Qualitative PM2.5 Hot-Spot Analysis

FRA-71-6.09
PID # 79331 (I-71/SR 665 Interchange)
Franklin County, Ohio

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Executive Summary

The following report documents the project-level conformity analysis conducted for the FRA-71-6.09 (I-71/SR655 Interchange) project in Franklin County, Ohio to comply with statutory requirements. The analysis examined the potential for this project to alter levels of small particulate matter (PM2.5) in the project area, using the qualitative hot-spot analysis approach outlined by the Environmental Protection Agency's final rule 40 CFR Part 93. Because the FRA-71-6.09 project results in a design year average daily traffic (ADT) of > 87,500 vehicles and > 7,000 diesel truck volume and further results in >4,375 and >350 increases in ADT, a qualitative hotspot analysis is required.

The qualitative analysis uses one method to assess the potential change in small particulate matter. Method A (the "surrogate" location method) involved locating a major highway interchange at an existing interstate highway that has similar traffic characteristics as the project location, and has an air quality monitor nearby. Existing data from the nearby air quality monitors was used to compare and simulate future PM2.5 air quality concentrations once the subject project is constructed and in operation in opening year 2010 and design year 2030.

Franklin County was designated as in non-attainment for the annual PM2.5 standard on April 14, 2005 by the U.S. Environmental Protection Agency (USEPA). The air monitors at the surrogate locations measured levels of PM2.5 concentrations that were less than the National Ambient Air Quality Standards (NAAQS) for the 24-hour and the annual PM2.5 concentrations.

The results of Method A indicate that PM2.5 levels in the FRA-71-6.09 project area will not exceed air quality standards in the project opening year and design year. PM2.5 emission levels are predicted to be approximately the same if the project is not constructed. Peak PM2.5 emissions from the proposed project are predicted to occur in the year 2015. The projected decrease in PM2.5 levels compared to the increase in traffic volumes is attributed to cleaner fuel and automobile technologies that will be implemented over the next 25 years. The proposed transportation project conforms to the purpose of the state air quality implementation plan by not causing a new air quality violation or worsening an existing violation. The FRA-71-6.09 project is not expected to result in a violation of the 24-hour standard or worsen the existing violation of the annual PM2.5 standard, and therefore the project meets the conformity hot-spot requirements in 40 CFR 93.116 and 93.123.

I. PROJECT INTRODUCTION AND CONFORMITY REQUIREMENTS

Particulate Matter

Particulate matter is the general term used for a mixture of solid particles and liquid droplets suspended in the air. The very large particulates settle to the ground, while the smaller particulates stay suspended in the air. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens (such as fragments of pollen or mold spores). The size of particles is directly linked to their potential for causing health problems. Some particles are visible to the naked eye while others require a microscope to be seen. PM2.5 describes the 'fine' particles that are less than or equal to 2.5 µm in diameter. 'Coarse fraction' particles are greater than 2.5 µm, but less than or equal to 10 µm in diameter. PM10 refers to all particles less than or equal to 10 µm in diameter. Even though PM10 can be inhaled, PM2.5, due to its small diameter (approximately 1/30th the average width of a human hair), poses the greatest problems with their ability to become lodged deep in the lungs and even into the bloodstream. Road dust and soot from wood combustion are referred to as "primary" particles as they are emitted directly into the atmosphere. Particulates that form in the atmosphere from primary gaseous sources are referred to as "secondary" particulates. Examples of secondary particulates include "sulfates, formed from SO_2 emissions from power plants and industrial facilities, and nitrates, formed from NOx emissions from power plants, automobiles, and other types of combustion sources. The chemical composition of particles depends on location, time of year, and weather. Generally, coarse PM is composed largely of primary particles and fine PM contains many more secondary particles. People with heart or lung disease, older adults, and children are considered at greater risk from particles than other people, especially when they are physically active. Exercise and physical activity cause people to breathe faster and more deeply and to take more particles into their lungs. Particle exposure can lead to a variety of health effects. For example, numerous studies link particle levels to increased hospital admissions and emergency room visits—and even to death from heart or lung diseases. Both long- and short-term particle exposures have been linked to health problems.

Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short-term exposures, although they may experience temporary minor irritation when particle levels are elevated.

In many areas, local media provide air quality forecasts informing communities when particle levels are expected to be unhealthy. Forecasts use the same format as EPA's Air Quality Index, or AQI, a tool that

state and local agencies use to issue public reports of actual levels of particles, ground-level ozone, and other common air pollutants.

The NAAQS for PM10 includes an annual standard (50.0 micrograms per cubic meter (ug/m^3)) and a 24-hour standard (150 ug/m^3). The NAAQS for PM2.5 includes an annual standard of 15.0 ug/m^3 and a 24-hour standard of 65 ug/m^3. The 24-hour standard for PM2.5 has been changed to 35 ug/m^3, however, this project is still only subject to the old 24-hour standard of 65 ug/m^3 until one year after USEPA formally designates Columbus as non-attainment under the new standard. The PM secondary (welfare-based) standards have been revised by making them identical to the primary standards. EPA believes that the PM2.5 and PM10 standards, combined with the Clean Air Act-required regional haze program, will provide protection against the major PM-related welfare effects, including visibility impairment, soiling and materials damage.

Primary Requirements for Assessing PM

Section 176(c)(1)(B) of the Clean Air Act is the statuary criterion that must be met by all transportation projects in non-attainment and maintenance areas that are subject to transportation conformity. Section 176(c)(1)(B) states that federally-supported transportation projects must not "(i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area."

To meet statutory requirements, the March 10, 2006 final rule requires PM2.5 and PM10 hot-spot analyses to be performed for projects of air quality concern. Qualitative hot-spot analyses would be done for these projects before appropriate methods and modeling guidance are available and quantitative PM2.5 and PM10 hot-spot analyses are required under 40 CFR 93.123(b)(4). In addition, through the final rule, EPA determined that projects not identified in 40 CFR 93.123(b)(1) as projects of air quality concern have also met statutory requirements without any further hot-spot analyses (40 CFR 93.116(a)). 40 CFR 93.123(b)(1) (i) applies to this project because this is an expansion of an existing highway. 40 CFR 93.123(b)(1) (i) as revised January 24, 2008 states, "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." Franklin County was designated as in non-attainment for the annual PM2.5 standard on April 14, 2005 by the U.S. Environmental Protection Agency (USEPA). The Mid-Ohio Regional Planning Commission (MORPC) is the Metropolitan Planning Organization (MPO) responsible for air quality conformity for the subject project. 40 CFR 93.106(d) states that FHWA/FTA projects must be found to conform before they are adopted, accepted, approved or funded. Generally, it is believed that the majority of the PM2.5 in the study area is very similar to other areas of the State of Ohio being comprised of background concentrations slightly elevated by typical city sources and transportation. This project involves the modification of an existing interchange at an interstate route that currently carries high traffic volumes with an elevated percentage of diesel vehicles. The project is also located in a county that has been determined to be non-attainment for the annual PM2.5 standard. This project comes from a conforming plan and TIP.

Agency Role and Responsibility

ODOT is the project sponsor and is responsible for developing this PM2.5 hot-spot analysis. FHWA is responsible for making project level conformity determinations. ODOT, in cooperation with FHWA, is responsible for conducting the environmental analysis and review to comply with NEPA, as required by the Council on Environmental Quality regulations (40 CFR 1500-1508) and the FHWA/FTA Environmental Impact and Related Procedures (23 CFR 771). FHWA is also responsible for determining that the requirements of the transportation conformity rule are met. The PM2.5 hot-spot analysis will be included in the environmental (NEPA) document for this project. The Ohio and U.S. EPA (EPA) is responsible for developing the State's conformity SIP and other SIP documents which are submitted to USEPA for approval. EPA is also an active member of the interagency consultation process addressed below in this analysis. OEPA prepared its SIP for PM2.5 in July 2008 and submitted it to USEPA July 16, 2008. The submittal included a demonstration of attainment of the air quality standards by April 2010. Over the next two years, several mobile diesel reduction projects will take place in all of Ohio's nonattainment areas. Ohio's Diesel Emission Reduction Grant Program (DERG) earmarked $19.8 million over the biennium to reduce diesel emissions. OEPA believes that after looking at the emissions reductions that will occur as a result of federal and state rules, other local control measures, trends in ambient monitoring data, as well as the air quality modeling, the weight-of-evidence allows OEPA to conclude the Ohio will be able to attain and maintain the PM2.5 NAAQS throughout the State by April 2010.

The Conformity Analysis Interagency Consultation Process

Ohio Administrative Code (OAC) Section 3745-101-04 defines the consultation procedures for the state formally. In general, the lead agencies in the Ohio conformity process assume responsibility for preparing and distributing draft documents with supporting information, and assure that each affected party involved in the conformity process is included in the consultation process. Following the USEPA's release of designations for fine particles, Ohio's planning partners have devoted considerable effort to coordinate their activities with each other, USEPA, and FHWA. Frequent e-mail and phone conversations have taken place, and a PM2.5 conformity training session was held on September 22, 2005. Hosted by ODOT, the session provided Ohio MPOs, ODOT, Ohio EPA and FHWA staffs with an in depth review of conformity issues related to the fine particles standard.

Public Participation

ODOT plans on soliciting public comments on the Qualitative Hotspot analysis via ODOT's website.

Project Description

The proposed project, FRA-71-0.69 (PID 79331), is located in the City of Grove City and Jackson Township, Franklin County, Ohio. Figure 1 shows the location of the proposed project and Figure 2 shows the proposed improvement at the interchange. Mounting congestion issues and related safety concerns exist on Interstate 71 (I-71) within the Grove City area. These issues are most apparent at the I-71/State

Route 665 (SR-665) interchange. I-71 is the only north-south interstate freeway in Central Ohio and is a critical route for moving people and freight through the region. It also serves the local community and the region as a primary link to the Columbus metropolitan area. Grove City residents rely upon I-71 to access employment and commercial locations in Central Ohio. The I-71/SR-665 interchange has been documented as a congested freeway location with high accident frequency and the Ohio Department of Transportation (ODOT) and the City of Grove City recognizes the need to correct transportation deficiencies at this interchange in order to meet the long term mobility needs of the area.

Deficiencies at the I-71/SR-665 interchange were identified in the Interchange Modification Study (IMS) that was completed for the interchange (EMH&T, Inc., 7/28/06). The IMS determined that the existing interchange configuration and geometry is outdated and does not provide sufficient capacity for current and design year traffic demands. The ramps to and from I-71 north of the interchange do not provide adequate levels of service, causing congestion and delay for traffic on I-71 and on SR-665. Without improvements to the interchange, the interchange will operate at a failing level of service by the design year of 2030.

To address deficiencies at the I-71/SR-665 interchange, a comprehensive study was undertaken to develop a preferred alternative. The preferred alternative selected for the proposed interchange improvements is a Single Point Urban Interchange (SPUI). The build condition for the SPUI has a design year of 2030. Other improvements for the project include capacity improvements to the SR-665 arterial from the interchange east, to Hoover Road (these improvements were completed in the summer of 2008) as well as considerations for Haughn Road located west of the interchange. The existing intersection of Haughn Road and SR-665 will be relocated further to the west at Gateway West Drive. The City of Grove City has decided to proceed with sponsoring the design and construction of the Haughn Road relocation as a local project separate from the interchange improvement project. The relocation of Haughn Road will proceed as a locally funded project and will be constructed prior to the interchange improvement project. In addition to ramp improvements proposed with the SPUI and SR-665, mainline I-71 improvements include adding an additional third through lane in each direction. The I-71 mainline improvements will be performed as a separate project anticipated in 2012, sponsored by ODOT (FRA-71-0.00, PID 79329).

The preferred alternative is a SPUI which will greatly increase the capacity of the interchange eliminating backups onto mainline I-71 on southbound traffic during the PM peak hours. Conversely, traffic traveling westbound on SR-665 to northbound I-71 in the AM peak hours will have some improvement. The local SR-665 project has been constructed (completed in summer 2008). The SR-665 improvements reduce congestion on SR-665 particularly in anticipation of current and new developments in this area; however, this improvement will not resolve the safety and congestion issues at the interchange. The strategic plan for the successful completion of the overall project improvements are going to be performed in two phases. There are no current plans for capacity improvements on SR-665 west of the interchange to US-62 by the City of Grove City or ODOT.

This being selected as a SPUI, it includes reconstruction of the interchange and associated ramps that will interface with the local roadway improvement project on SR-665. These improvements will eliminate or reduce congestion, delay and safety concerns on the southbound off ramp eliminating backups onto I-71. It will improve the operation and also eliminate backups for traffic entering I-71 northbound from westbound SR-665.

In summary, proposed improvements to I-71 mainline and the SR-665 interchange significantly improve performance of both I-71 and the interchange. Without improvements, the "No-Build" existing freeway and interchange will not be able to carry anticipated traffic volume. Revising the existing I-71/SR-665 interchange and improving the freeway mainline will have a significant positive effect on both the local and interstate road systems. None of the analyses revealed any negative impact of the improvements and there are no mitigating measures recommended.

II. EXISTING PROJECT CONDITION

BACKGROUND

Alternative PM2.5 Analysis

The EPA guidance identified above describes two analysis methods for projects in areas of nonattainment: the first is to compare the subject project to a location that is currently monitored for PM2.5 and has similar traffic characteristics (referred to in this report as Method A); the second uses the results of existing air quality studies and information that is available for the project location (Method B). This analysis incorporates method A to provide as thorough of a qualitative analysis as possible. The reasoning and methodology for using this analysis is provided below.

Method Used for Performing this Qualitative Analysis

The purpose of this analysis is to examine whether the FRA-71-6.09 project will create a new violation, make an existing violation worse, or delay timely attainment. This analysis addresses direct particulate matter only, which includes matter from tailpipe emissions, break wear, and tire wear.

Air Quality – PM2.5 Monitors

Information on PM2.5 monitors in the state of Ohio, obtained from the Ohio Environmental Protection Agency and from the United States Environmental Protection Agency AirData system website, was examined to locate an appropriate surrogate monitor site. Typically for this type of analysis, a surrogate PM2.5 monitor is identified to simulate the air pollution generated at the project location for the project opening year and the project design year. The location of the surrogate site would need to include a major traffic interchange at an interstate route with existing traffic volumes and percentage of trucks similar to those predicted for the subject interchange in the project area.

Project Traffic Conditions

The EPA's final rule identifies project types that require a qualitative PM2.5 Hotspot Analyses on transportation projects. The following table presents the opening year 2010 traffic volumes and projected design year 2030 Build and No-Build traffic volumes at the I-71/SR 665 interchange.

Table 1.
FRA-71-6.09 (I-71/SR 665 Interchange) Average Daily Traffic Volumes

I-71/SR 665 Intersection	Opening Year 2010	Trucks 2010	Design Year Build 2030	Trucks 2030
I-71	68,040	26%-17,690 (15,213 diesels)	90,260	26%- 23,468 (20,417 diesels)
SR 665	19,070	5%-954 (820 diesels)	30,610	5%- 1,531 (1,330 diesels)

Built and Natural Environment

The project area is moderately built up consisting of commercial development and light industrial land use. Green spaces consist of vacant land in the southwest quadrant of the interchange, a golf driving range in the northwest quadrant and vacant commercial parcels within commercial parks that have not yet been developed. It is estimated that the project area is between 60% and 70% built out. The interchange is located in an area of level terrain with no topographic boundaries that would hinder the dispersion of PM. The only local emission source of PM in the project would be a large FedEx freight transfer facility located in the south east quadrant of the interchange. The closest residential development is located on the north side of SR 665 approximately 1,000 feet east of the interchange. The project area, is mostly built out, however a purpose of the project is to support the planned growth within the vicinity of the project area. The planned development is for a proposed medical facility and commercial/retail land use. The future development is unlikely to include facilities that would change the character of the project area that could potentially add future PM emission sources.

Meteorology, Climate and Seasonal Data

The meteorology at the project location can generally be categorized as variable, since the wind varies during the day. There is some wind that acts to disperse PM2.5 emissions at the site. Temperature, humidity and rainfall do not seem to influence the level of PM2.5 pollution at this site.

Consideration of Data

Re-entrained Road Dust. Neither USEPA nor OEPA has determined that re-entrained road dust is a significant contributor to PM2.5 concentrations in Franklin County. Also, the proposed construction schedule has the project starting in May of 2010 with completion in December 2011 for a construction

period of less than two years. Therefore, neither re-entrained road dust nor particulate construction emissions will be analyzed in this qualitative hot spot analysis.

Existing Emission Control Measures

A purpose of the proposed project is to improve the operation and steady flow of traffic through the I-71/SR 665 interchange. The existing traffic congestion at the interchange results in slow moving traffic and conditions of stopped traffic with idling vehicles and frequent stopping and acceleration of vehicles. These types of traffic conditions contribute to the overall PM emissions. Free flowing traffic will result in lower PM2.5 emissions and improved air quality. The USEPA is the lead federal agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of PM2.5. With its Tier 2 motor vehicle emissions standards and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements, the USEPA has projected an 87% reduction in on-highway diesel particulate matter emissions by the year 2020 even with an increase in vehicle miles traveled.

EPA's heavy duty diesel vehicle and low sulfur diesel fuel rules were finalized several years ago and went into effect in 2007. Because Tier 2 and the low sulfur gasoline regulations do not have significant direct PM2.5 benefits, these rules decrease the formation of secondary particles by reducing NOx, VOC and/or SO_2 emissions. PM2.5 benefits from the NOx SIP call and the implementation of the Clean Air Interstate Rule. Both of these rules are aimed at reducing power plant emissions of NOx and/or SO_2 and will reduce PM2.5 levels throughout the region. Various national non-road engine rules were put in place by EPA and continue to be phased in.

In May 2008, MORPC conducted a regional emissions analysis for direct PM2.5 emissions to show what the regional trend is for the area. The analysis showed that the emissions for PM2.5 in 2009, 2018, 2020, and 2030 are less than the 2002 baseline level (see Air Quality Conformity Determination Documentation, MORPC and LCATS 2008-2030 Transportation Plans, May 2008.

http://www.morpc.org/pdf/CapitalWays%20AQ%20Appendix%20May%202008.pdf).

III. QUALITATIVE HOT-SPOT ANALYSIS

FUTURE YEAR ANALYSIS

Method A: Surrogate Project Locations

For this analysis, an effort was made to identify an appropriate surrogate monitor to effectively simulate the air pollution generated at the project location for the project design year (2030) and opening year 2015. The surrogate site would need to include a nearby roadway that *currently* carries traffic volumes and percentage of trucks similar to those predicted for the I-71/SR 665 interchange project area in the design year 2030 and opening year 2010.

Surrogate Monitor Location for 2030 Build

The surrogate monitor is located within Lucas County at 348 South Erie Road in Toledo. As shown in on the attached mapping, the monitor location is identified as 39-095-0024 in Toledo. The monitor location is approximately 850 feet east of the I-75 intersection with US 25. The land use in the area surrounding the monitor is comprised of commercial and light industrial with residential land use immediately south. Figure 3 shows the surrogate location used for comparison to the project design year 2030.

Based on certified traffic data from ODOT-OES (August 19, 2004) projected traffic volume on I-71 at the SR 665 interchange for design year 2030 would be 90,260 vehicles per day. Traffic volume on SR 655 would be 30,610 vehicles per day for a total ADT of 120,870 vehicles per day. Truck ADT volume at the interchange is 26% and would represent 24,999 trucks per day. At the surrogate location, the ADT on I-75 just west of the monitor location is 97,350 vehicles per day and 20,600 vehicles per day for traffic on SR 25 for a total ADT at the interchange of 117,950. The total ADT for the surrogate monitor is 2% lower than the 2030 build ADT at the I-71/SR655 interchange. The total ADT truck volume for the surrogate monitor is 17% representing a total volume of 17,167 trucks per day. Truck ADT for the surrogate monitor is 9% less than the 2030 build. Table 2 below provides comparative data on the subject site and the surrogate sites examined for this analysis.

Data from the surrogate monitor location (EPA monitor 39-095-0024) for the last three full years of monitoring (2005-2007) was averaged to evaluate potential PM2.5 levels for the subject project location. The 98th percentile of 24-hour PM2.5 concentrations averaged 30.3 micrograms per cubic meter for the period. This pollutant level is below the 24-hour PM2.5 NAAQS of 65 micrograms per cubic meter. The arithmetic mean of the annual mean PM2.5 concentrations for the same measurement period averaged 13.74 micrograms per cubic meter. This pollutant level is below the annual NAAQS of 15.0 micrograms per cubic meter. If this site is considered an appropriate representative site, the FRA-71-6.09 project area will conform to NAAQS for PM2.5 levels in the project design year.

Surrogate Monitor Location for 2010 opening year

This surrogate monitor is located within Stark County, at 1330 Deuber Avenue SW in Canton, Ohio. As shown in on the attached mapping, the monitor location is identified as 39-151-0017 in the city of Canton. The land use in the area immediately surrounding the monitor is primarily of commercial, light industrial and residential uses, comprising high density urban development typical of an older residential neighborhood where an interstate route and controlled access US route post date original development. The surrogate location is situated in the northwest quadrant of the I-77/US 30 interchange approximately 2,400 feet west of I-77 and 700 feet north of US 30.

Based on certified traffic data from ODOT-OES (August 19, 2004) projected traffic volume on I-71 at the SR 665 interchange for opening year 2010 would be 68,040 vehicles per day. Traffic volume on SR 655 would be 19,070 vehicles per day for a total ADT of 90,260 vehicles per day. Truck ADT volume at the interchange is 26% and would represent 18,644 trucks per day. At the surrogate location, the ADT on I-77 just east of the monitor location is 65,460 vehicles per day and 45,940 vehicles per day for traffic on US 30 for a total ADT at the interchange of 111,400 vehicles per day. ADT at the surrogate location is 19% higher than ADT at the project interchange on opening day 2010. Total truck ADT for opening year at the subject interchange would be 18,644 vehicles per day. Truck ADT at the surrogate location is 15,596 vehicles per day. Truck ADT at the surrogate location is 19% lower than the ADT at the project interchange on opening day 2010. Table 2 below provides comparative data on the subject site and the surrogate sites examined for this analysis. Figure 4 shows the surrogate location used for comparison to the opening year 2010.

Data from Surrogate Monitor Location (EPA monitor #39-151-0017) for the last three full years (2005 to 2007) was averaged to evaluate potential PM2.5 levels for the subject project location. Air quality monitoring data was provided by the *United States Environmental Protection Agency Air Quality System – Quick Look Report AMP450.* The 98th percentile of 24-hour PM2.5 concentrations averaged 26.5 micrograms per cubic meter for this period. This pollutant level is below the 24-hour PM2.5 NAAQS of 65 micrograms per cubic meter. The arithmetic mean of the annual mean PM2.5 concentrations for the same period averaged 14.13 micrograms per cubic meter. This pollutant level is below the annual NAAQS of 15.0 micrograms per cubic meter. Therefore, if this site is considered an appropriate representative site, the FRA-71-6.09 interchange project area will conform to NAAQS for PM2.5 levels in the project opening year 2010.

Table 2.
Comparison of FRA-71-6.09 Traffic Volumes to Surrogate Locations

Location (Year)	ADT	Truck Percentage	Trucks (Daily Average)	Trucks (Diesels)
FRA-71-6.09 Project Site (2030 Build)	I-71: 90,260 SR 665: 30,610 Total: 120,870	I-71: 26% SR 665: 5%	I-71: 23,468 SR 665: 1,531 Total: 24,999	I-71: 20,417 SR 665: 1,330 Total: 21,747
2030 Surrogate Location LUC- 348 South Erie	I-75: 97,350 SR 25: 20,600 Total: 117,950	I-75: 17% SR 25: 3%	I-75: 16,549 SR 25: 618 Total: 17,167	I-75: 14,764 SR 25: 531 Total: 15,295
FRA-71-6.09 Project Site (2010 Build)	I-71: 68,040 SR 665: 19,070 Total: 90,260	I-71: 26% SR 665: 5%	I-71: 17,690 SR 665: 954 Total: 18,644	I-71: 15,213 SR 665: 820 Total: 16,033
2010 Surrogate Location STA-1330 Deuber	I-77: 65,460 US 30: 45,940 Total: 111,400	I-77: 14% US 30: 14%	I-77: 9,164 US 30: 6,432 Total: 15,596	I-77: 7,973 US 30: 5,532 Total: 13,505

Conclusion

The results of Method A indicate that PM2.5 levels in the FRA-71-6.09 project area will not exceed air quality standards in the project opening year (2010) or design year (2030). This method indicates that the FRA-71-6.09 project is not expected to result in a violation of the 24-hour standard or contribute to the existing violation of the PM2.5 annual standard. Therefore, the project meets the conformity hot-spot requirements in 40 CFR 93.116 and 93.123 for PM2.5.

Figure 1. Project Study Area.

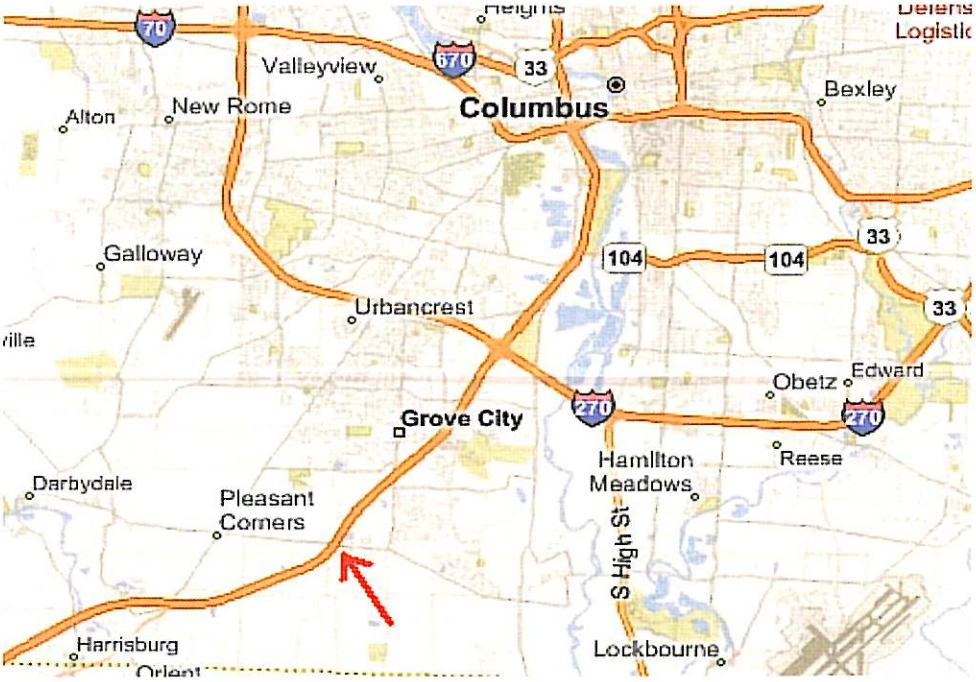

Figure 2. Proposed Single Point Urban Interchange Improvement Project at I-71/SR 665 Interchange, Grove City, Ohio
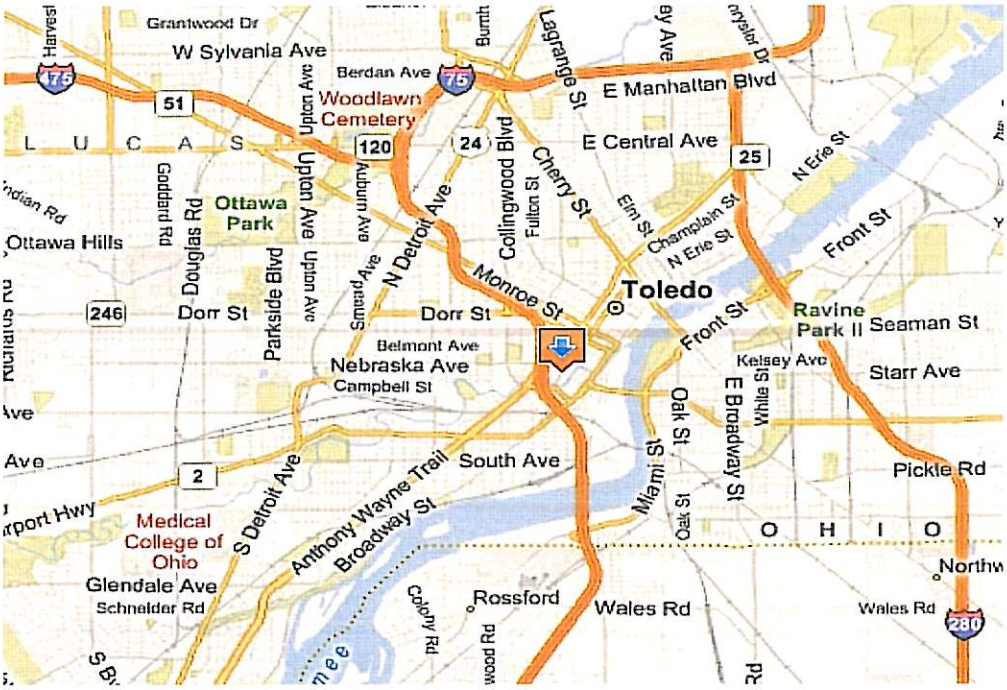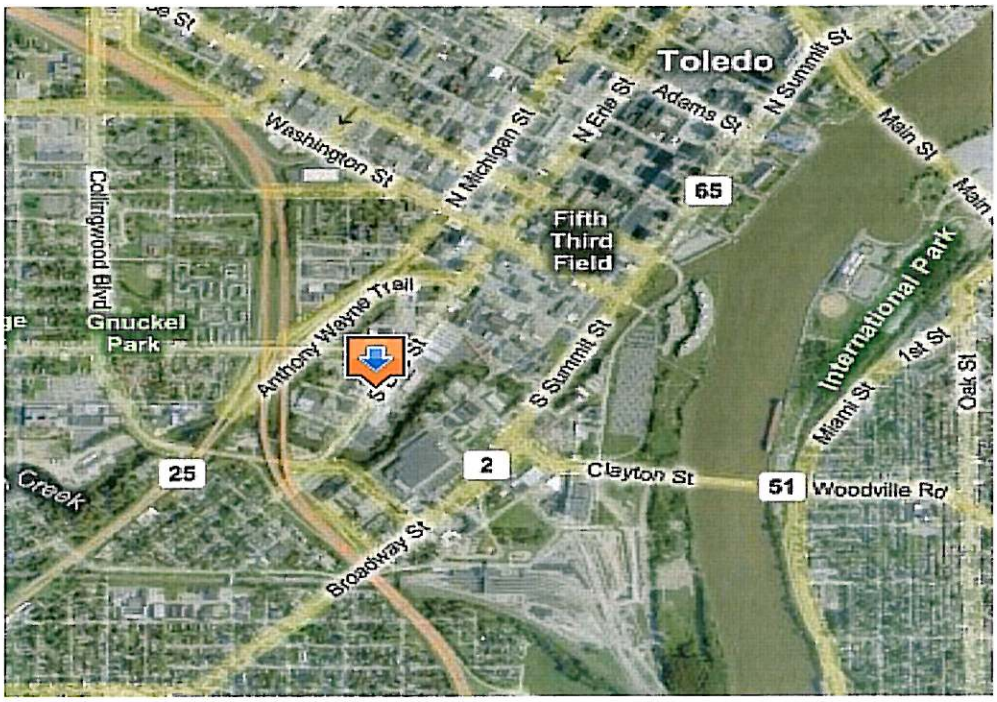
Figure 3. Surrogate Monitor Location for 2030 Design Year- 348 South Erie Street, Toledo, Ohio.