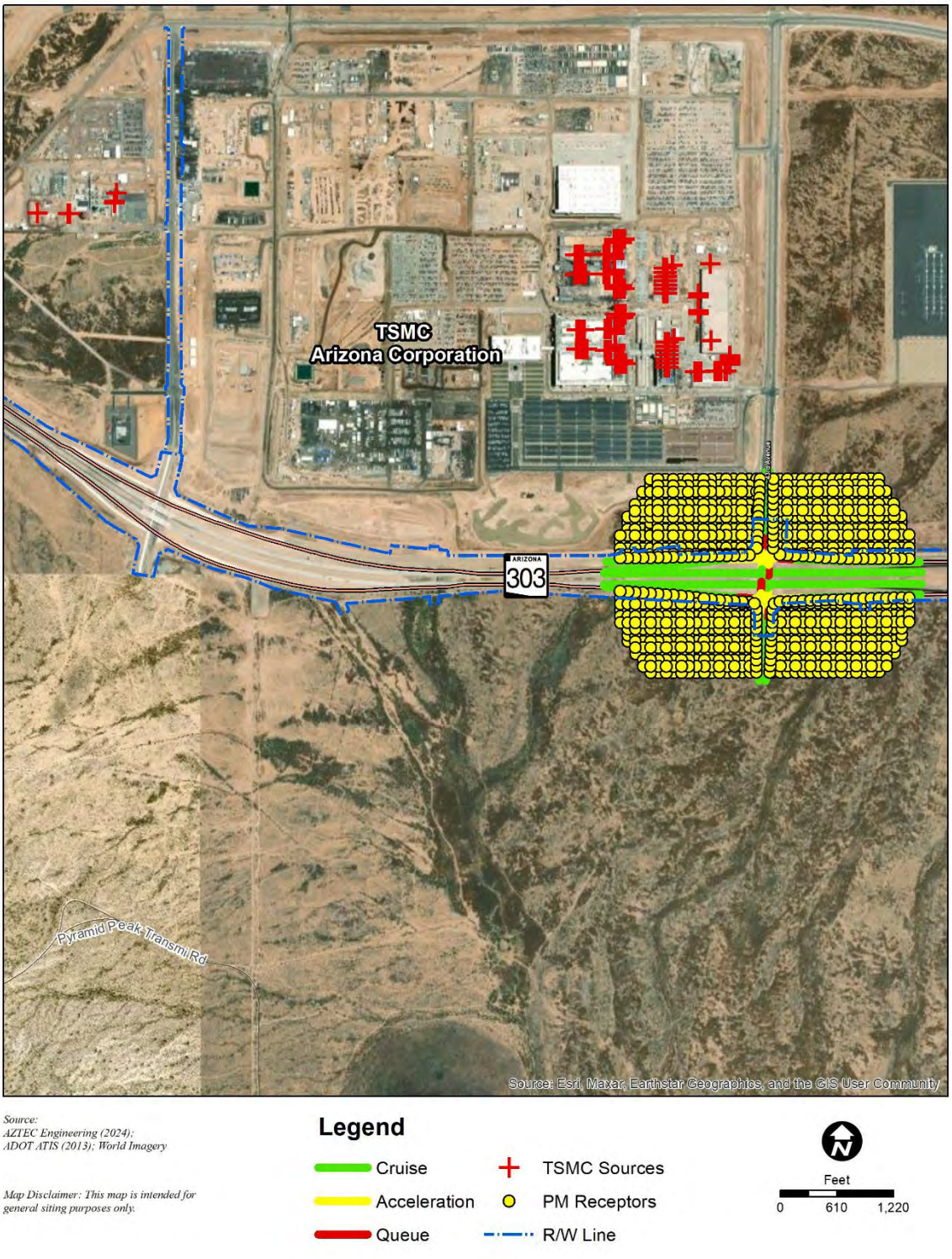


Figure 4. PM Links and Receptors Placement for Air Quality Modeling
(Sonoran Desert Dr & I-17, F0562)

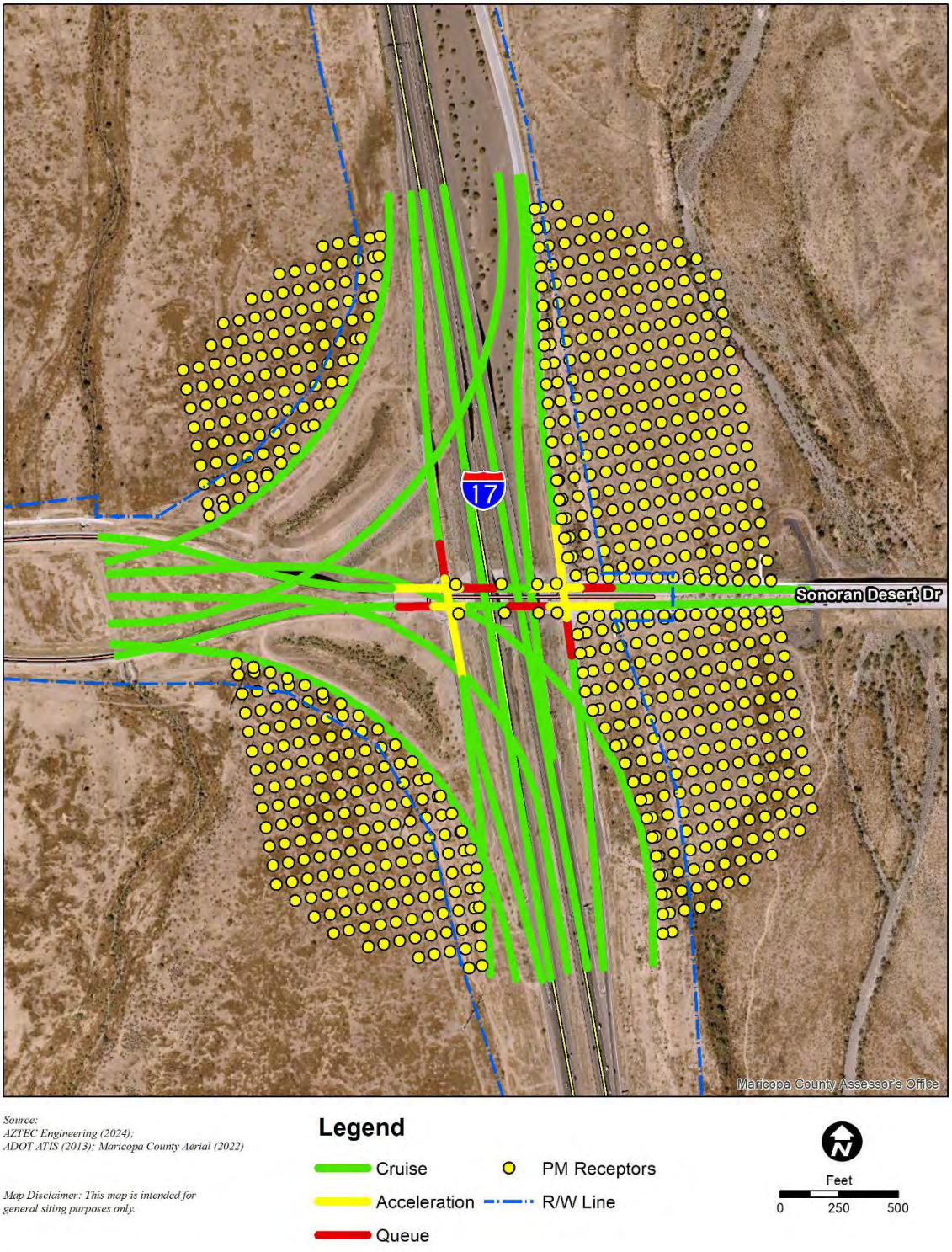


Figure 5. PM Links and Receptors Placement for Air Quality Modeling
(Dove Valley Rd & I-17, F0562)

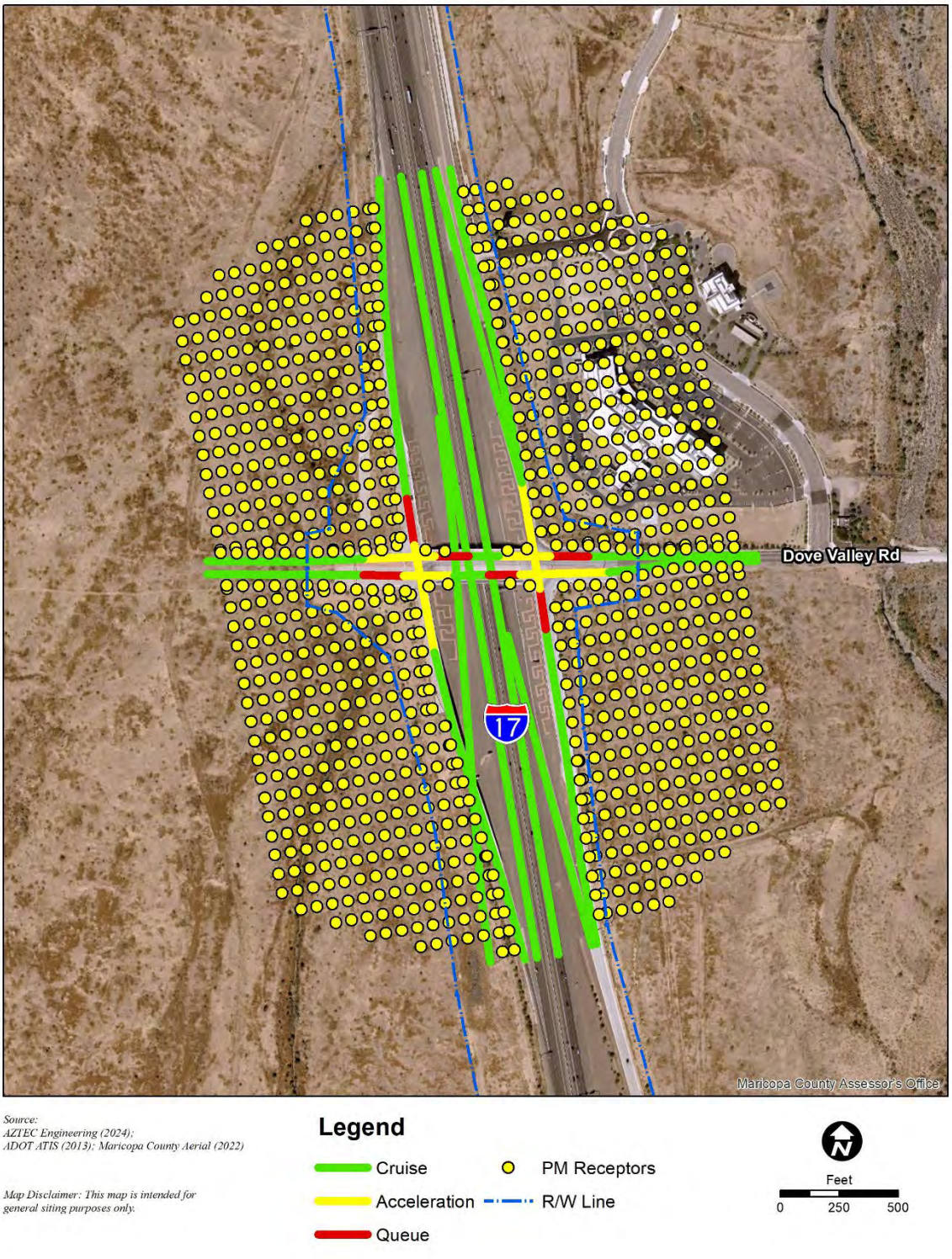
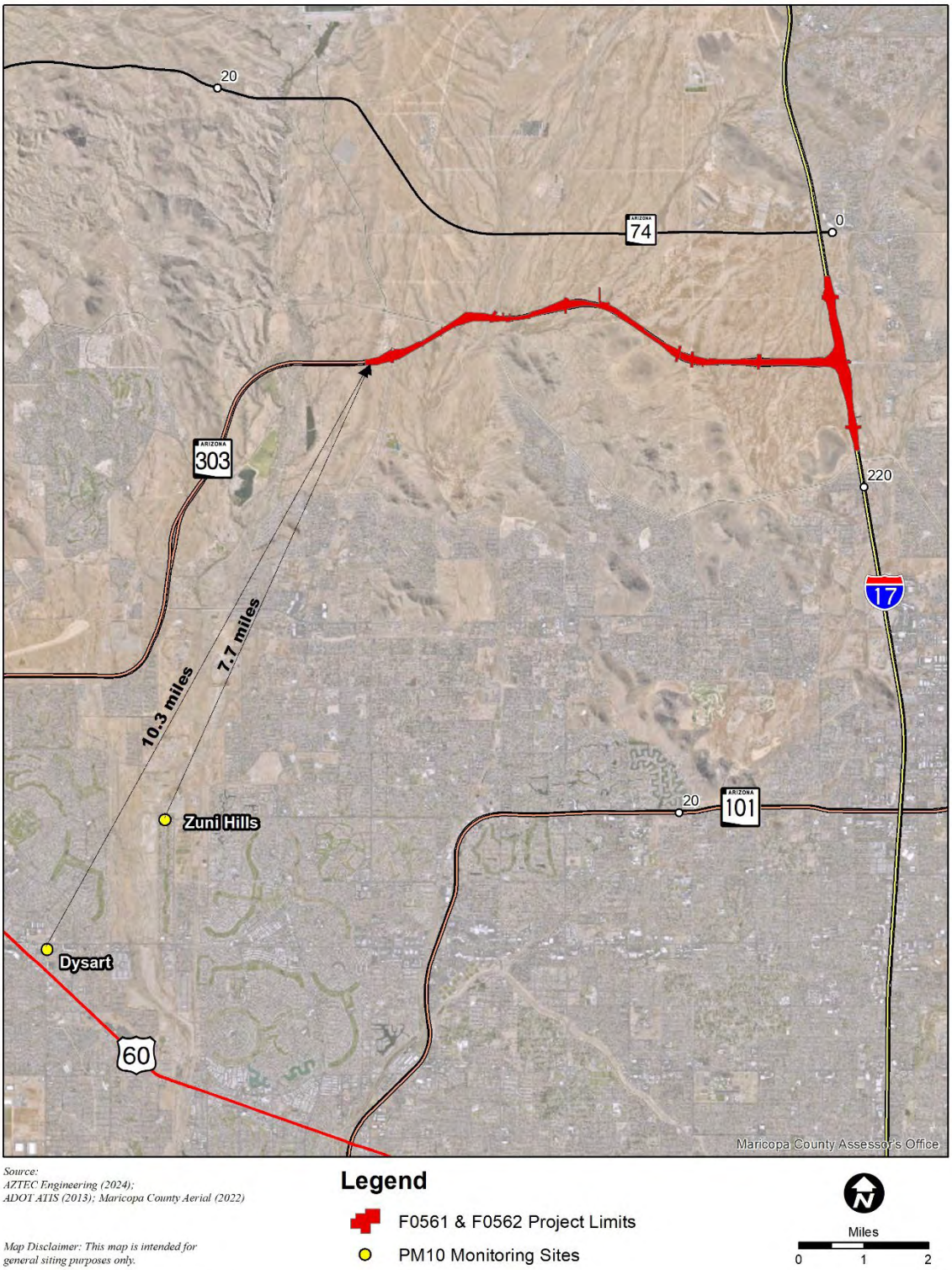


Figure 6. PM Monitoring Sites adjacent to the Project Area (F0561 & F0562)



Zuni Hills (ZH) (04-013-4016)

Site Location	109th Ave. & Deer Valley Rd., Phoenix
Spatial Scale	Neighborhood
Site Type	Population Exposure

Site Description: This site began operating in December 2009. This SLAMS location monitors for PM_{10}. Meteorological monitoring includes ambient temperature and wind speed/direction.

The station is located on the campus of the Zuni Hills Elementary School.

Number of complete monitoring days at Zuni Hills:

2019	2020	2021	Total
361	365	365	1091

4th Highest 24-hour readings at Zuni Hills **Without** removing atypical events (in red number):

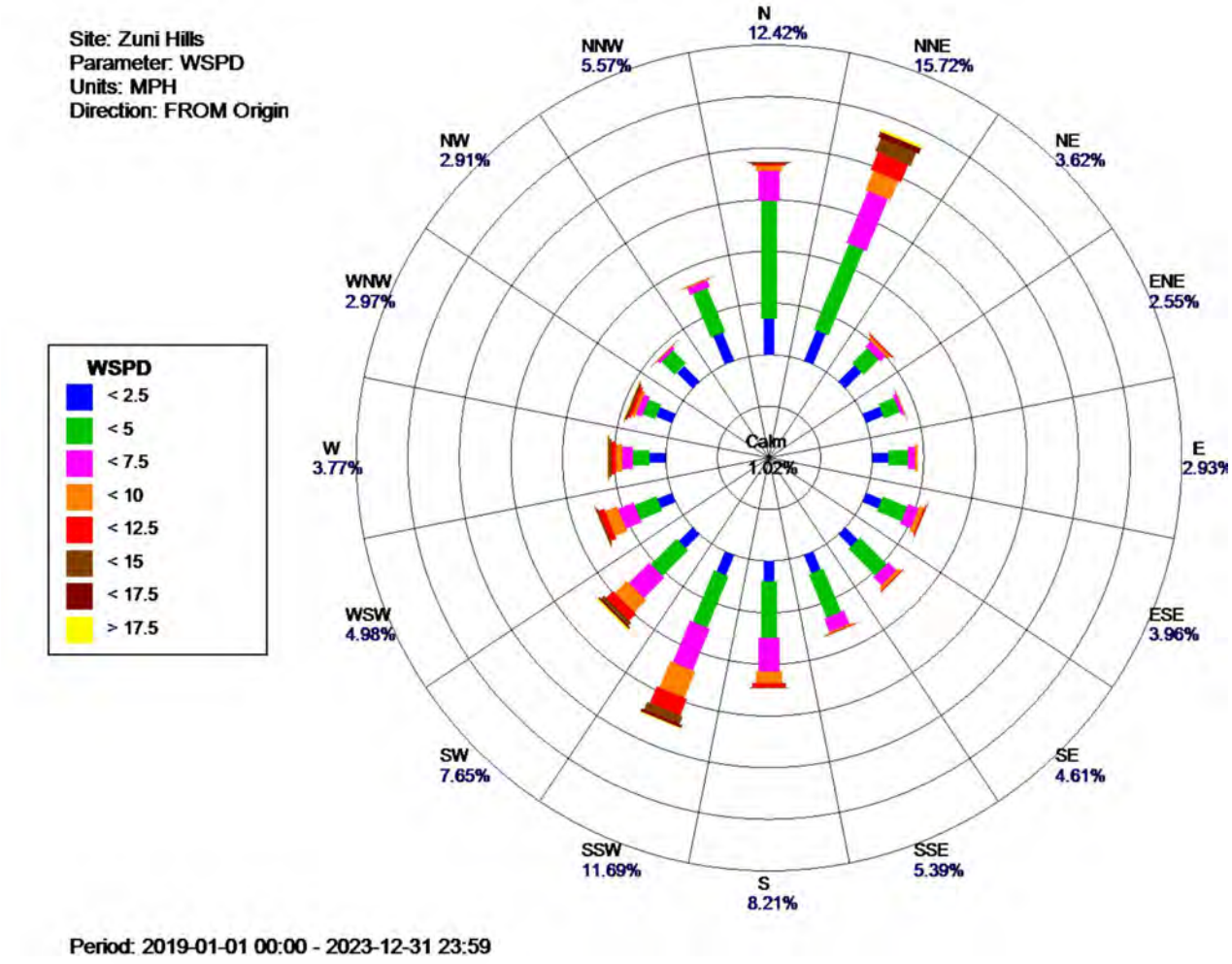
	2021	2022	2023
1	248	167	146
2	**142**	126	129
3	122	116	125
4	110	107	120

Based on the background PM10 concentrations and preliminary modeling results, the potential dates (subject to minor changes based on coordination with EPA) of the atypical events to be removed for Zuni Hills are: 7/9/2021; 7/10/2021; 10/12/2021; 10/11/2021; 9/2/2022; 8/31/2023; 7/21/2023; 7/26/2023; 4/3/2023. These dates have been flagged as atypical events because of PM10 exceedances at varies PM10 monitors per communication between Beverly Chenausky (ADOT) and Ron Pope (AQD) on April 5, 2024. EPA reviewed these days and replied on September 10 and stated that "*The green days show impacts at other monitors as well as sustained WS over 25mph at the airport along with weather type logs of dust or drops in visibility. The yellow days showed spikes at other monitors but sustained WS were not at or over 25mph, there were no notes on adverse weather types, nor noticeable changes in visibility.*" For the yellow days, EPA would like to see more evidence to support the weight of evidence for their removal compared to the green days.

4th Highest 24-hour readings at Zuni Hills after removing atypical events (in red number). Pending EPA approval.

	2021	2022	2023
1	**110**	126	146
2	84	116	66
3	72	107	65
4	70	87	62

Source: https://www.epa.gov/outdoor-air-quality-data/download-daily-data



Source: email from Ron Pope (AQD) Friday, April 5, 2024

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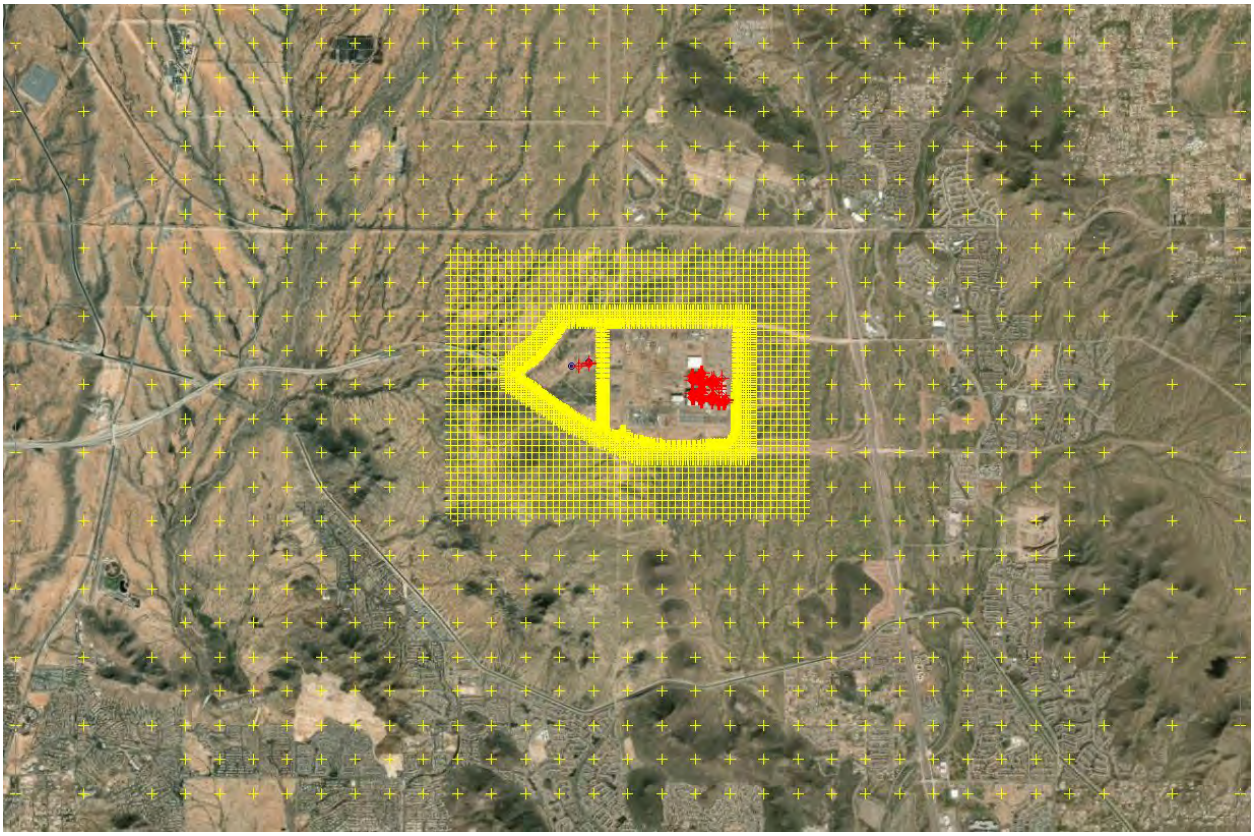
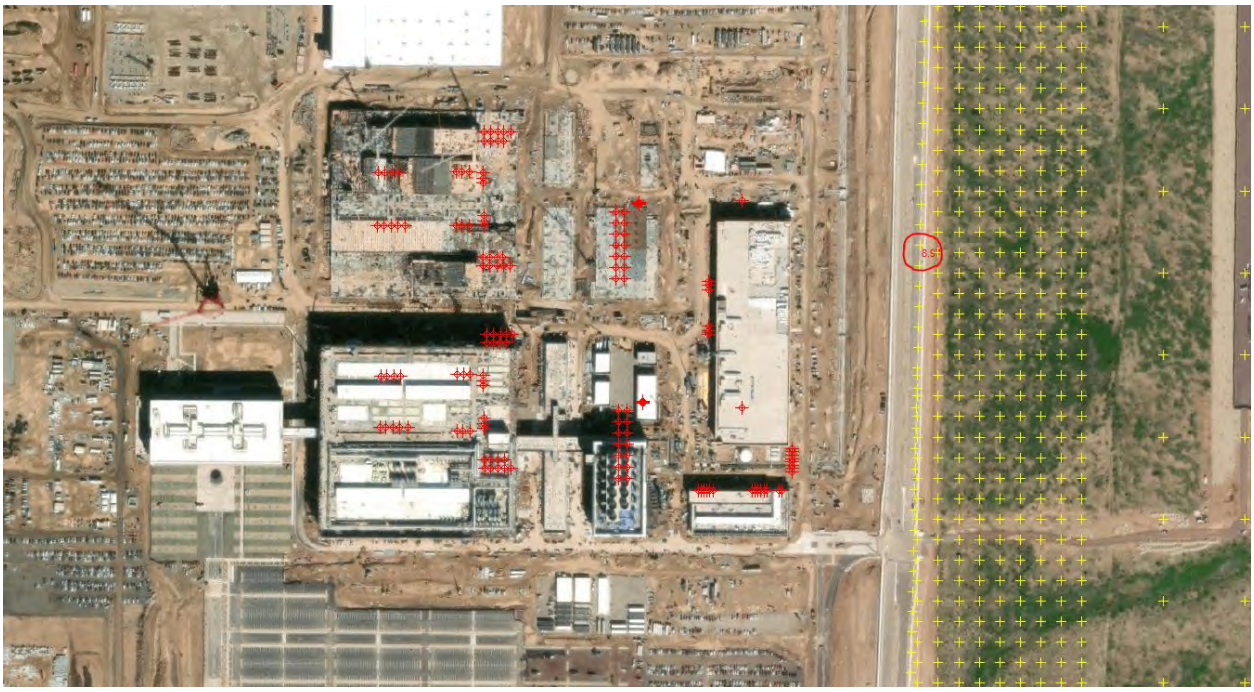
TSMC Facility Modeling Approach and Results

EPA provided the TSMC AERMOD input file for PM10 from the document as *4D2D6C7F.inp on October 4, 2024*, which contains every modeled source information for TSMC facilities. See screenshot below. In all, there were 148 point sources and/or volume sources modeled for the TSMC facilities, and 1000 receptors were modeled around the TSMC facilities.



After running the original TSMC AERMOD file provided by EPA with ADEQ Met file with data between 2017 and 2021, the maximum and 6th high 24-hour PM10 concentration results in the TSMC immediate property line on the east (red circle in figure below) and the 6th highest 24-hour PM10 concentration from TSMC facilities would be **8.2 ug/m3**.



Results Summary

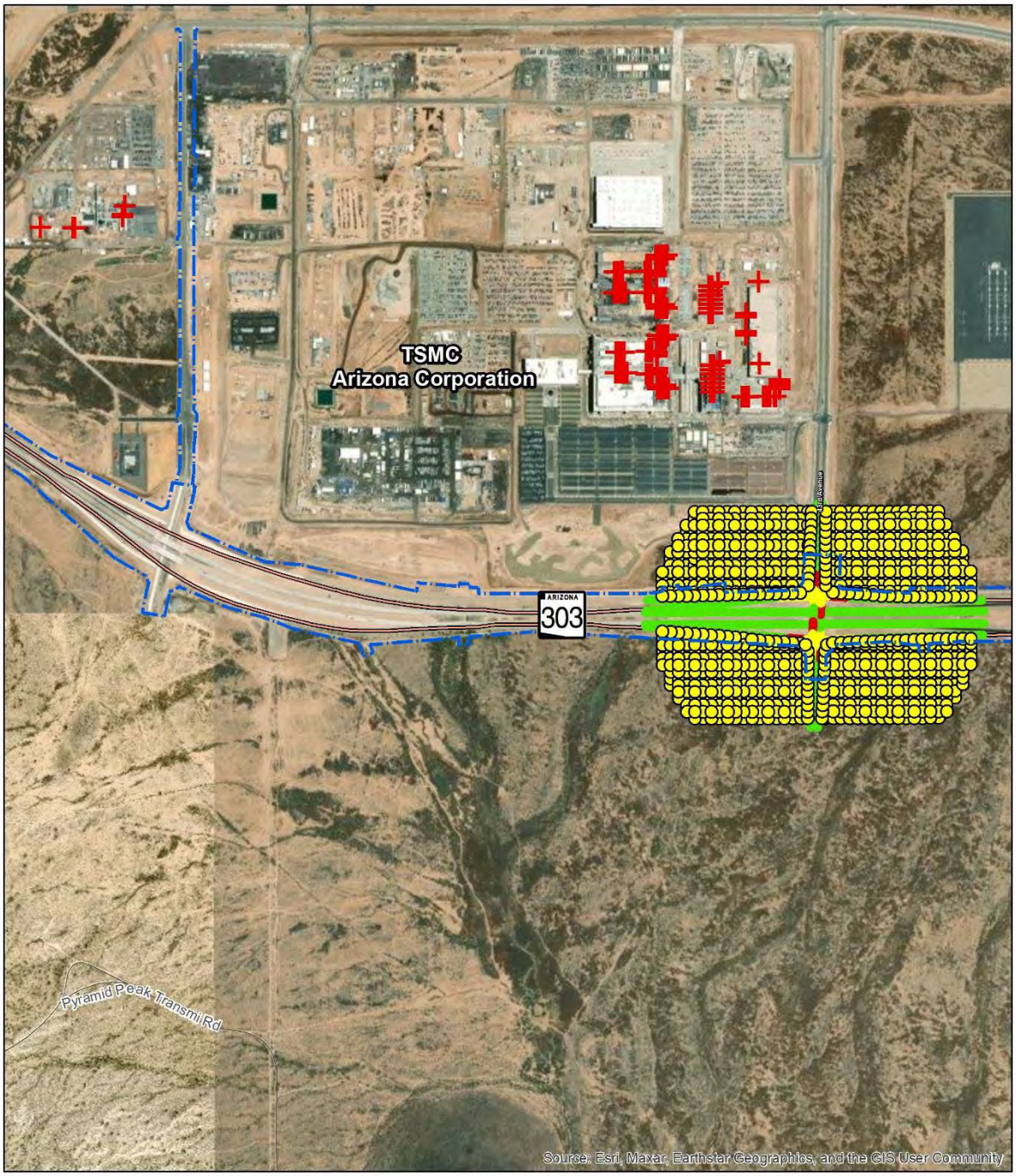
TSMC Arizona

PM-10 NAAQS (Pre 97) - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
24-HR	1ST	8.96902	ug/m^3	393402.92	3738133.70	486.01	0.00	486.01	8/26/2019, 24
24-HR	6TH	8.19158	ug/m^3	393402.92	3738133.70	486.01	0.00	486.01	10/9/2021, 24

Per EPA's suggestion, to be consistent with the source parameters and locations from the TSMC permit, we exported all TSMC sources into excel files and re-imported them into our SR303 AERMOD file for every TI under evaluation, that way the source parameters and locations would be identical, see example figures below for imported TSMC sources in SR303 AERMOD models at nearby 43rd Ave TI and 51st Ave TI.

Because the PM10 concentrations generated by TSMC facilities are far less than those generated by roadway emissions from SR303 project, the PM10 hotspot areas would still be located near at each TI/intersection that our modeled receptors already cover those areas. And there is no need to input the 1000 receptors from TSMC AERMOD file into our SR303 AERMOD model file.



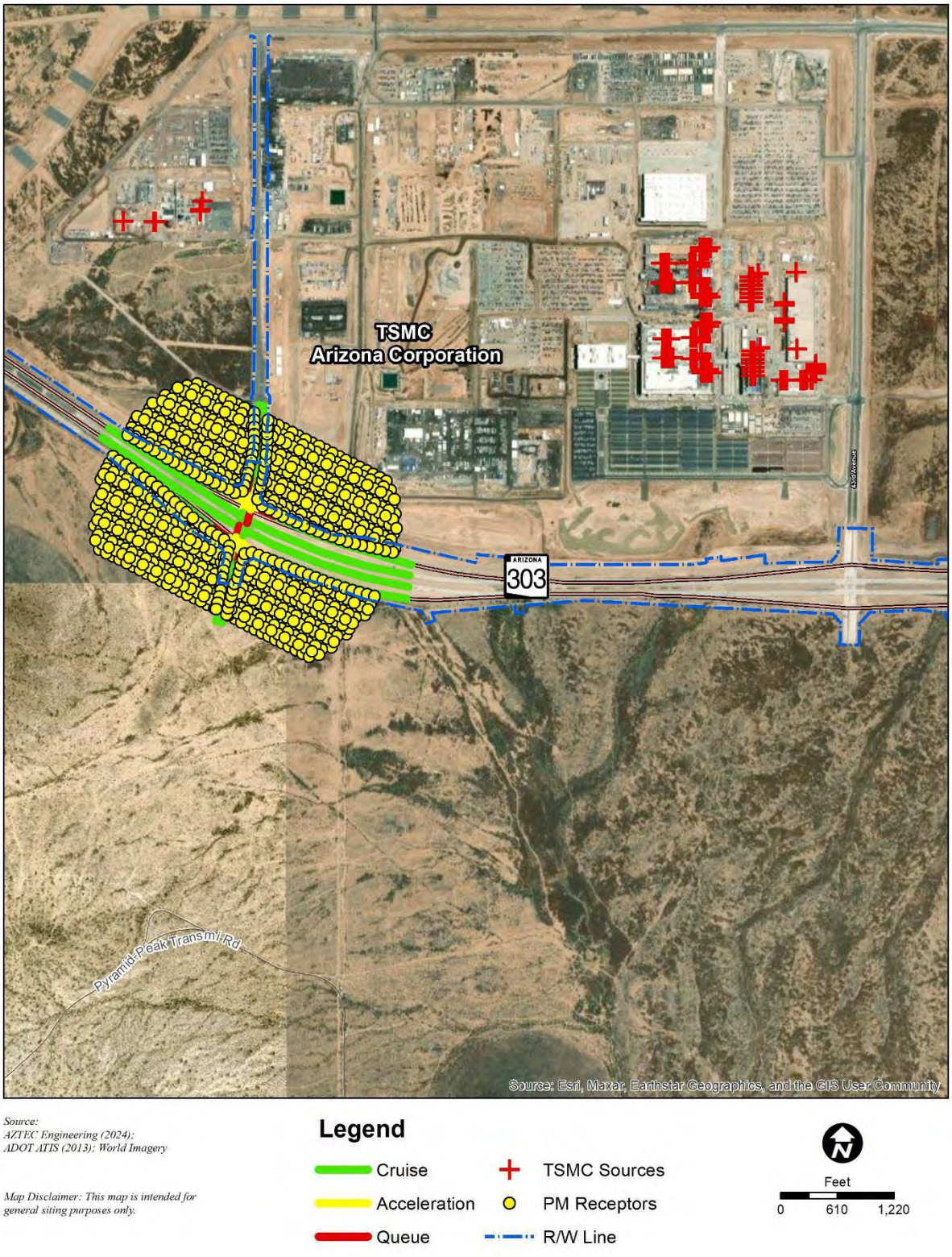
Source:
AZTEC Engineering (2024);
ADOT ATIS (2013); World Imagery

Map Disclaimer: This map is intended for general siting purposes only.

Legend

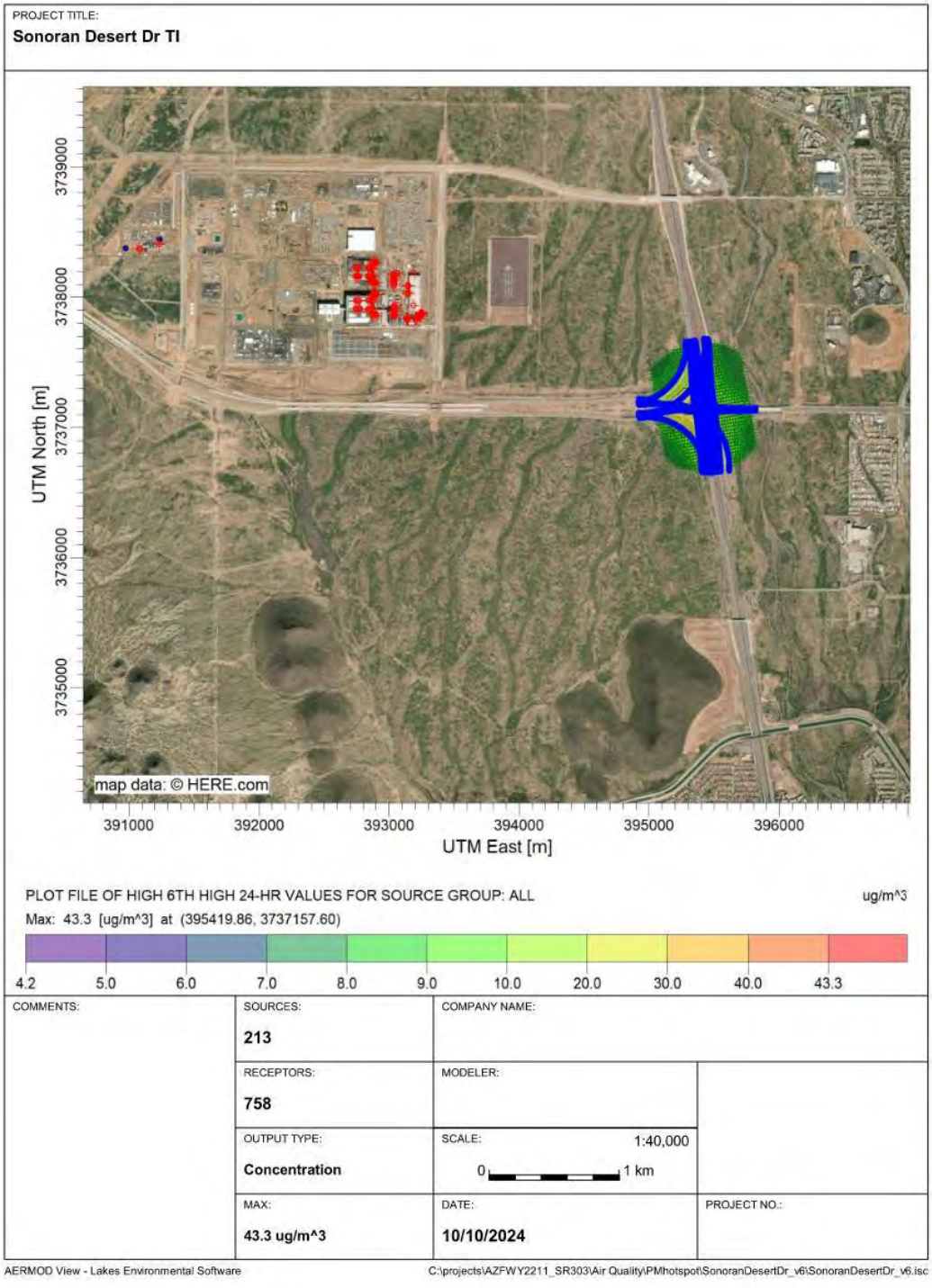
- Cruise
- Acceleration
- Queue
- TSMC Sources
- PM Receptors
- R/W Line

Feet
0 610 1,220



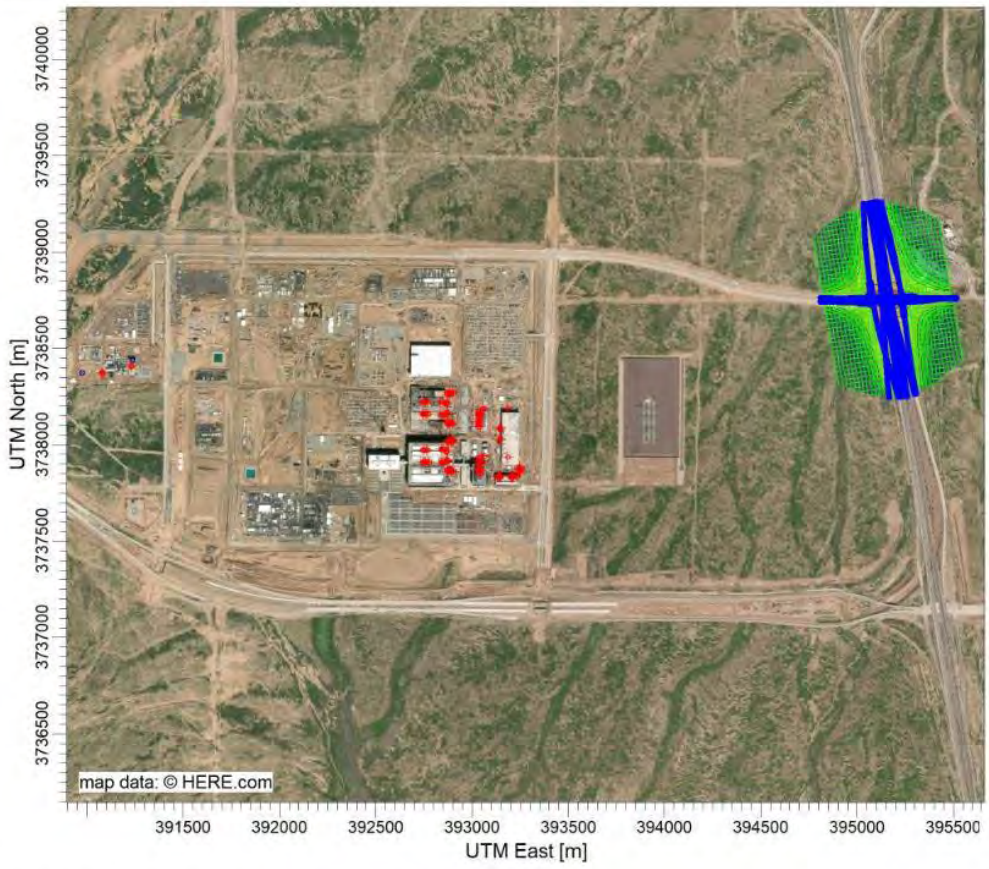
Below are the results with PM10 concentration contours for each analyzed TI/intersections with TSMC facilities sources included. We modeled receptors along sidewalks at Sonoran Desert Dr

TI and Dove Valley Rd TI per EPA’s direction.



PROJECT TITLE:

Dove Valley Rd TI



PLOT FILE OF HIGH 6TH HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

ug/m^3

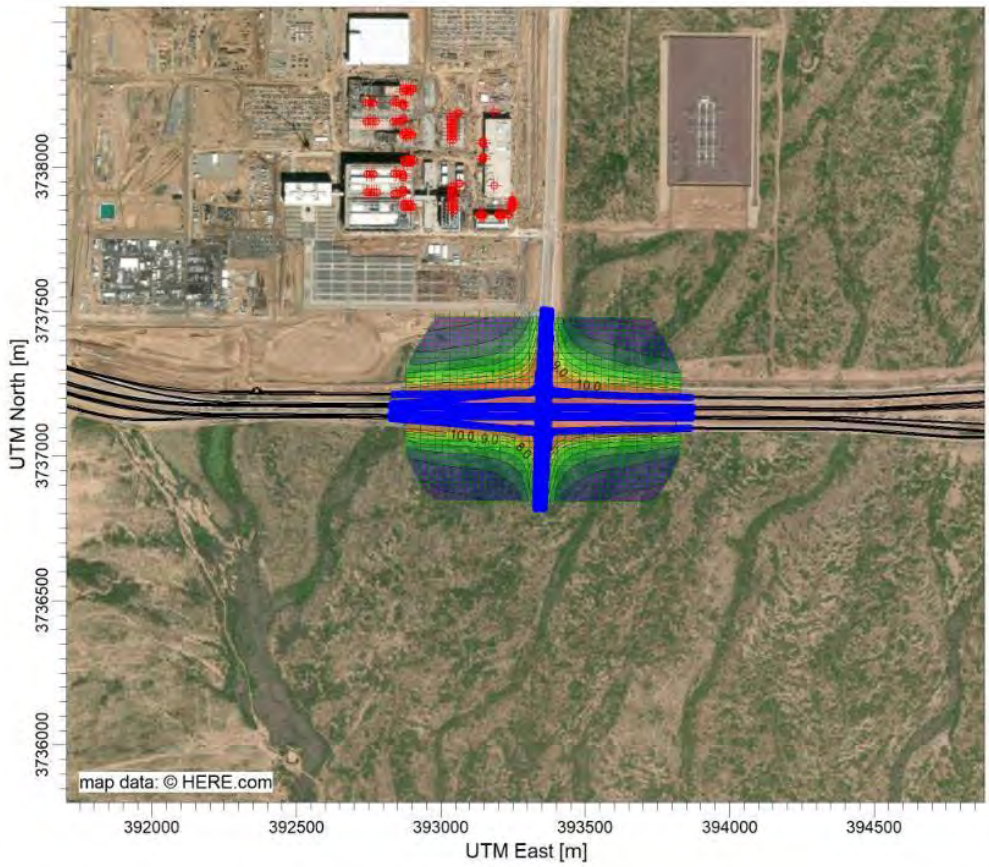
Max: 39.4 [ug/m^3] at (395195.82, 3738772.33)

3.2 5.0 6.0 7.0 8.0 9.0 10.0 20.0 30.0 39.4

COMMENTS:	SOURCES: **216**	COMPANY NAME:	
	RECEPTORS: **987**	MODELER:	
	OUTPUT TYPE: **Concentration**	SCALE: 1:30,000 (0 — 1 km)	
	MAX: **39.4 ug/m^3**	DATE: **10/10/2024**	PROJECT NO.:

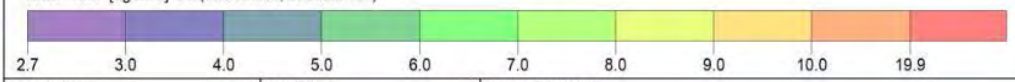
PROJECT TITLE:

43rd Ave TI



PLOT FILE OF HIGH 6TH HIGH 24-HR VALUES FOR SOURCE GROUP: ALL ug/m^3

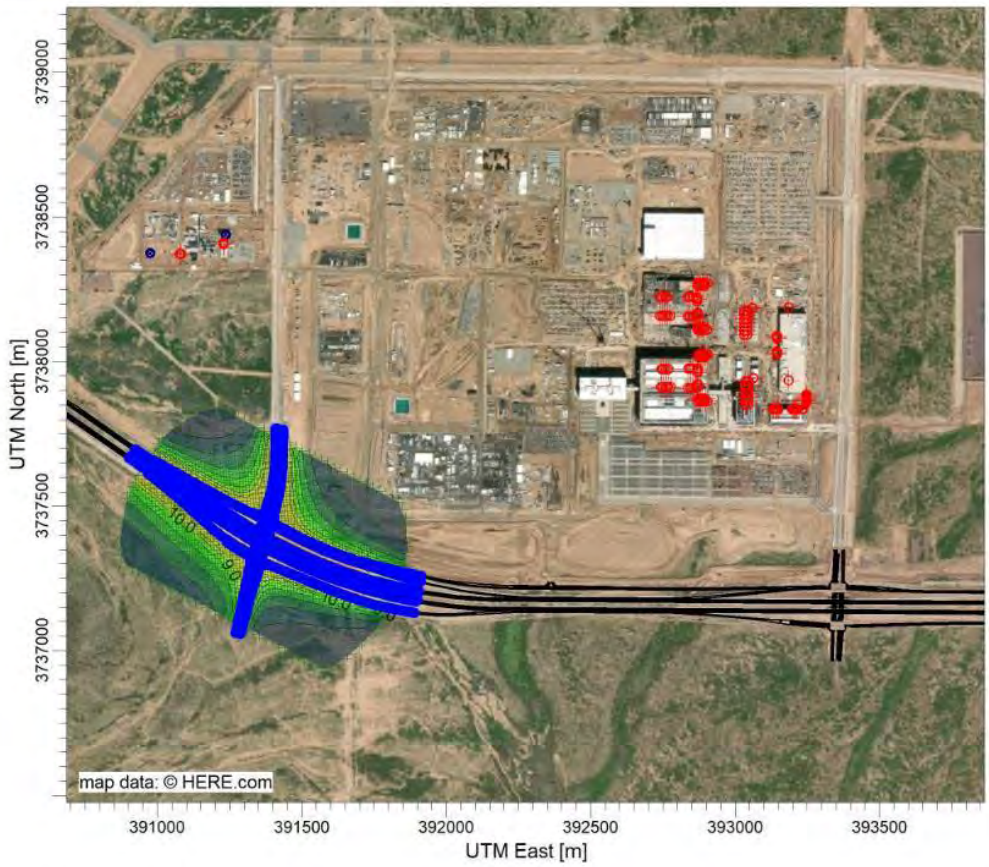
Max: 19.9 [ug/m^3] at (393404.82, 3737231.43)



COMMENTS:	SOURCES: **215**	COMPANY NAME:	
	RECEPTORS: **976**	MODELER:	
	OUTPUT TYPE: **Concentration**	SCALE: 1:20,000 0 0.5 km	
	MAX: **19.9 ug/m^3**	DATE: **10/10/2024**	PROJECT NO.:

PROJECT TITLE:

51st Ave TI



PLOT FILE OF HIGH 6TH HIGH 24-HR VALUES FOR SOURCE GROUP: ALL ug/m^3

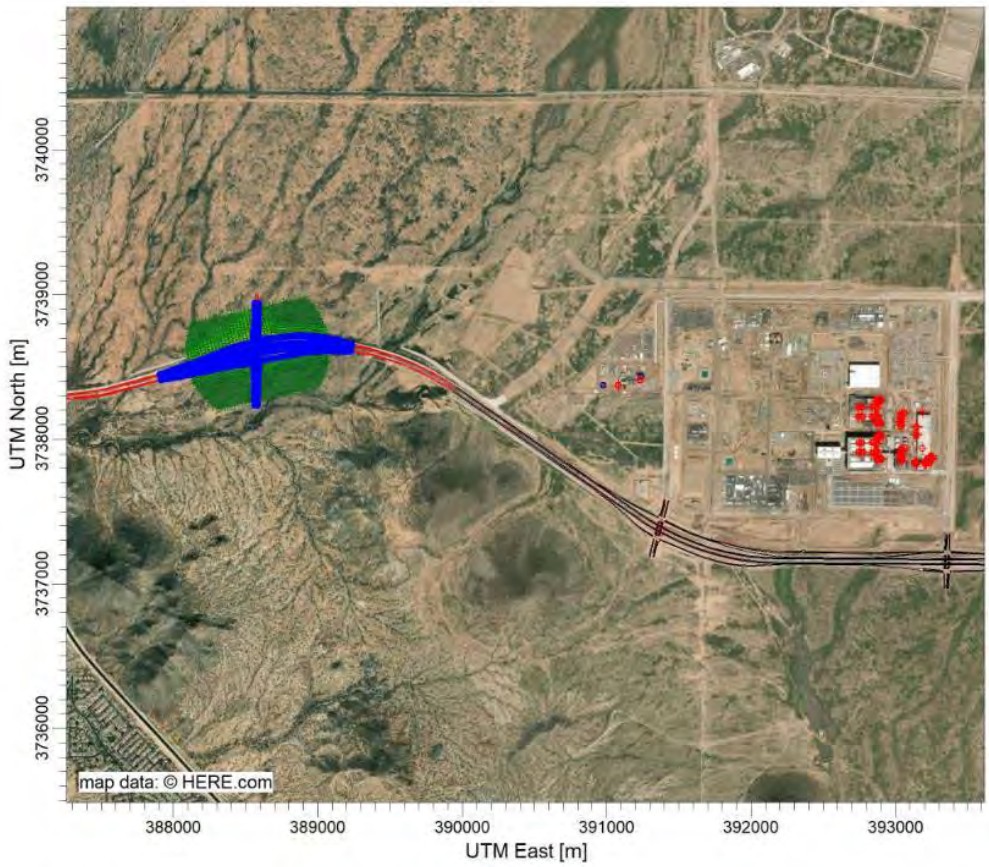
Max: 23.5 [ug/m^3] at (391410.51, 3737459.94)

2.3 4.0 5.0 6.0 7.0 8.0 9.0 10.0 20.0 23.5

COMMENTS:	SOURCES: **222**	COMPANY NAME:	
	RECEPTORS: **979**	MODELER:	
	OUTPUT TYPE: **Concentration**	SCALE: 1:20,000 0 0.5 km	
	MAX: **23.5 ug/m^3**	DATE: **10/10/2024**	PROJECT NO.:

PROJECT TITLE:

67th Ave TI



PLOT FILE OF HIGH 6TH HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 23.7 [ug/m^3] at (388546.33, 3738687.00)

2.1 4.0 5.0 6.0 7.0 8.0 9.0 10.0 20.0 23.7

COMMENTS:	SOURCES: **214**	COMPANY NAME:	
	RECEPTORS: **969**	MODELER:	
	OUTPUT TYPE: **Concentration**	SCALE: 1:40,000 (0 — 1 km)	
	MAX: **23.7 ug/m^3**	DATE: **10/10/2024**	PROJECT NO.: