

**Environmental Assessment
Air Quality Analysis Technical Memorandum
Appendix E**

Federal Actions In and Adjacent to Jackson Park:
Urban Park and Recreation Recovery Amendment and Transportation
Improvements
Jackson Park, City of Chicago, Illinois

August 2020

National Park Service
Federal Highway Administration

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1.0 Introduction

This technical memorandum documents the applicable regulations, existing conditions and potential impacts associated with air quality as part of the Environmental Assessment (EA) for the Federal Actions In and Adjacent to Jackson Park (Federal Actions).

The proposed transportation improvements are included in the FY 2019-2024 Transportation Improvement Program (TIP) endorsed by the Metropolitan Planning Organization (MPO) Policy Committee of the Chicago Metropolitan Agency for Planning (CMAP) for the region in which the transportation improvements are located (CMAP 2018c). Projects in the TIP are considered to be consistent with the 2050 regional transportation plan endorsed by CMAP. The proposed transportation improvements are within the fiscally constrained portion of the plan.

On October 24, 2018, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) determined that the 2050 regional transportation plan conforms with the State Implementation Plan (SIP) and the transportation-related requirements of the 1990 Clean Air Act (CAA) Amendments. On October 24, 2018, the FHWA and the FTA determined that the TIP also conforms with the SIP and the CAA Amendments. These findings were in accordance with 40 CFR Part 93, "Determining Conformity of Federal Actions to State or Federal Implementation Plans."

The Federal Actions' design concept and scope are consistent with the information used for the TIP conformity analysis. Therefore, the proposed transportation improvements conform to the existing SIP and the transportation-related requirements of the 1990 CAA Amendments.

The TIP number for the proposed transportation improvements is TIP #01-17-0025.

2.0 Applicable Regulations

Under the CAA of 1963 and its amendments, the U.S. Environmental Protection Agency (USEPA) is charged with setting limitations on air pollutants. The Act requires the USEPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered to be harmful to public health and the environment. Six principal pollutants, referred to as “criteria” air pollutants, have been identified. Both primary standards, which protect public health, and secondary standards, which protect the public welfare against decreased visibility and harm to animals, crops, vegetation, and buildings, are identified by the USEPA. Table 1 provides the current NAAQS standards (USEPA 2016).

At a state and local level, air quality is monitored and enforced to comply with the CAA through the development of a SIP. To eliminate or reduce the effects of air pollutants, the USEPA identifies “nonattainment” areas where the allowable limit for an air pollutant is exceeded. The Federal Actions are located in a portion of the state classified as a nonattainment area by the USEPA for a transportation-related criteria pollutant, ozone. The CAA amendment of 1990 specifies that transportation projects cannot be federally funded without meeting conformity of state air quality goals.

For transportation related improvements, this technical memorandum will evaluate:

- Regional and project level conformity with the CAA
- A carbon monoxide (CO) microscale analysis
- Construction related particulate matter
- And a mobile source air toxins (MSAT) analysis

For non-transportation related improvements, a qualitative analysis will be conducted.

Table 1: USEPA NAAQS

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)	primary	8 hours	9 ppm	Not to be exceeded more than once per year
Carbon Monoxide (CO)	primary	1 hour	35 ppm	Not to be exceeded more than once per year
Lead (Pb)	primary and secondary	Rolling 3-month average	0.15 µg/m ³ ⁽¹⁾	Not to be exceeded
Nitrogen Dioxide (NO ₂)	primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Nitrogen Dioxide (NO ₂)	primary and secondary	1 year	53 ppb ⁽²⁾	Annual Mean
Ozone (O ₃)	primary and secondary	8 hours	0.070 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM), PM _{2.5}	primary	1 year	12.0 µg/m ³	annual mean, averaged over 3 years
Particle Pollution (PM), PM _{2.5}	secondary	1 year	15.0 µg/m ³	annual mean, averaged over 3 years
Particle Pollution (PM), PM _{2.5}	primary and secondary	24 hours	35 µg/m ³	98th percentile, averaged over 3 years
Particle Pollution (PM), PM ₁₀	primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO ₂)	primary	1 hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Sulfur Dioxide (SO ₂)	secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Source: (USEPA 2016)

⁽¹⁾ In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m³ as a calendar quarter average) also remain in effect.

⁽²⁾ The level of the annual NO₂ standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

⁽³⁾ Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards additionally remain in effect in some areas. Revocation of the previous (2008) O₃ standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

⁽⁴⁾ The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or is not meeting the requirements of a SIP call under the previous SO₂ standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its SIP to demonstrate attainment of the required NAAQS.

3.0 Existing Conditions

The transportation improvements are located in Jackson Park in the City of Chicago, Cook County, Illinois. The MPO within Illinois for this area is the CMAP. The northeastern area of Illinois has been identified by the Illinois EPA and USEPA as a nonattainment area for 8-hour ozone standards.

Within the study area, truck restrictions are in place along all roadways within the park. Signs are placed at intersections along roadways bordering the park noting the restriction. Trucks are also restricted along Lake Shore Drive north of the limit for Jackson Park. While truck restrictions are present, small amounts of truck volumes exist on these roadways, either from unfamiliar drivers accessing these roadways by error or lack of enforcement. Table 2 lists the annual average daily traffic (AADT) volume and average daily truck traffic volume (ADTT) for roadway segments in the study area.

Table 2: 2016 Existing AADT and ADTT Volumes

Segment	2016 AADT	2016 % Trucks	2016 ADTT
Lake Shore Drive/Jeffrey Boulevard: North of 57th	73,800	1.0%	800
Lake Shore Drive/Jeffrey Boulevard: 57th to Hayes	46,300	1.2%	600
Lake Shore Drive/Jeffrey Boulevard: Hayes to Marquette	48,400	1.1%	500
Lake Shore Drive/Jeffrey Boulevard: Marquette to 67th	23,500	2.1%	500
Cornell Drive/57th Drive: 57th to Lake Shore Drive	32,300	1.9%	600
Cornell Drive/57th Drive: Midway Plaisance to 57th	30,900	1.3%	400
Cornell Drive/57th Drive: Hayes to Midway Plaisance	27,000	1.1%	300
Cornell Drive/57th Drive: Hayes to Stony Island	22,100	1.4%	300
Cornell Drive/57th Drive: 67th to Marquette (NB)	10,100	1.2%	100
Stony Island Avenue: 57th to Midway Plaisance	14,200	6.4%	900
Stony Island Avenue: Midway Plaisance to 63rd	13,800	6.1%	800
Stony Island Avenue: 63rd to 65th	15,000	5.8%	900
Stony Island Avenue: Marquette to 67th	28,800	3.2%	900
Stony Island Avenue: South of 68th	42,600	1.4%	600
Hayes Drive: Cornell to Richards	12,600	1.6%	200
Hayes Drive: Richards to Lake Shore Drive	7,200	1.2%	100
Marquette Drive: Cornell to Richards	4,100	0.9%	50
Marquette Drive: Richards to Lake Shore Drive	10,500	1.3%	100
Marquette Drive: Lake Shore Drive to La Rabida	33,800	1.0%	400
Richards Drive: Hayes to Marquette	7,500	1.2%	100
67th Street: Creiger to Jeffery	6,700	8.1%	500
67th Street: Jeffery to South Shore	3,300	9.0%	300

4.0 Impacts Analysis

The following sections present the impact analysis for potential impacts on air quality for the three alternatives considered.

Potential impacts can be direct, indirect, or cumulative. Direct impacts occur as a result of the proposed action, at the same time and place of implementation. Indirect impacts occur as a result of the proposed action, but later in time or farther in distance from the action. Cumulative impacts result from the “incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7).

The cumulative impacts analysis will assess the synergistic effect of combining the impacts of the Federal Actions, any indirect impacts following the Federal Actions, and the impacts of the following past, present, or reasonably foreseeable actions that are unrelated to the Federal Actions. Section 5.2.1 of the EA considers certain other past, present, or reasonably foreseeable projects, unrelated to the OPC project, that potentially impact the same resources. The Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and Midway Plaisance Resurfacing projects have the potential to impact air quality.

Detailed descriptions of the alternatives are provided in the EA and referenced in this technical memorandum.

4.1 Alternative A: No Action

Alternative A assumes that there is no UPARR boundary conversion, the OPC is not constructed, and no roads are closed.

4.1.1 Direct Impacts

The No Action alternative involves no changes to Jackson Park prior to 2040, when projected traffic volumes are analyzed. Table 3 shows the projected 2040 AADT and ADTT volumes as provided by the CMAP for the *Jackson Park Revitalization Traffic Impact Study* (SSE 2018). It is assumed that existing truck percentages remain the same under 2040 projected traffic conditions. The existing AADT and ADTT volumes are provided for comparison.

Table 3: Alternative A ADTT Volumes

Segment	2016 AADT	2016 % Trucks	2016 ADTT	Alt. A AADT	Alt A. ADTT
Lake Shore Drive/Jeffrey Boulevard: North of 57th	73,800	1.0%	800	77,100	800
Lake Shore Drive/Jeffrey Boulevard: 57th to Hayes	46,300	1.2%	600	47,400	600

Segment	2016 AADT	2016 % Trucks	2016 ADTT	Alt. A AADT	Alt A. ADTT
Lake Shore Drive/Jeffrey Boulevard: Hayes to Marquette	48,400	1.1%	500	49,600	500
Lake Shore Drive/Jeffrey Boulevard: Marquette to 67th	23,500	2.1%	500	24,100	500
Cornell Drive/57th Drive: 57th to Lake Shore Drive	32,300	1.9%	600	34,400	700
Cornell Drive/57th Drive: Midway Plaisance to 57th	30,900	1.3%	400	33,100	400
Cornell Drive/57th Drive: Hayes to Midway Plaisance	27,000	1.1%	300	27,600	300
Cornell Drive/57th Drive: Hayes to Stony Island	22,100	1.4%	300	22,600	300
Cornell Drive/57th Drive: 67th to Marquette (NB)	10,100	1.2%	100	10,400	100
Stony Island Avenue: 57th to Midway Plaisance	14,200	6.4%	900	14,600	900
Stony Island Avenue: Midway Plaisance to 63rd	13,800	6.1%	800	14,100	900
Stony Island Avenue: 63rd to 65th	15,000	5.8%	900	15,600	900
Stony Island Avenue: Marquette to 67th	28,800	3.2%	900	29,100	900
Stony Island Avenue: South of 68th	42,600	1.4%	600	43,900	600
Hayes Drive: Cornell to Richards	12,600	1.6%	200	13,000	200
Hayes Drive: Richards to Lake Shore Drive	7,200	1.2%	100	7,400	100
Marquette Drive: Cornell to Richards	4,100	0.9%	50	4,200	50
Marquette Drive: Richards to Lake Shore Drive	10,500	1.3%	100	10,800	100
Marquette Drive: Lake Shore Drive to La Rabida	33,800	1.0%	400	34,700	400
Richards Drive: Hayes to Marquette	7,500	1.2%	100	7,800	100
67th Street: Creiger to Jeffery	6,700	8.1%	500	6,900	600
67th Street: Jeffery to South Shore	3,300	9.0%	300	3,400	300

As shown in Table 3, there is little to no increased truck traffic volume associated with Alternative A. Increases in vehicular AADT range from 1 - 7 percent.

4.1.2 Indirect Impacts – City Actions

As no construction activities would occur and no roads would be closed under this alternative, there are no indirect impacts from Alternative A.

4.1.3 Cumulative Impacts

As discussed in Section 5.2.1 of the EA, the Stony Island Avenue Traffic Improvements, the Clarence Darrow Bridge, and the Midway Plaisance Resurfacing projects have the potential to cause air quality

impacts. These impacts of these projects would be limited to short-term adverse impacts to air quality during construction. Alternative A would not contribute to any cumulative impacts, as no additional federal action occurs under this alternative.

4.1 Alternative B: NPS Action (FHWA No Build)

Alternative B includes National Park Service (NPS) approval of the partial conversion of recreation due to the construction of Obama Presidential Center (OPC) and replacement of recreation opportunities on the east end of the Midway Plaisance.

4.1.1 Direct Impacts

The construction of replacement recreation on the east end of the Midway Plaisance may result in temporary short-term increases in fugitive dust and equipment-related particulate emissions. The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, transportation of construction materials and high wind conditions. These potential air quality impacts would be short term, occurring only while construction work is in progress and local conditions are appropriate.

4.1.2 Indirect Impacts – City Actions

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the Federal Actions. Equipment-related particulate emissions can be minimized if the equipment is well maintained. The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, transportation of construction materials, and high wind conditions. The potential air quality impacts would be short term, occurring only while demolition and construction work is in progress and local conditions are appropriate. Additional indirect impacts associated with the proposed roadway closures, OPC site development, and the relocation of the track and field are discussed below:

4.1.2.1 Proposed Roadway Closures

Under Alternative B, the City is proposing to close the following roadways:

- Cornell Drive between 63rd Street and 57th Drive
- The northbound section of Cornell Drive between 68th Street and 65th Street
- Marquette Drive between Stony Island Avenue and Richards Drive
- South Midway Plaisance between Stony Island Avenue and Cornell Drive

The roadway closures would result in a change in travel patterns in the study area and would redistribute traffic to the surrounding roadway network. An initial study conducted by CMAP as part of the Jackson Park Revitalization Traffic Impact Study estimated approximately 24-28 percent of all vehicle trips would reroute to alternate roadways outside of the study area. As a conservative estimate of the effects to both traffic operations and environmental resources, it is assumed that none of the traffic estimated to leave the study area includes heavy vehicles.

As a result of closing Cornell Drive, some of the remaining automobiles and trucks within the network would divert to Stony Island Avenue to the west; however, the majority of the remaining automobiles and trucks would divert to Lake Shore Drive to the east. With the closure of Marquette Drive, many vehicles would reroute onto Hayes Drive to ultimately travel to and from Lake Shore Drive.

The redistribution of traffic volumes and ADTT is displayed in Table 4 below. A comparison to Alternative A is included in Table 4. The redistribution of traffic resulting from the road closures results in congestion at several study area intersections that do not currently experience congestion. As a result, there would be an increase in automobile emissions.

Table 4: Alternative B ADTT Volumes

Segment	Alt. A AADT	Alt. A. % Trucks	Alt. A ADTT	Alt. B AADT	Alt. B % Trucks	Alt. B ADTT	% Change in Trucks
Lake Shore Drive/Jeffrey Boulevard: North of 57th	77,100	1.0%	800	71,600	1.1%	800	0.1%
Lake Shore Drive/Jeffrey Boulevard: 57th to Hayes	47,400	1.2%	600	57,500	1.4%	800	0.2%
Lake Shore Drive/Jeffrey Boulevard: Hayes to Marquette	49,600	1.1%	500	36,400	1.4%	500	0.3%
Lake Shore Drive/Jeffrey Boulevard: Marquette to 67th	24,100	2.1%	500	22,100	2.3%	500	0.2%
Cornell Drive/57th Drive: 57th to Lake Shore Drive	34,400	1.9%	700	17,800	2.8%	500	0.9%
Cornell Drive/57th Drive: Midway Plaisance to 57th	33,100	1.3%	400	5,900	3.4%	200	2.1%
Cornell Drive/57th Drive: Hayes to Midway Plaisance	27,600	1.1%	300	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	-100%
Cornell Drive/57th Drive: Hayes to Stony Island	22,600	1.4%	300	8,800	3.4%	300	2.0%
Cornell Drive/57th Drive: 67th to Marquette (NB)	10,400	1.2%	100	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	-100%

Segment	Alt. A AADT	Alt. A. % Trucks	Alt. A ADTT	Alt. B AADT	Alt. B % Trucks	Alt. B ADTT	% Change in Trucks
Stony Island Avenue: 57th to Midway Plaisance	14,600	6.4%	900	22,500	4.0%	900	-2.4%
Stony Island Avenue: Midway Plaisance to 63rd	14,100	6.1%	900	23,400	4.3%	1,000	-1.8%
Stony Island Avenue: 63rd to 65th	15,600	5.8%	900	27,800	3.6%	1,000	-2.2%
Stony Island Avenue: Marquette to 67th	29,100	3.2%	900	36,800	3.0%	1,100	-0.2%
Stony Island Avenue: South of 68th	43,900	1.4%	600	37,200	1.6%	600	0.2%
Hayes Drive: Cornell to Richards	13,000	1.6%	200	28,100	0.7%	200	-0.9%
Hayes Drive: Richards to Lake Shore Drive	7,400	1.2%	100	24,500	0.4%	100	-0.7%
Marquette Drive: Cornell to Richards	4,200	0.9%	50	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	-100%
Marquette Drive: Richards to Lake Shore Drive	10,800	1.3%	100	5,200	1.9%	100	0.6%
Marquette Drive: Lake Shore Drive to La Rabida	34,700	1.0%	400	29,200	1.4%	400	0.3%
Richards Drive: Hayes to Marquette	7,800	1.2%	100	11,200	0.9%	100	-0.3%
67th Street: Creiger to Jeffery	6,900	8.1%	600	8,900	9.0%	800	0.9%
67th Street: Jeffery to South Shore	3,400	9.0%	300	5,300	9.4%	500	0.4%

While traffic volumes are anticipated to increase along Lake Shore Drive between 57th Drive and Hayes Drive, overall, Lake Shore Drive sees minor (0.1 – 0.3 percent) increases in truck traffic volumes. Diversions from the closure of Cornell Drive result in an approximate 2 percent increase in truck traffic volumes along the remaining portions of the roadway. Most segments along Stony Island Avenue are anticipated to see slight increases in truck traffic volumes due to roadway closures, however, the greater number of passenger vehicles diverted to these segments causes the truck percentages of the total traffic volumes to decrease up to 2.4 percent.

The results from Table 4 show varying changes to truck percentages of the overall traffic volumes remaining in the study area, however, the total truck traffic volume remains constant compared to Alternative A, resulting in an increase in trucks for the overall vehicle mix.

4.1.2.2 OPC Site Development

The construction activities involved with the OPC site development have the potential to result in short-term air quality concerns from construction equipment or airborne dust particles. To minimize air quality impacts, construction crews would be required to use equipment that reduces emissions of localized air pollutants, limit idle times, conduct proper maintenance of equipment, utilize fuel that meets American Society of Testing and Materials (ASTM) standards, and manage use of particular equipment engine types. Construction crews would also document and follow a Project Erosion and Sedimentation Control (ESC) Plan and best management practices related to air pollution to prevent impacts to air quality.

4.1.2.3 Track and Field Relocation

The construction activities involved with the relocation of the track and field have the potential to result in short-term air quality concerns from construction equipment or airborne dust particles.

4.1.3 Cumulative Impacts

Several other ongoing or reasonably foreseeable projects have been identified in the project study area, as described under Alternative A. Alternative B would result in negative impacts to air quality as a result of increased emissions resulting from construction activities associated with the OPC Site development and traffic congestion caused by the roadway closures. As evaluated in Alternative A, the reasonably foreseeable projects contribute short term negligible air quality impacts. The actions in Alternative B would largely contribute to the overall negative cumulative impact.

4.2 Alternative C: NPS + FHWA Action (Preferred Alternative)

This alternative incorporates impacts associated with Alternative B, in addition to those encountered by improving roadways and bicyclist/pedestrian facilities and additional changes to the UPARR boundary. The analysis of impacts in this section will only discuss the additional impacts associated with Alternative C.

4.2.1 Direct Impacts

Transportation improvements may result in temporary short-term increases in fugitive dust and equipment-related particulate emissions during construction. The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, transportation of construction materials, and high wind conditions. These potential air quality impacts would be short term, occurring only while construction work is in progress and local conditions are appropriate.

Alternative C redistributes traffic throughout the remaining roadway network to address congestion caused by the roadway closures implemented in Alternative B. The redistribution of traffic volumes and ADTT associated with Alternative C is displayed in Table 5 below. A comparison to Alternative B is included in Table 5.

Table 5: Alternative C ADTT Volumes

Segment	Alt. B AADT	Alt. B % Trucks	Alt. B ADTT	Alt. C ADT	Alt. C % Trucks	Alt. C ADTT	% Change in Trucks
Lake Shore Drive/Jeffrey Boulevard: North of 57th	71,600	1.1%	800	78,200	1.5%	1,200	0.4%
Lake Shore Drive/Jeffrey Boulevard: 57th to Hayes	57,500	1.4%	800	63,500	1.9%	1,200	0.5%
Lake Shore Drive/Jeffrey Boulevard: Hayes to Marquette	36,400	1.4%	500	38,200	1.3%	500	-0.1%
Lake Shore Drive/Jeffrey Boulevard: Marquette to 67th	22,100	2.3%	500	23,500	2.1%	500	-0.1%
Cornell Drive/57th Drive: 57th to Lake Shore Drive	17,800	2.8%	500	18,400	3.3%	600	0.5%
Cornell Drive/57th Drive: Midway Plaisance to 57th	5,900	3.4%	200	11,500	2.6%	300	-0.8%
Cornell Drive/57th Drive: Hayes to Midway Plaisance	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	-
Cornell Drive/57th Drive: Hayes to Stony Island	8,800	3.4%	300	19,800	3.0%	600	-0.4%
Cornell Drive/57th Drive: 67th to Marquette (NB)	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	-
Stony Island Avenue: 57th to Midway Plaisance	22,500	4.0%	900	20,100	4.0%	800	0.0%
Stony Island Avenue: Midway Plaisance to 63rd	23,400	4.3%	1,000	25,200	4.0%	1,000	-0.3%
Stony Island Avenue: 63rd to 65th	27,800	3.6%	1,000	23,300	3.4%	800	-0.2%
Stony Island Avenue: Marquette to 67th	36,800	3.0%	1,100	40,700	2.9%	1,200	0.0%
Stony Island Avenue: South of 68th	37,200	1.6%	600	40,600	1.7%	700	0.1%
Hayes Drive: Cornell to Richards	28,100	0.7%	200	32,300	1.5%	500	0.8%

Segment	Alt. B AADT	Alt. B % Trucks	Alt. B ADTT	Alt. C ADT	Alt. C % Trucks	Alt. C ADTT	% Change in Trucks
Hayes Drive: Richards to Lake Shore Drive	24,500	0.4%	100	28,700	1.4%	400	1.0%
Marquette Drive: Cornell to Richards	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>	-
Marquette Drive: Richards to Lake Shore Drive	5,200	1.9%	100	5,200	1.9%	100	0.0%
Marquette Drive: Lake Shore Drive to La Rabida	29,200	1.4%	400	29,600	1.4%	400	0.0%
Richards Drive: Hayes to Marquette	11,200	0.9%	100	11,200	0.9%	100	0.0%
67th Street: Creiger to Jeffery	8,900	9.0%	800	9,300	8.6%	800	-0.4%
67th Street: Jeffery to South Shore	5,300	9.4%	500	5,300	9.4%	500	0.0%

Compared to Alternative B, there are minor changes in the overall truck traffic volumes experienced by Alternative C, ranging from a decrease of 0.8 percent to an increase of 1.0 percent.

The following sections describe air quality assessments as required by the Illinois Department of Transportation (IDOT) *Bureau of Design and Environment Manual* (IDOT 2010). Further coordination with IDOT is documented in Attachment E-1.

4.2.1.1 Air Quality Conformity - CMAP Plan Amendment

The *ON TO 2050* regional plan includes a set of fiscally constrained Regionally Significant Projects (RSPs) that support the plan's key principles (CMAP 2018b). Projects that have the potential for regional impacts that meet certain threshold criteria are required to undergo a CMAP Plan Amendment process. This project involving improvements to the roadway network within Jackson Park was required to complete the CMAP Plan Amendment process in order to be formally included in the *ON TO 2050* regional plan.

In November 2018, the City formally requested an amendment to the plan for the inclusion of the transportation improvements proposed in this EA. The amendment process included presentations to CMAP staff and committees to demonstrate the project continues to meet the goals of the *ON TO 2050* regional plan. A 30-day public comment period for the amendment was held, and on March 6, 2019, CMAP staff provided a recommendation for the project's inclusion as an amendment to the plan (CMAP 2019b).

This recommendation was approved by the CMAP Board and MPO Policy Committee on March 13 and 14, 2019, respectively¹. The following statements summarize this conformity with the *ON TO 2050* plan:

This project is included in the FY 2019-2024 TIP endorsed by the MPO Policy Committee of the CMAP for the region in which the project is located. Projects in the TIP are considered to be consistent with the *ON TO 2050* regional transportation plan endorsed by CMAP. The project is within the fiscally constrained portion of the plan (CMAP 2018a).

On October 24, 2018, the FHWA and the FTA determined that the *ON TO 2050* regional transportation plan conforms to the SIP and the transportation-related requirements of the 1990 CAA Amendments. On October 24, 2018, the FHWA and the FTA determined that the TIP also conforms to the SIP and the CAA Amendments. These findings were in accordance with 40 CFR Part 93: Determining Conformity of Federal Actions to State or Federal Implementation Plans.

4.2.1.2 2050 Carbon Monoxide Microscale Analysis

An update to the Carbon Monoxide Screen for Intersection Modeling (COSIM) pre-screening was completed for 12 intersection locations in the project area considering 2050 traffic volumes. The pre-screening analysis for 2050 traffic volumes confirmed the volume thresholds requiring a project-level carbon monoxide air quality analysis are not met because the highest design-year approach volume is less than 5,000 vehicles per hour (vph) or 62,500 average daily traffic (ADT).

4.2.1.3 2050 Construction-Related Particulate Matter

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the project study area. (Equipment-related particulate emissions can be minimized if the equipment is well maintained.) The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, and transportation of construction materials, and during high wind conditions. The potential air quality impacts would be short term, occurring only while demolition and construction work is in progress and local conditions are appropriate.

IDOT's Standard Specifications for Road and Bridge Construction (IDOT 2012) includes provisions on dust control. Under these provisions, dust and airborne dirt generated by construction activities would be controlled through dust control procedures or a specific dust control plan, when warranted. The contractor and IDOT would meet to review the nature and extent of dust-generating activities and would cooperatively develop specific types of control techniques appropriate to the specific situation. Techniques that may warrant consideration include measures such as minimizing track-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering haul vehicles, and applying chemical dust suppressants or water to exposed surfaces, particularly those on which construction

¹ <https://www.cmap.illinois.gov/updates/proposed-amendments>.

vehicles travel. With the application of appropriate measures to limit dust emissions during construction, this alternative would not cause any major, short-term particulate matter air quality impacts.

4.2.1.4 2050 Mobile Source Air Toxics (MSAT)

Alternative C accommodates changes in travel patterns resulting from closing roadways in Jackson Park and improves bicycle and pedestrian access and circulation. Traffic volumes are anticipated to be redistributed outside and throughout the roadway network as a result of the roadway closures. For the purposes of this analysis, it is assumed that truck traffic would not be similarly redistributed. Therefore, because it is assumed that the volume of truck traffic remains constant and non-truck traffic would be redistributed, it is anticipated truck traffic would make up a slightly greater portion of the overall vehicle mix. However, this minor increase in truck traffic contribution to the vehicular mix is not anticipated to cause increases in air pollutants that would exceed the allowable criteria.

This project has been determined to generate minimal air quality impacts for CAA criteria pollutants and has not been linked with any special Mobile Source Air Toxic (MSAT) concerns. As such, this project would not result in major changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, USEPA regulations for vehicle engines and fuels will cause overall MSATs emissions to decline substantially over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA's MOVES 2014 model forecasts a combined reduction of more than 90 percent in the total annual emission rate for the priority MSAT from 2010 to 2050. This would both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this alternative.

4.2.2 Indirect Impacts – City Actions

The indirect impacts of Alternative C are the same as those described in Alternative B. Alternative C addresses the air quality impacts caused by vehicle emissions in Alternative B by providing capacity improvements to address the redistributed traffic volumes and congestion caused by the roadway closures. Therefore, no additional indirect impacts result from implementing Alternative C.

4.2.3 Cumulative Impacts

Several other ongoing or reasonably foreseeable projects have been identified in the project study area, as described in Alternative A. As evaluated in Alternative A, the reasonably foreseeable projects contribute short-term negligible air quality impacts. The actions proposed in Alternative C would mitigate the majority of adverse impacts that result from Alternative B, resulting in negligible cumulative impacts to air quality by implementing Alternative C.

5.0 Summary

Table 6 indicates the direct, indirect and cumulative impacts to air quality by alternative. The table summarizes both the incremental and the total impacts associated with Alternative C.

Table 6: Summary of Air Quality Impacts by Alternative

Alternative	Direct Impacts	Indirect Impacts	Cumulative Impacts	Total Impacts
A	None	None	Potential short-term air quality concern due to Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and the Midway Plaisance Resurfacing	Potential short-term air quality concern due to Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and the Midway Plaisance Resurfacing
B	None	Potential air quality concerns due to OPC construction, road closures	Potential short-term air quality concern due to Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and the Midway Plaisance Resurfacing	Potential air quality concerns due to OPC construction and road closures, Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and the Midway Plaisance Resurfacing

Alternative	Direct Impacts	Indirect Impacts	Cumulative Impacts	Total Impacts
C (Incremental)	Potential short-term air quality concerns due to roadway construction	None	Potential short-term air quality concern due to Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and the Midway Plaisance Resurfacing	Potential short-term air quality concerns due to OPC construction and road closures, Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and the Midway Plaisance Resurfacing
B + C (Total)	Potential short-term air quality concerns due to roadway construction	Potential short-term air quality concerns due to OPC construction, road closures	Potential short-term air quality concern due to Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and the Midway Plaisance Resurfacing	Potential short-term air quality concerns due to OPC construction and road closures, Stony Island Avenue Traffic Improvements, Clarence Darrow Bridge, and the Midway Plaisance Resurfacing

6.0 References

Chicago Metropolitan Agency for Planning

- 2018a “Conformity Analysis.” Accessed 2018.
<http://www.cmap.illinois.gov/mobility/roads/conformity-analysis>.
- 2018b “ON TO 2050 Comprehensive Plan.”
<https://www.cmap.illinois.gov/documents/10180/905585/ON+TO+2050+Comprehensive+Regional+Plan+FINAL.pdf/dfe78ce3-8601-1b1d-a0e9-77893a2a0b2a>.
- 2018c “Transportation Improvement Program (TIP): Federal Fiscal Years 2019-2024.”
<https://www.cmap.illinois.gov/documents/10180/33275/FFY+2019-24+Transportation+Improvement+Program.pdf/b1c27263-aeca-da0b-cba1-b829e1d92480>.
- 2019a *ON TO 2050 Regionally Significant Projects: Proposed Amendment Process*. Accessed on January 3, 2019.
<https://www.cmap.illinois.gov/documents/10180/965946/PolicyCmteMemo--RSPAmendmentProcess01-02-2019.pdf/fdf703d0-c5de-9be9-ddc7-6a88bd6467ec>.
- 2019b *Proposed Amendment to ON TO 2050 – Roadway Improvements to Support the Update to the South Lakefront Framework Plan*. Accessed on March 6, 2019.
<https://www.cmap.illinois.gov/documents/10180/986692/Board-CmteMemo--StaffRecs%28JacksonPark%29%2BAppendices03-06-2019.pdf/f484dc08-5264-b489-6d25-78a7a8cfc69b>.

Illinois Department of Transportation

- 2010 “Special Environmental Analyses,” In *Bureau of Design and Environment Manual*, September 2010.
- 2012 “Standard Specifications for Road and Bridge Construction.” Adopted January 1, 2012.
<http://www.idot.illinois.gov/assets/uploads/files/doing-business/manuals-guides-&-handbooks/highways/construction/standard-specifications/12specbook.pdf>.

Sam Schwartz Engineering, LLC

- 2018 “Jackson Park Revitalization Traffic Impact Study Final Report.”
https://www.chicago.gov/content/dam/city/depts/dcd/supp_info/jackson/CDOT-Traffic-Impact-Study.pdf.

United States Environmental Protection Agency

- 2016 “NAAQS Table,” Accessed on December 20, 2016.
<https://www.epa.gov/criteria-air-pollutants/naaqs-table>.