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## Project Level PM Quantitative Hot-Spot Analysis - Project of Air Quality Concern Questionnaire

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*General Instructions: The Arizona Department of Transportation (ADOT) developed the following questionnaire for projects that are administering Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funding, and proposes to use this questionnaire to determine if a project requires a quantitative PM hot-spot analysis. This information will be used for interagency consultation purposes only, and not for the purpose of meeting all the transportation conformity requirements.*

*The questionnaire is not required for a project that does not require a project-level PM hot spot analysis under these circumstances:*

- *Is exempt pursuant to 40 CFR 93.126; or*
- *Is a traffic signal synchronization project under 40 CFR 93.128; or*
- *Uses no Federal funds AND requires no Federal approval.*

### Project Setting and Description

- *Describe the general project scope and purpose;*
- *Include a Map of the project area*
- *Identify the applicable regional Transportation Improvement Plan (TIP), and State TIP (STIP), if applicable;*
- *Identify the relevant non-attainment or maintenance area(s) for particulate matter;*
- *Identify the conformity status of the applicable State Implementation Plan (SIP) for particulate matter in the nonattainment/maintenance area(s).*
- *Identify the relevant agencies that require interagency consultation on any input for the questionnaire from Federal, state, and local transportation and air agencies as necessary for this project per 40 CFR 93.105.*

### 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<sub>10</sub> or PM<sub>2.5</sub> 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.

*Identify which of the above listed project types (i - v) are relevant to the project.*

### New Highway Capacity

Is this a new highway project that has a significant number of diesel vehicles?

*Example: total traffic volumes  $\geq$ 125,000 annual average daily traffic (AADT) and truck volumes  $\geq$ 10,000 diesel trucks per day (8% of total traffic).*

*YES/NO – for a NEW highway, discuss projected future total and truck volumes and provide the following data (\*provide the separate files):*

- The latest traffic study for the project\**
- GIS shape files for projected no-build and build networks\**
- A summary table for the traffic data with the data sources (e.g., MAG special runs for the project):*

AADT and Truck Volumes		Interim (optional)		No-Build		Build		Difference (Build - No-Build)	
		AADT	Truck (%)	AADT	Truck (%)	AADT	Truck (%)	AADT	Truck
Mainline	a								
	b								
	c								
	.								
Intersection	a								
	b								
	c								
	.								

*Source:*

### 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/NO – for EXISTING highway, discuss projected future diesel truck volume increases over the No-Build and provide the following data (\*provide the separate files):

- The latest traffic study for the project\*
- GIS shape files for projected no-build and build networks\*
- A summary table for the traffic data with the data sources (e.g., MAG special runs for the project):

AADT and Truck Volumes		Existing		Interim (optional)		No-Build		Build		Difference (Build - No-Build)	
		AADT	Truck (%)	AADT	Truck (%)	AADT	Truck (%)	AADT	Truck (%)	AADT	Truck
Mainline	a										
	b										
	c										
	.										
Intersection	a										
	b										
	c										
	.										

Source:

### 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/NO – discuss the LOS of intersections in the design year affected by the project and the total AADT and percentage diesel vehicles and provide the following data (\*provide the separate files):

- The LOS analysis files (e.g., Synchro or HCM model runs)\*
- A summary table for the LOS with the data sources:

Level of Service (LOS)		Existing		Interim (optional)		No-Build		Build	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
		LOS (Delay-optional)	LOS (Delay)	LOS (Delay)	LOS (Delay)	LOS (Delay)	LOS (Delay)	LOS (Delay)	LOS (Delay)
Intersection LOS (overall, not for each link)	a								
	b								
	c								
	.								

*Source:*

### **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?

*YES/NO – for a NEW terminal, document the number of diesel vehicles anticipated to use that terminal per day.*

### **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?

*YES/NO – for an EXISTING terminal, discuss the existing fleet size and projected future volume increases over the No Build.*

### **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<sub>10</sub> or PM<sub>2.5</sub> applicable plan or implementation plan submissions, as appropriate, as sites of violation or potential violation?

*YES/NO – discuss the location of sites of violation or potential violation, as identified in the applicable SIP or SIP submission(s), relative to the project location.*

### **POAQC Determination**

State whether the project is a Project of Air Quality Concern (POAQC) and summarize the response(s) above that support that determination. Document the relevant agencies that require interagency consultation on any input for the questionnaire from Federal, state, and local transportation and air agencies as necessary for this project per 40 CFR 93.105. This information will be included in subsequent air quality analysis and project level conformity determination reports.

*If NO, ADOT will request responses from consulted parties within 10 business days; a non-response will be interpreted as concurrence that the project is not a project of air quality concern and does not require a hot-spot analysis.*

*If YES, the project requires a hot-spot analysis and the Project Level PM Quantitative Hot-Spot Analysis – Consultation Document for Project of Air Quality Concern section will be completed and circulated through interagency consultation for review and comments prior to commencing any modeling activities.*