AIR QUALITY ANALYSIS AND IMPACT REVIEW

PREPARED FOR:
RAPP ROAD RESIDENTIAL DEVELOPMENT
WESTERN AVENUE MIXED USE REDEVELOPMENT

TOWN OF GUILDERLAND, NEW YORK

OCTOBER 2019

B. LAING ASSOCIATES
ENVIRONMENTAL CONSULTING
www.blaingassociates.com

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Background

B. Laing Associates, Inc. is an environmental consultant firm providing air quality analyses services for the proposed Rapp Road Residential Development and Western Avenue Mixed Use Redevelopment (herein referred to as the Project) located in the Town of Guilderland, Albany County, New York. The Project sites consist of the three (3) roadway locations which include: Site 1, west of the Crossgates Mall along Rapp Road, Site 2, located north of Western Avenue and east of the southwestern Crossgates Mall Road as it connects to Western Avenue and to the west by the dual branded Hilton Hotel and Site 3, east of Site 2 along Western Avenue in the Town of Guilderland, Albany County, New York. See attached Figure 1 - Site Location Map. Below, a description of each site and its proposed use is provided in more detail. All parcels are within the Transit-Oriented Development (TOD).

Proposed Action

Rapp Road Development, LLC proposes construction of 222 one and two bedroom apartments with ±3,900 SF of commercial space, on the ±19 acre site on Rapp Road (Site 1 on the attached plan). The northern portion of Site 1 (Site 1A) also includes a potential future development area. While no plans currently exist for this area, an additional 90 apartment units will be analyzed for purposes of the DEIS. Applications for site plan and subdivision approval were made in Rapp Road Residential Development Draft Scope, Page 2 November 2018. The site plan shows two five-story buildings and three two-story buildings with underground and surface parking. Site 1 (Rapp Road) property was operated as a pig farm for decades. Currently, the site is occupied by secondary, successional woodland.

The second re-development area (Site 2 on the attached plan) is located on the corner of Crossgates Mall Road and Western Avenue and is being analyzed for re-development of a ±160,000 square feet retail building and associated fueling facility on ± 15 acres. The project area includes re-development of the largely vacant residential properties on Lawton Terrace, Tiernan Court and Rielton Court and Gabriel Terrace. In the past, the property was operated as a farm. It was then subdivided. Most of the lots were bought by the Mall and allied entities. The lots and the structures on them are largely abandoned; some for decades. Currently, this proposed commercial redevelopment property is occupied by secondary, successional woodland (on the western two-thirds flanking old Rapp Road[1]) and the "abandoned" residences mixed with trees and landscape vegetation (on the eastern one-third), though also tending toward secondary succession in places.

A third, re-development area (Site 3 on the attached plan) is located on the remaining ±11.34 acres of Transit-Oriented Development (TOD) zoned property located between Site 2 and the existing hotel site. There are no current, specific development plans for this area and a zoning-compliant conceptual plan has been developed and analyzed for purposes of the DEIS. This development will include as possible future development 115,000 SF of retail space, 50,000 SF of office space, and 48 multi-family apartments. These development areas were previously evaluated for potential future development as part of the environmental review for the Capital District Transit Authority (CDTA) transit center project at Crossgates. The CDTA analysis of the development potential of these three sites was consistent with the above, and will be further cited in the DEIS. Currently, this proposed commercial redevelopment property is occupied by secondary, successional woodland and the "abandoned" residences mixed with trees and landscape vegetation (on the eastern one-third), though also tending toward secondary succession in places.

The purpose of this analysis is to evaluate temporary or permanent impacts to air quality that may occur as a result of the Project. Assessment of significant air quality impacts and mitigation will be addressed accordingly.

[1] The roadbed, shoulders, filling and drainage cuts still remain of this property).

General Air Quality Characteristics

Existing Conditions

Climate

The climate in Albany, New York is warm during the summer when average temperatures tend to be in the 80's and very cold during winter when average temperatures tend to be in the 30's. The National Oceanic and Atmospheric Administration (NOAA) record this local climate in Albany International Airport, New York. The warmest month of the year is July with high average temperature of 84 degrees Fahrenheit, while the coldest months of the year are January and February with a high average of temperature between 31 and 35 degrees Fahrenheit. Temperature variations between night and day tend to be fairly consistent during summer season with a difference that can reach 22 degrees Fahrenheit, and comparable in winter months with an average difference of approximately 15 to17 degrees Fahrenheit. The annual average precipitation in Albany is between around 39.35 inches. This locale receives about 60.3 inches of snow per year on average.

Ambient Air Quality

Existing air quality is good for the Project site. The median air quality index (AQI) in 2018 for Orange County, New York was 38.[2] An AQI between 0 and 50 is satisfactory and air pollution poses little or no risk. Existing air quality standards for New York State are found in the State Ambient Air Quality Standards (SAAQS) which largely mimic the National Ambient Air Quality Standards (NAAQS). Possible relevant pollutants for mobile sources are particulate matter (PM), ozone (O_3) and carbon monoxide (CO). Carbon monoxide is the dominant pollutant and so, it is modeled as provided in NYSDOT's The Environmental Manual (TEM).

Table 1 depicts the NAAQS.

NYSDEC monitors air quality throughout the state. There are currently 58 active air monitoring sites in New York State. Parameters observed vary from air monitoring sites. Historically, two (2) monitoring sites have been located within NYSDEC Region 4 in Albany County. These monitoring sites are identified as 0101-33 located in Loudonville at 300 Albany Shaker Road and 0101-13 at the Albany County Health Department at South Ferry and Green Streets, Albany, NY 12202. More recently, a third monitoring site (0101-34) was set up in South Albany located at 274 S. Pearl Street Albany, NY 12202. This monitoring site setup was a result of community concerns of air quality in the South Albany community[3]. Parameters are described below:

Carbon Monoxide (CO) is measured at station 0101-33 in Loudonville, New York. The highest one hour value in 2018 was 1.2 ppm versus a standard of 35 ppm. The highest running eight hour value was 0.80 ppm versus a standard of 9.0 ppm.

Lead (Pb) is not monitored in Region 4. The closest monitoring station was located in Region 3 at station 3566-09 at Wallkill Wakefern Food located at 260 Ballard Road, Middletown, New York. In 2018, the maximum 24-hour concentration of lead was recorded at 0.01 ug/m^3 at station 3566-09. The three month rolling average of lead in 2018 equaled 0.01 ug/m^3. This three month rolling average was well below the 0.15 ug/m^3 maximum allowed.

Nitrogen dioxide (NO_2) is not measured at station 3527-01. Monitoring sites are located in NYSDEC Regions 2, 8 and 9. The closest monitoring station is at the Botanical Gardens (Pfizer Lab) in the Bronx, New York.[4] The annual value in 2018 was 14.44 ppb versus a standard of 53 ppb.

[2] According to the United States Environmental Protection Agency (EPA) Outdoor Air Quality Data, Air Quality Index Report.
[3] The annual data is not provided in the New York State Ambient Air Quality Report for 2018.
[4] Bronx, New York is approximately 151 miles south of Project site.

TABLE 1
National Ambient Air Quality Standards*

POLLUTANT		PRIMARY/ SECONDARY	AVERAGING TIME	LEVEL	FORM
CARBON MONOXIDE		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
LEAD		primary and secondary	Rolling 3-month average	0.15 µg/m³ (1)	Not to be exceeded
NITROGEN DIOXIDE		primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	Annual	53 ppb (2)	Annual Mean
OZONE		primary and secondary	8-hour	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
PARTICLE POLLUTION	$PM_{2.5}$	primary	Annual	12 µg/m³	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m³	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m³	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24-hour	150 µg/m³	Not to be exceeded more than once per year on average over 3 years
SULFUR DIOXIDE		primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

*http://www.dec.ny.gov/chemical/8542.html

Ozone is measured at station 0101-33 in Loudonville, New York. Ozone is formed from the long-term transport of hydrocarbon emissions in the mid-western United States and as such, is not a "local" enforcement issue on emissions. It is the only pollutant that occasionally exceeds the standard in most NYSDEC Regions state-wide. The average 3 year annual mean for this pollutant was 0.064 parts per million (ppm) for the years 2016 to 2018. The first highest maximum daily eight hour average was 0.074 ppm in 2018. Thus, the recorded value was slightly above the 0.070 ppm standard.

Particulate matter (PM 2.5) is measured in in both the Albany and Loudonville monitoring stations. The 0101-33 station in Loudonville had an annual mean standard for last three (3) years (2016-2018) of 5.7ug/m³. This annual mean was well below the 12 ug/m³ standard. This station had an average of 98th percentile for last 3 years 15.3 ug/m³. This average was well below the 35 ug/m³ standard. The 0101-13(C)[5] station in Albany had an annual mean standard for last three (3) years (2016-2018) of 7.2 ug/m³. This annual mean was well below the 12 ug/m³ standard. This station had an average of 98th percentile for last 3 years 17.9 ug/m³. This average was, again, well below the 35 ug/m³ standard.

Sulfur dioxide (SO_2) is monitored at the Loundonville station. In 2018, the annual average was recorded at 0.36 parts per billion (ppb) versus an annual standard not to exceed 30 ppb and the one hour average for the last three years (2016-2018) have peaked at 3.3 ppb versus a standard of 75 ppb.

[5] Continuous, used for AQI calculations. Values based on 24 hour averages of 1-hour values

FIGURE 1 – PROPOSED SITE IMPROVEMENT LOCATIONS

★ DEPICTS LOCATION

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Proposed Action Analysis

Mobile Screening:

The first level of "air quality screening" as provided in NYSDOT's The Environmental Manual (TEM) is essentially a review of the traffic analysis consistent with the Highway Capacity Manual (HCM). This Traffic Impact Study was provided by Maser Consulting P.A. dated October 2019 and is attached as a separate appendix to the Draft Environmental Impact Statement (DEIS). The TEM provides guidance on determination for a required microscale analysis which is based on the consideration of several standards.

Per TEM I-1 Level of Service (LOS) Screening, intersections potentially impacted by the Project must be screened for overall Level of Service (LOS). If the LOS is A, B, or C, no further analyses are required. If any signalized intersections have LOS predicted D, E, or F, significant vehicle queuing may occur and further analysis may be required for up to the three worst intersections. In this case, traffic data was collected from historical NYSDOT data and through field data collection. Sixteen (16) existing intersections and seven (7) new intersections, as listed in Table 2, were analyzed by the traffic engineer. The traffic data included seven (7) signalized intersections and sixteen (16) unsignalized intersections. LOS was analyzed in the existing (2019), no build (2022, 2025) and build condition (2022, 2025) of the Project in the AM, PM and Saturday phase. The build conditions considered development of Site 1 and redevelopment of Sites 2 and 3. Figure 2 depicts the analyzed intersections in aerial view.

Sensitive receptors (i.e., schools, hospitals, etc.) were located during this air quality analysis for potential impact. In microscale dispersion modeling, link length and queues for intersections are set between 1,000 and 1,200 foot receptor analysis for free flow links. This is required by The Environmental Manual (TEM). Most sensitive receptors observed were outside this required distance. One such receptor, Westmere Elementary School was noted as occurring 700 feet south of proposed Site 2 south of Western Avenue. In addition, a few places of worship (i.e., McKownville United Methodist Church) are located within a half a mile of the proposed development. Figure 2 depicts the proposed site locations and receptors in a one mile radius. The ambient air quality standards cited above were set to protect the public health and welfare, including sensitive individuals. Thus, in the end, all such receptors are subject to the same standards.

TABLE 2
ANALYZED INTERSECTIONS

Intersection Number	**Intersection Name**	**Signal Status**
1	Western Ave. (US Rte 20) & Crossgates Mall Driveway	Signalized
2	Western Ave. (US Rte 20) & Gabriel Terrace/1700 Designer Residences	Unsignalized
3	Western Ave. (US Rte 20) & Johnston Road / Rapp Road	Signalized
4	Rapp Road & Crossgates Mall Road	Signalized
5	Rapp Road & Gipp Road	Unsignalized
6	Rapp Road & Pine Lane	Unsignalized
7	Rapp Rd & Springsteen Road	Unsignalized
8	Springsteen Road & S. Frontage Road	Unsignalized
9	Washington Ave. Extension & Springsteen Road/Crossgates Commons	Signalized
10	Crossgates Mall Road & I-87 On/Off Ramps	Signalized
11	Crossgates Mall Road & Mall Driveway #1	Unsignalized
12	Crossgates Mall Road & Hotel Connector Road / Mall Driveway #2	Signalized
13	Crossgates Mall Road & Crossgates Mall Main Driveway	Signalized
14	Crossgates Mall Road & Crossgates Mall Main Driveway	Signalized
15	S. Frontage Road & Rapp Road	Unsignalized
16	Western Avenue (US Rte 20) & Westmere Terrace	Unsignalized
17	Rapp Road & Site 1 Driveway	Unsignalized
18	Rapp Road & Site 1 Driveway	Unsignalized
	TABLE 2 ANALYZED INTERSECTIONS, CONTINUED	
19	Rapp Road & Site 2 Northerly Driveway	Unsignalized
20	Rapp Road & Site 2 Southerly Driveway	Unsignalized
21	Gabriel Terrace Connector Road & Site 2 Driveway	Unsignalized
22	Gabriel Terrace Connector Road & Site 3 Driveway	Unsignalized
23	Hotel Connector Road & Site 3 Driveway	Unsignalized

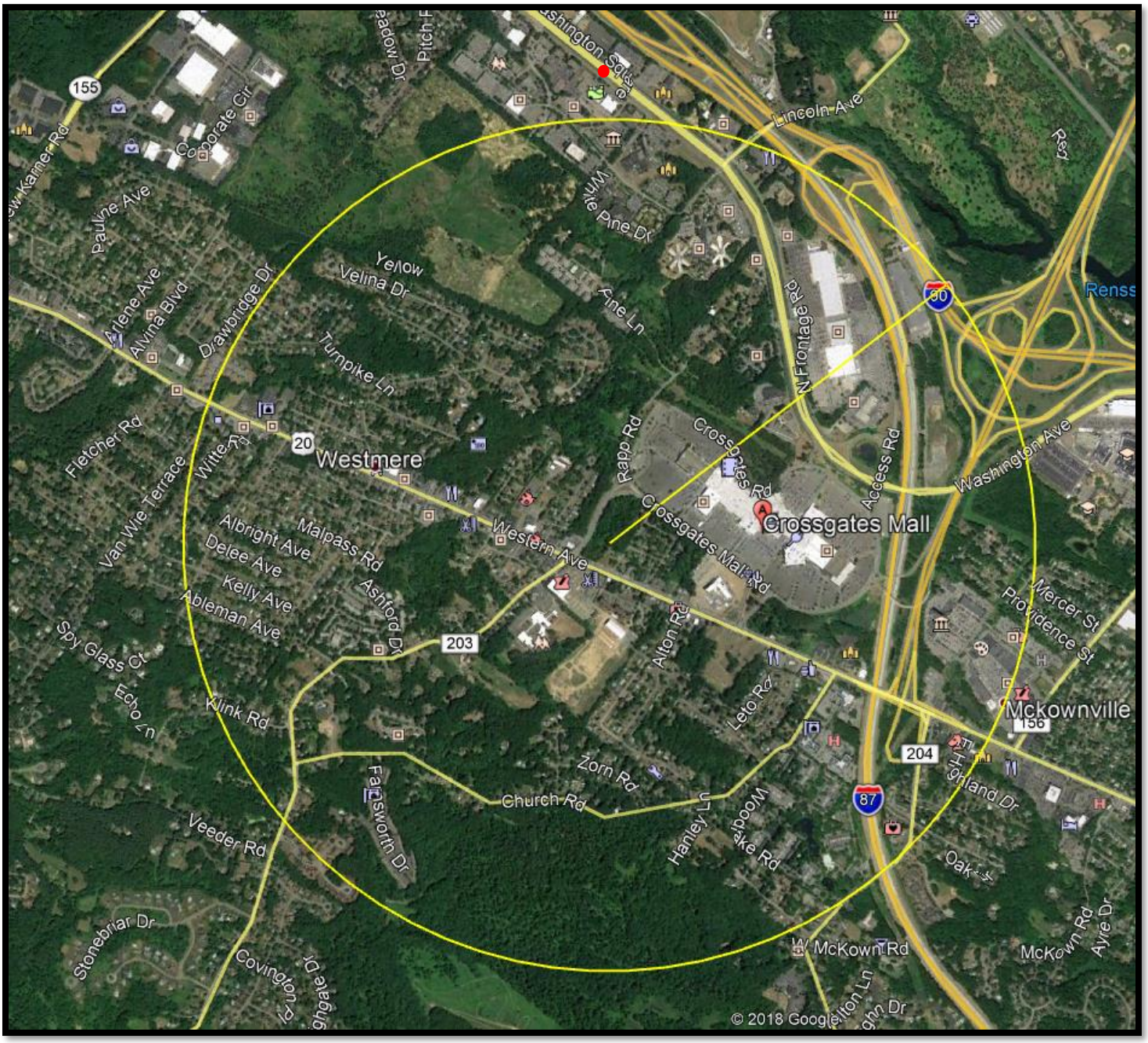

FIGURE *2*

ONE MILE RADIUS AERIAL MAP

AM Peak Scenario

Existing (2019):
Seven (7) signalized intersections were analyzed for the first level of screening in the weekday AM and PM and Saturday scenario in the Traffic Impact Report. In the AM scenario, the findings of the capacity analysis determined that the overall LOS for all seven (7) intersections in the existing condition (2019) achieves LOS of A, B or C. This is also true for the majority of unsignalized intersections in the existing condition. Six (6) intersections currently do not exist. The one, existing exception is the intersection of Western Avenue (U.S. Route 20) and Westmere Terrace. The LOS for southbound left to right turn is currently at LOS F in the existing condition. No overall intersection LOS is provided for unsignalized intersections in the Traffic Impact Report. LOS at unsignalized intersections are defined by minor movements since the "through" movement on the main roadway is not affected by intersection traffic control. In addition, there is often much more unpredictability in the delay experienced by individual drivers in the minor movements at non-signalized intersections. The LOS of the location is a result of stacking on Westmere Terrace by attempted left hand turners; a developed residential roadway.

Year 2022:
In the 2022 AM scenario, the findings of the capacity analysis determined that the overall LOS for all seven (7) intersections achieves LOS of A, B or C in both the 2022 Build and 2022 No Build scenario. This is also true for the majority of unsignalized intersections in this scenario. Six (6) intersections currently do not exist. As above, the intersection of Western Avenue (U.S. Route 20) and Westmere Terrace does not achieve LOS of A, B or C. The LOS for southbound left to right turn is at LOS E or F in the 2022 Build and No Build scenario. This is similar to the existing condition; thus, the intersection does not see an additional impact from the Existing to Build/Build scenario. The LOS of the location is a result of stacking on Westmere Terrace especially by attempted left hand turners; a developed residential roadway. As per above, no overall intersection LOS is provided for unsignalized intersections in the Traffic Impact Report.

Six (6) new, non-signalized intersections will be created as a result of the Build scenario in 2022. These intersections achieve LOS of A, B or C in the 2022 Build scenario. Thus, no further air quality analysis would be required for those intersections with LOS A, B or C.

The intersection of Crossgates Mall and Mall Driveway #1 will be constructed as a connector road with Gabriel Terrace in the Build 2022 scenario. This intersection achieves a LOS B in 2022 AM scenario. Thus, no further air quality analysis would be required for those intersections as they achieve a LOS A, B or C.

Year 2025:
In the 2025 AM scenario, the findings of the capacity analysis determined that the overall LOS for six (6) intersections achieve LOS of A, B or C in both the 2025 Build and 2025 No Build scenario. The one exception is the intersection of Western Avenue (U.S. Route 20) and Johnston Road/Rapp Road. This intersection shows a LOS D in both the 2025 Build and No Build scenario. Thus, the LOS level will not decrease as a result of the Project and will not degrade as the Project is advanced because the Level of Service remains constant.

The majority of unsignalized intersections also achieve LOS A, B or C in the 2025 Build and No Build Scenario. Six (6) intersections currently do not exist. As above, the intersection of Western Avenue (U.S. Route 20) and Westmere Terrace does not achieve LOS of A, B or C. The LOS for southbound left to right turn is at LOS F in the 2022 Build and No Build scenario. This is similar to the existing condition and 2022 condition; thus, Westmere Terrace itself does not see any additional vehicles from the Existing to Build/No Build scenario. The LOS of the location is a result of stacking on Westmere Terrace especially by attempted left hand turners; a developed residential roadway. No overall intersection LOS is provided for unsignalized intersections and Westmere Terrace in the Traffic Impact Report.

Six (6) new, non-signalized intersections will be created as a result of the Build scenario in 2025. These intersections achieve LOS of A, B or C in the 2022 Build scenario. Thus, no further air quality analysis would be required for these intersections as they achieve a LOS A, B or C.

The intersection of Crossgates Mall and Mall Driveway #1 will be constructed as a connector road with Gabriel Terrace in the Build 2022 scenario. This intersection achieves a LOS B in 2022 AM scenario. Thus, no further air quality analysis would be required for those intersections of LOS A, B or C.

PM Peak Scenario

Existing (2019):
Seven (7) signalized intersections were analyzed for the first level of screening in the weekday AM and PM and Saturday scenario in the Traffic Impact Report. In the PM scenario, the findings of the capacity analysis determined that the overall LOS for five (5) intersections, in the existing condition (2019), achieves LOS of A, B or C. The two exceptions are the intersection of Western Avenue (U.S. Route 20) and Johnston Road/Rapp Road and Washington Avenue Extension and Springsteen Road/Crossgates Commons. These intersections achieve LOS D in the existing condition.

The majority of unsignalized intersections in the existing condition achieve LOS A, B or C in the 2019 PM scenario. Six (6) intersections currently do not exist. Two existing, unsignalized intersections achieve LOS D, E or F in the PM scenario. These include Western Avenue (U.S. Route 20) and Westmere Terrace and Western Avenue (U.S. Route 20) and Gabriel Terrace/1700 Designer Residences. Western Avenue (U.S. Route 20) and Westmere Terrace southbound left to right turn is currently at LOS F in the existing condition. The LOS of the location is a result of stacking on Westmere Terrace especially by attempted left hand turners; a developed residential roadway. Western Avenue (U.S. Route 20) and Gabriel Terrace/1700 Designer Residences LOS is also the result of stacking on Gabriel Terrace/1700 Designer Residences as the intersection is uncontrolled. No overall intersection LOS is provided for unsignalized intersection in the Traffic Impact Report. LOS at unsignalized intersections are defined by minor movements since the through movement on the main roadway is not affected by intersection traffic control. In addition, there is often much more unpredictability in the delay experienced by individual drivers at non-signalized intersections, especially by attempted left hand turners.

Year 2022:
In the 2022 PM scenario, the findings of the capacity analysis determined that the overall LOS for five (5) intersections achieves LOS of A, B or C. The two exceptions are the intersection of Western Avenue (U.S. Route 20) and Johnston Road/Rapp Road and Washington Avenue Extension and Springsteen Road/Crossgates Commons. These intersections hav a LOS D in the 2022 Build and No Build scenario. This is similar to the existing condition. Thus, the LOS level will not decrease as a result of the Project and will not degrade as the Project is constructed as the Level of Service remains constant.

The majority of unsignalized intersections in the existing condition achieve LOS A, B or C in the 2022 PM scenario. Two existing, unsignalized intersections achieve LOS D, E or F in the PM scenario. These include Western Avenue (U.S. Route 20) and Westmere Terrace and Western Avenue (U.S. Route 20) and Gabriel Terrace/1700 Designer Residences. Western Avenue (U.S. Route 20) and Westmere Terrace operated at a LOS F in both the 2022 PM Build and No Build scenario. This LOS is similar to the existing condition; thus, Westmere Terrace does not see additional vehicles from the project in the Existing to Build/No Build scenario. Western Avenue (U.S. Route 20) and Gabriel Terrace/1700 Designer Residences achieves LOS F in the 2022 No Build scenario and LOS D in the 2022 Build scenario. Thus, the LOS level will actually increase as a result of the Project and will not degrade as the Project is advanced.

Six (6) new, non-signalized intersections will be created as a result of the Build scenario in 2022. These intersections achieve LOS of A, B or C in the PM 2022 Build scenario. Thus, no further air quality analysis would be required for those intersections at LOS A, B or C.

The intersection of Crossgates Mall and Mall Driveway #1 will be constructed as a connector road with Gabriel Terrace in the Build 2022 scenario. This location of Mall Driveway #1 southwest bound will have a LOS F in 2022 PM Build scenario. This is due to the stacking of cars within the parking lot roadway of the Crossgates Mall property, especially by attempted left hand turners.

Year 2025:
In the 2025 PM scenario, the findings of the capacity analysis determined that the overall LOS for four (4) intersections achieves LOS of A, B or C. The three exceptions are the intersection of Western Avenue (U.S. Route 20) and Johnston Road/Rapp Road, Washington Avenue Extension and Springsteen Road/Crossgates Commons and Crossgates Mall

Road and I-87 on/off ramps. These intersections achieve LOS D, E or F in the 2025 Build and No Build scenario. Western Avenue (U.S. Route 20) and Johnston Road/Rapp Road LOS is similar to the existing condition. Thus, the LOS level will not decrease as a result of the Project and will not degrade as the Project is constructed since the Level of Service remains constant. Washington Avenue Extension and Springsteen Road/Crossgates Commons LOS is similar to the existing condition and 2022 scenario. Thus, again, will be constructed as a connector road with Gabriel Terrace in the Build 2022 scenario. This location of Mall Driveway #1 southwest bound will operate at a LOS F in 2022 PM Build scenario. This is due to the stacking of cars within the parking lot roadway of the Crossgates Mall property especially by attempted left hand turners. The new, unsignalized intersection will not degrade as the Project is constructed since the Level of Service remains constant. Crossgates Mall Road and I-87 on/off ramps achieve LOS C in the 2025 No Build and LOS D in the 2025 Build condition. This decrease in LOS is the increase in delay from 33.3 seconds to 37.9 seconds. This delay is only approximately a 12% increase in timing from the No Build to Build scenario. This delay is also briefer than the Saturday timings which 43.4 seconds to 53.9 seconds.[6] . This intersection is already impacted by potential idling cars at the Crossgates Mall parking lot and vehicle volume on I-87. No valid receptors which could be impacted are located within the immediate vicinity of this intersection.

The majority of unsignalized intersections in the existing condition achieve LOS A, B or C in the 2025 PM scenario. Three existing, unsignalized intersections achieve LOS D, E or F in both PM scenarios. These include Western Avenue (U.S. Route 20) and Westmere Terrace and Western Avenue (U.S. Route 20) and Gabriel Terrace/1700 Designer Residences and Crossgates Mall and Mall Driveway #1. Western Avenue (U.S. Route 20) and Westmere Terrace operate at LOS F in both the 2025 PM Build and No Build scenario. This LOS is similar to the existing condition and 2022 condition; thus, Westmere Terrace does not see additional vehicles from the Existing to Build/No Build scenario. Western Avenue (U.S. Route 20) and Gabriel Terrace/1700 Designer Residences achieves LOS D and F in the 2025 No Build scenario and LOS E and F in the 2025 Build scenario. This is a slight decrease in Level of Service; however, only Gabriel Terrace southbound is affected. LOS along Western Avenue in this location is running at LOS A, B or C. Crossgates Mall and Mall Driveway #1 will be constructed as a connector road with Gabriel Terrace in the Build 2022 scenario. This location of Mall Driveway #1 southwest bound achieves a LOS F in 2025 PM Build scenario. This is due to the stacking of cars within the parking lot roadway of the Crossgates Mall property. This is similar to the 2022 Build scenario. Thus, the LOS level will not decrease as a result of the Project. Crossgates Mall Road runs at LOS A, B, or C.

Six (6) new, non-signalized intersections will be created as a result of the Build scenario in 2022. These intersections achieve LOS of A, B or C in the PM 2025 Build scenario. Thus, no further air quality analysis would be required for those intersections of LOS A, B or C.

Saturday Scenario

Existing (2019):
Seven (7) signalized intersections were analyzed for the first level of screening in the weekday AM and PM and Saturday scenario in the Traffic Impact Report. In the Saturday scenario, the findings of the capacity analysis determined that the overall LOS for five (5) intersections, in the existing condition (2019), achieves LOS of A, B or C. The two exceptions are the intersection of Washington Avenue Extension and Springsteen Road/Crossgates Commons and Crossgates Mall Road and I-87 on/off ramps. These intersections operate at LOS D in the existing condition.

The majority of unsignalized intersections in the existing condition achieve LOS A, B or C in the 2019 Saturday scenario. Six (6) intersections currently do not exist. Three existing, unsignalized intersections operate at LOS D, E or F in the Saturday scenario. These include Western Avenue (U.S. Route 20) and Westmere Terrace and Western Avenue (U.S. Route 20) and Gabriel Terrace/1700 Designer Residences. Western Avenue (U.S. Route 20) and Westmere Terrace southbound left to right turn is currently at LOS E in the existing condition. The LOS of the location is a result of stacking on Westmere Terrace especially by attempted left hand turners; a developed residential roadway. Western Avenue (U.S. Route 20) and Gabriel Terrace/1700 Designer Residences LOS is also the result of stacking on Gabriel Terrace/1700 Designer Residences, especially by attempted left hand turners as the intersection is uncontrolled. No overall intersection LOS is provided for unsignalized intersection in the Traffic Impact Report. LOS at unsignalized intersections are defined by minor movements since the through movement on the main roadway is not affected by intersection traffic control. In addition, there is often much more unpredictability in the delay experienced by individual drivers at the minor movements in non-signalized intersections.

[6] This intersection may require further review for mitigative measures on request from the Regional Environmental Contact

Year 2022:
In the 2022 Saturday scenario, the findings of the capacity analysis determined that the overall LOS for five (5) signalized intersections achieves LOS of A, B or C. The two exceptions are the intersection of Washington Avenue Extension and Springsteen Road/Crossgates Commons and Crossgates Mall Road and I-87 on/off ramps. These intersections will operate at LOS D in the 2022 Build and No Build Saturday scenario. This is similar to the existing condition. Thus, the LOS level will not decrease as a result of the Project and will not degrade as the Project is constructed since the Level of Service remains constant.

The majority of unsignalized intersections achieve LOS A, B or C in the 2022 Saturday scenario. Two unsignalized intersections will operate at LOS D, E or F in the Saturday scenario. These include Western Avenue (U.S. Route 20) and Westmere Terrace and Crossgates Mall Road and Mall Driveway #1. Western Avenue (U.S. Route 20) and Westmere Terrace achieves LOS E and F in both the 2022 Saturday Build and No Build scenario. This LOS is similar to the existing condition; thus, Westmere Terrace does not see additional vehicles from the Existing to Build/No Build scenario. Crossgates Mall Road and Mall Driveway #1 achieves LOS F in the 2022 Build scenario. This is due to the stacking of cars within the parking lot roadway of the Crossgates Mall property, especially by attempted left hand turners. Crossgates Mall Road runs at LOS A, B, or C.

Six (6) new, non-signalized intersections will be created as a result of the Build scenario in 2022. These intersections achieve LOS of A, B or C in the Saturday 2022 Build scenario. Thus, no further air quality analysis would be required for those intersections of LOS A, B or C.

Year 2025:
In the 2025 Saturday scenario, the findings of the capacity analysis determined that the overall LOS for five (5) signalized intersections achieves LOS of A, B or C. The two exceptions are the intersection of Washington Avenue Extension and Springsteen Road/Crossgates Commons and Crossgates Mall Road and I-87 on/off ramps. These intersections will operate at LOS D in the 2025 Build and No Build Saturday scenario. This is similar to the existing condition and 2022 condition. Thus, the LOS level will not decline as a result of the Project and will not degrade as the Project is constructed since the Level of Service remains constant.

The majority of unsignalized intersections in the existing condition achieve LOS A, B or C in the 2025 PM scenario. Two existing, unsignalized intersections will operate at LOS D, E or F in peak hour Saturday scenarios. These include Western Avenue (U.S. Route 20) and Westmere Terrace and Crossgates Mall and Mall Driveway #1. Western Avenue (U.S. Route 20) and Westmere Terrace will operate at LOS F in both the 2025 Saturday Build and No Build scenario. This LOS is similar to the existing condition and 2022 condition; thus, Westmere Terrace does not see additional vehicles from the Existing to Build/No Build scenarios. Crossgates Mall and Mall Driveway #1 will be constructed as a connector road with Gabriel Terrace in the Build 2022 scenario. This location of Mall Driveway #1 southwest bound will operate at a LOS F in 2025 Saturday Build scenario. This is due to the stacking of cars within the parking lot roadway of the Crossgates Mall property, especially by attempted left hand turners. This is similar to the 2022 Build scenario. Thus, the LOS level will not decline as a result of the Project. Crossgates Mall Road runs at LOS A, B, or C.

Six (6) new, non-signalized intersections will be created as a result of the Build scenario in 2022. These intersections achieve LOS of A, B or C in the Saturday 2025 Build scenario. Thus, no further air quality analysis would be required for those intersections of LOS A, B or C.

As a result of the above traffic findings, no significant change in delays will occur as a result of the project build out. Crossgates Mall Road and I-87 on/off ramps achieve LOS C in the 2025 No Build and will operate at LOS D in the 2025 Build condition due to a slight increase in delay. In general, no significant change in the Level of Service will result from the proposed Project. Thus, further mobile analysis should not be required for the Project as it would not result in a significant air quality impact.

Air Quality Impacts

No significant air quality impacts are anticipated as a result of the buildout of the Project. Twenty-three (23) signalized and unsignalized intersections were analyzed by the traffic consultant. These analyses were utilized to determine the impacts, if any, to air quality as a result of the proposed action. As provided above, similar Levels of Service and delays will be experienced under the 2022 and 2025 No-Build and Future Build Conditions and so, again, no significant air quality impacts are anticipated.

Site 1 (Rapp Road), west of the Crossgates Mall along Rapp Road, proposes construction of 222 one and two bedroom apartments with ±3,900 SF of commercial space, on the ±19 acre site. The northern portion of Site 1 (Site 1A) also includes a potential future development area. While no plans currently exist for this area, an additional 90 apartment units will be analyzed for purposes of the DEIS. As per the 2025 Build analysis, intersections in the vicinity of this re-development will run at LOS A, B, or C including Rapp Road and Crossgates Mall Road, Rapp Road and Gipp Road, Rapp Road and Pine Lane Rapp Road and Springsteen Road and Springsteen Road and S. Frontage Road. Other intersections such as Washington Avenue Extension and Springsteen Road/Crossgates Road and Western Avenue and Westmere Terrace will run at LOS similar to the existing conditions. Thus, no significant air quality impacts are anticipated.

The second re-development area (Site 2 on the attached plan) is located on the corner of Crossgates Mall Road and Western Avenue and for purposes of the DEIS was analyzed for re-development of a ±160,000 square feet retail building and associated fueling facility on ± 15 acres. The project area includes re-development of the largely vacant residential properties on Lawton Terrace, Tiernan Court and Rielton Court and Gabriel Terrace. This property was subdivided into residential lots. Although currently vacant, these lots once consisted of residential homes with cars which were not included in the Traffic Impact Report. As per the 2025 Build analysis, intersections in the vicinity of this re-development will run at LOS D, E, or F. These include Crossgates Mall Road and Driveway #1, Western Avenue and Gabriel Terrace/1700 Designer Residences and Western Avenue and Johnston Road/Rapp Road. Western Avenue and Gabriel Terrace/1700 Designer Residences intersection LOS in the Weekday PM and Saturday scenario would run LOS F in the 2022 No Build Scenario. With the project developed in 2025, LOS will operate at LOS E in the Weekday PM and achieve LOS C in the Saturday scenario. This is a decrease in delay and thus, an improvement in LOS. Crossgates Mall Road and Driveway and Western Avenue and Johnston Road/Rapp Road will run at LOS similar to the existing conditions or 2022 Build conditions.

A third, re-development area (Site 3 on the attached plan) is located on the remaining ±11.34 acres of Transit-Oriented Development (TOD) zoned property located between Site 2 and the existing hotel site. There are no current, specific development plans for this area and a zoning-compliant conceptual plan has been developed and analyzed for purposes of the DEIS. This development will include as possible future development 115,000 SF of retail space, 50,000 SF of office space, and 48 multi-family apartments. These development areas were previously evaluated for potential future development as part of the environmental review for the Capital District Transit Authority (CDTA) transit center project at Crossgates. As per the 2025 Build analysis, intersections in the vicinity of this re-development will run at LOS A, B or C. These include Crossgates Mall Road and Hotel Connector Road/Mall Driveway #2, Crossgates Mall Road and Crossgates Mall Main Driveway and Western Avenue and Crossgates Mall Driveway.

The intersection of Crossgates Mall Road and I-87 on/off ramps achieve LOS C in the 2025 No Build and operate at LOS D in the 2025 Build condition. This delay is only approximately a 12% increase in timing from the No Build to Build scenario.

Sensitive receptors (i.e., schools, hospitals, etc.) were located during this air quality analysis for potential impact. For example, Westmere Elementary School was noted as occurring 700 feet south of proposed Site 2. This receptor is already influenced by Western Avenue and so, is not expected to see any additional impact from the project as the development sites are located north of Western Avenue. In addition, a few places of worship (i.e., McKownville United Methodist Church) are located within a half a mile of the proposed development to the east. This receptor is already influenced by Western Avenue and I-87 to the east and so, is not expected to see any additional impact from the project located to its west. As previously mentioned, the ambient air quality standards cited above were set to protect the public health and welfare, including sensitive individuals. Thus, in the end, all such receptors are subject to the same standards and will not experience a significant air quality impact as a result of the project.

Climatic inversions are not a concern in this location. Climatic inversions are the result of a warm layer of air that rises and traps a layer of cooler air at ground level, usually for a period of a day or days. If this warm layer persists at the surface for a day or more, it prevents dispersion of pollutants, including vehicle emissions, dust and smoke. Such inversions are typical of areas with mountain valleys or areas clustered up against a mountain range. The local topographical and meteorological characteristics at this site are not conducive to the formations of climatic inversions.

Stationary Emissions

The proposed project developments will be heated and cooled using natural gas. As such, it will have to registered with New York State Department of Environmental Conservation as a Minor facility pursuant to Title 6 NYCRR Part 201.4. It will be a Minor Facility as its emissions (natural gas combustion results only in CO2, CO and water) will be less than half those mass pollutants per year listed in Title 6 NYCRR Part 201-9.1.

Construction

The short-term use of heavy equipment operations will result in a temporary, minor increase in pollutant emissions from various equipment used in the construction process. However, the major concern during the construction operation will be the control of fugitive dust during site clearing, excavation, demolition and grading operations. Fugitive dust is essentially airborne soil particles caused by heavy equipment operations entraining the freshly exposed soil into the air. To a lesser extent, some fugitive dust emissions will arise from wind erosion of the exposed soils. All construction related air quality impacts will be of relatively short duration. Best construction management practices will be employed to reduce soil erosion and possible sources of fugitive dust. This generally includes the daily use of water/spray trucks in dry periods, anti-tracking pads at construction entrances, street sweeping at the entrances as needed and adherence to a Storm Water Pollution Prevention Plan (SWPPP) which provides Erosion and Sediment Control.

In addition, trucks, compressors, cranes, excavators and other equipment will be maintained and in good working condition and turned off when not in use. This will reduce the idling of unused equipment in adherence of state regulations (6 NYCRR, Subpart 217-3). Reduced idling will reduce potential air pollution.

As a result of the findings, no further analysis in regards to potential air quality impacts due to construction is necessary for the development as it would not result in a significant or extended impact on air quality as a result of the project.

Conclusions:

In review of screening guidelines of The Environmental Manual (TEM), no further air quality analysis is required at this time for the Project as it would not result in a significant increase in impacts to air quality.