CITY OF North Tonawanda

Government Operations Greenhouse Gas Inventory

A Comparison of Greenhouse Gas Emissions from City Operations in 2019 and 2021

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March 2022

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Acronyms:

COVID – Coronavirus Disease

DEC – New York State Department of Environmental Conservation

DMV – Department of Motor Vehicles

DPW – Department of Public Works

GHG – Greenhouse Gas

HVAC – Heating, Ventilation, and Air Conditioning

kWh – Kilowatt hours

MTCO2e – Metric Tons of Carbon Dioxide equivalent

NYSERDA – New York State Energy Research Development Authority

SUV – Sport Utility Vehicle

WWTF – Wastewater Treatment Facility

Introduction:

The City of North Tonawanda (hereafter referred to as "the City" or "NT") is a 10.9 square mile riverfront community in southwest Niagara County. Located where the historic Erie Canal meets the Niagara River, NT is home to over 30,000 people that live amongst environmentally significant spaces including waterfronts, wetlands and wildlife conservation areas. The City considers these natural resources to be valuable assets and supports their conservation and integration into day-to-day life.

The 2008 Comprehensive Masterplan and 2021 Downtown Revitalization Initiative exhibit NT's commitment to environmentally responsible growth. More recently, the City pursued and was awarded the Clean Energy Communities designation from the New York State Energy Research and Development Authority (NYSERDA), and continues to pursue actions in the Leadership Round. Attaining the NYSERDA Designation has also supported the City's preparation for certification through the New York State Department of Conservation (DEC)'s Climate Smart Communities program.

In April 2021 the City took the first step toward becoming certified by adopting the Climate Smart Communities Pledge, committing to, among other things, reduce energy use; shift to clean, renewable energy; and enhance community resilience to climate change.

Climate change is expected to manifest itself in many ways in the Western New York region: longer, more frequent heat waves; more intense lake effect snow; and more frequent extreme rain events and flooding. These changes will not only strain NT's aging infrastructure, but will also pose a threat to the health and livelihoods of its citizens.

A natural next step in reducing NT's greenhouse gas emissions and, hopefully, mitigating the effects of climate change on the City, is to measure the greenhouses gases emitted by government operations. While the City began benchmarking energy use at municipal buildings in 2021, a greenhouse gas inventory will provide a better understanding of overall energy use and emissions from many aspects of government operations including their vehicle fleet and street lighting.

This document is intended to help inform North Tonawanda's next steps as they continue to look for ways to reduce their carbon footprint, and improve operations.

Methodology:

This report provides a snapshot of energy use and emissions from government operations (buildings, street/traffic lights, water/wastewater facilities, and vehicles) for the City of North Tonawanda. The analysis compares emissions from 2019 (the baseline year) and 2021 (the comparison year).

The calculations in this report were made using the GHG Performance Calculator developed by the Department of Environmental Conservation and Cornell Cooperative Extension. Emission calculations only include Scope 1 and 2 emissions, and were not normalized to account for changes in temperature. Scope 1 emissions are direct emissions that result from the on-site combustion of fuel (including in boilers, furnaces, and vehicles); while Scope 2 emissions are off-site emissions that result from the consumption of electricity purchased from the grid.

Scope 3 emissions, which are indirect emissions not included in Scope 2, are not included in this report. For municipalities, the most common source of Scope 3 emissions are employee commuting. Other data not included in this report include emissions generated by residents and businesses within city limits. These emissions could be captured through a community-wide greenhouse gas inventory; a possible next step for North Tonawanda to take.

Emissions were calculated for municipal buildings over 1,000 square feet using utility data from National Grid and National Fuel. These buildings were identified as a result of a 2021 Municipal Benchmarking Resolution where the City committed to tracking energy consumption at their largest facilities. Not included are accounts such as parks, lift stations, pumping stations and several other electric accounts that were profiled in *Crimson Power's 2020 utility bill analysis,* a study the City commissioned to audit utility accounts. Collectively, these smaller electric accounts comprise a relatively small proportion of city operations emissions.

Emissions for traffic signals and street lights were also calculated using utility data from National Grid, whereas emissions from transportation sources (including the municipal fleet) were calculated using municipal records of purchased gasoline and diesel for all departments. These municipal records did not distinguish between gasoline and diesel fuel purchased for use in vehicles and gasoline and diesel fuel purchased for use in other gas- and diesel-powered equipment. Based off the municipal fleet inventory (see Appendix A), which showed that over 75% of the City's gas-powered vehicles are categorized as "light trucks" (which includes vans, pickup trucks, and SUVs), all gasoline was assumed to be consumed by "light trucks," while all diesel fuel was assumed to be consumed by "heavy duty vehicles." Heavy Duty Vehicles include a fleet of garbage trucks, fire trucks, dump trucks, as well as other class 7 and 8 vehicles and large equipment. A vehicle inventory has been attached as Appendix A.

Emissions are reported in metric tons of carbon dioxide equivalent, or $MTCO_2e$. The unit "CO_2e" serves to standardize other greenhouse gases besides carbon dioxide based on their global warming potential. Other major greenhouse gases include methane (CH_4) and nitrous oxide (N_2O); together with carbon dioxide, these gases make up 97% of greenhouse gas emissions in the United States. While methane and nitrous oxide are emitted in much smaller amounts than carbon dioxide, they have much greater global warming potential than carbon dioxide.

It is also important to note that the timeframe for this study represents a shift in governmental operations as the world reacted to the COVID-19 global pandemic. Many government operations shut down for a period of time during 2020, and were forced to evaluate how to continue to provide services and conduct regular government business. By 2021 these adjustments had largely been realized, and operations had found a "new normal". The impacts of these adjustments may have also influenced how facilities consumed energy due to an inability to use certain facilities, adjusted hours of operations, remote working, and other operational changes that would affect energy use. This report likely captures changes in energy consumption and related GHG emissions associated with operational adjustments made as a result of the COVID-19 global pandemic.

This report was prepared for the City by the Clean Energy Communities program staff at the University at Buffalo Regional Institute as part of the technical assistance it provides to municipalities in Erie and Niagara Counties.

Results:

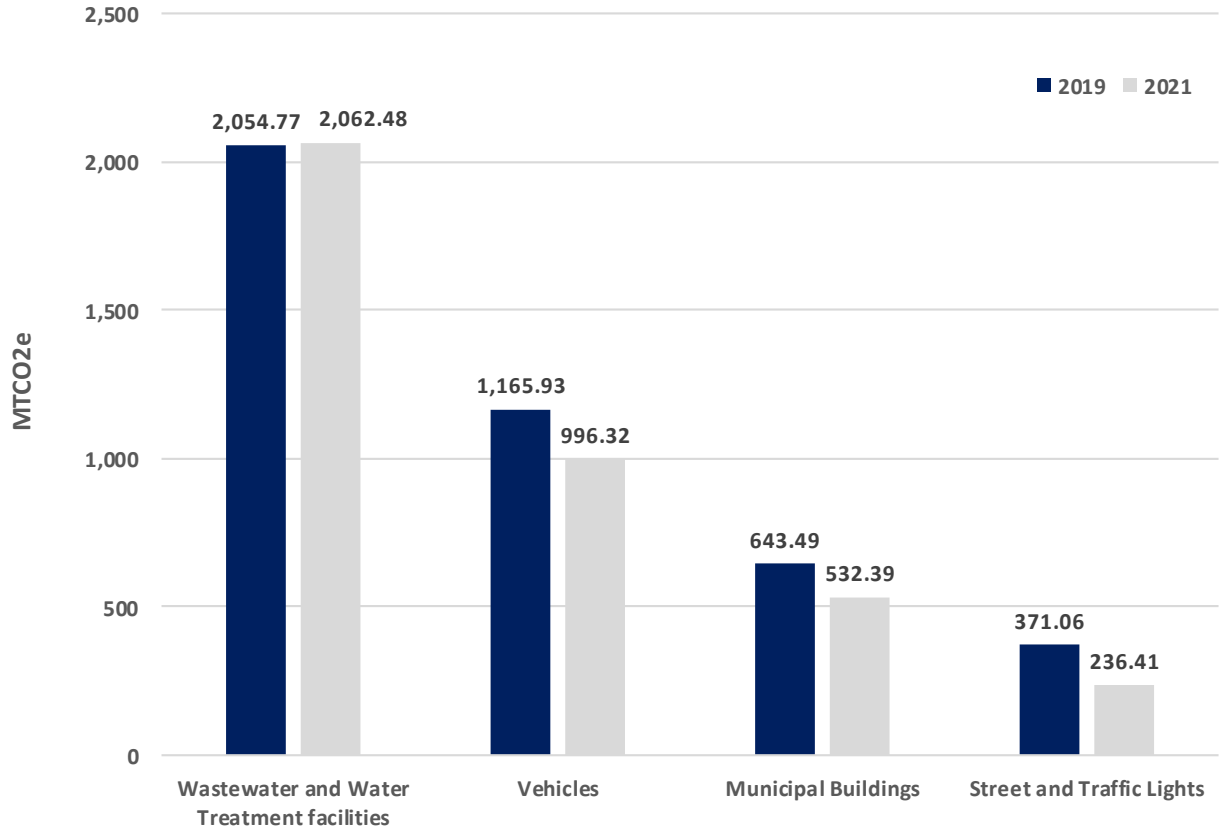
In 2021, North Tonawanda's operations generated 4,345.2 MTCO2e, an 8.5% decrease from 2019. Nearly half of all GHG emissions are generated by the City's Wastewater and Water Treatment Plants, which is the only category of operations that experienced an increase in emissions between 2019 and 2021. In fact, the Wastewater Treatment Facility (WWTF) currently contributes more than ten times the MTCO2e than any other facility in the City's portfolio, and consumes more energy than all other municipal buildings combined by more than three times.

Transportation related emissions accounted for the second largest sources of GHG emissions accounting for 40% of the City's total emissions over the two year period. These emissions decreased by 167.2 MTCO2e from 2019 to 2021, but still account for 40% of total emissions as nearly all other emission sources also used less over the study period.

The largest percentage reductions in greenhouse gasses came from the City's street lighting. A project to upgrade the City's street lighting helped reduce emissions by 133 MTCO2e or 37% from 2019 to 2021. Overall street lighting accounted for the least amount of GHG emissions in both 2019 and 2021.

A snapshot of North Tonawanda's GHG emissions by source can be found in Figure 1 below.

Figure 1. Emissions by Source, 2019 and 2021



Water Treatment Facilities:

The City's Water Treatment Facilities accounted for the largest portion of GHG emissions in both 2019 and 2021. In 2019 these two facilities accounted for 41% of the City's emissions with 2,054.8 MTCO2e of the City's total 4,961.5 MTCO2e for that year, and 45% of the City's emissions in 2021. Though GHG emissions at the water treatment facilities remained relatively flat between 2019 and 2021 (GHG emissions only grew by 0.38%), the facilities accounted for a greater share of overall emissions due to all other operations (buildings, transportation, and street lights) generating less emissions during this period.

North Tonawanda operates two facilities in this category: the Water Treatment Plant on Archer St., and the Wastewater Treatment Facility (WWTF) on River Rd. Of the two, the WWTF consumes more energy and currently emits more than ten times the MTCO2e than any other facility in the City's portfolio. Although the WWTF was able to reduce Scope 1 (natural gas) emissions between 2019 and 2021, those gains were offset by increased Scope 2 (electricity) emissions at the facility. Increases in both Scope 1 and Scope 2 emissions at the Water Treatment Plant ultimately resulted in the 7.1 MTCO2e emissions increase for this category between 2019 and 2021.

Table 1: City of North Tonawanda Total GHG Emissions of Wastewater and Water Facilities, 2019 and 2021

Facility	2109 GHG (MTCO2e)	2021 GHG (MTCO2e)	% Change in GHG (MTCO2e)
Wastewater Treatment Facility (WWTF)	1,716.84	1,716.97	0.01%
Water Treatment plant	337.92	345.51	2.25%
Total Water Treatment Facilities	**2,054.77**	**2,062.48**	**0.38%**

Table 2: City of North Tonawanda Natural Gas Consumption of Wastewater and Water Facilities, 2019 and 2021

Facility	2019 Natural Gas (Therms)	2021 Natural Gas (Therms)	% Change in Natural Gas Usage
Wastewater Treatment Facility (WWTF)	194,402	197,942	1.82%
Water Treatment plant	27,381	27,241	-0.5%
Total Water Treatment Facilities	**221,783**	**225,183**	**1.5%**

Table 3: City of North Tonawanda Electric Consumption of Wastewater and Water Facilities, 2019 and 2021

Facility	2019 Electric (kWh)	2021 Electric (kWh)	% Change in Electric Usage
Wastewater Treatment Facility (WWTF)	5,943,471	5,781,252	-2.7%
Water Treatment plant	1,671,784	1,744,161	4.3%
Total Water Treatment Facilities	**7,615,255**	**7,525,413**	**-1.2%**

Transportation Sources:

Emissions from Transportation Sources accounted for 38% of the City's total GHG emissions in both 2019 and 2021. In 2019, combined diesel and gasoline consumption accounted for 1,892.2 MTCO2e and 1,725 MTCO2e in 2021. This represents an 8.8% decrease in emissions over the two-year period. Most reductions are the result of decreased diesel consumption in 2021.

Diesel consumption was reduced by 16,599 gallons between 2019 and 2021 which resulted in a 14.6% reduction in emissions. Gasoline stayed generally flat with an increase of 323 gallons from 2019 to 2021. This increase accounted for only 2.5 MTCO2e to the City's total emissions for 2021.

Overall, Transportation Sources generated 167.2 MTCO2e less in 2021 than they generated in 2019. The total emissions for this category account for the second most emissions by category; behind only the Water Treatment Facilities.

100% of emissions from Transportation Sources are Scope 1 emissions as the City does not own or operate electric vehicles.

Table 4: City of North Tonawanda Fuel Consumption and Emissions, 2019 and 2021

Transportation Fuel	2019 (Gallons)	2021 (Gallons)	2019 GHG (MTCO2e)	2021 GHG (MTCO2e)	% Change in GHG (MTCO2e)
Gasoline	82,326.00	82,603.40	726.22	728.67	0.34%
Diesel	114,102.50	97,503.60	1,165.93	996.32	-14.6%
Total Fuel Consumption	**196,428.50**	**180,107.00**	**1,892.15**	**1,724.99**	**-8.8%**

Street Lighting:

Street Lighting includes both Traffic Signals as well as overhead roadway lighting, or Street Lights. This category accounts for the least amount of GHG emissions in North Tonawanda in both 2019 and 2021.

Street Lighting categorically had the largest percentage emissions reduction from 2019 to 2021, reducing emissions by 36%. These reductions are likely the result of a Light Emitting Diode (LED) street lighting upgrade project that was completed in 2020. That project reduced electric consumption in street lighting by 63% and contributed to a 135.1 MTCO2e emission reduction.

Traffic signal emissions remained relatively flat year-over-year and accounted for only a fractional increase in emissions.

100% of emissions from street lighting are Scope 2 emissions.

Table 5: City of North Tonawanda Street Lighting Electric consumption and Emissions, 2019 and 2021

Lighting Type	2019 Electric (kWh)	2021 Electric (kWh)	2019 GHG (MTCO2e)	2021 GHG (MTCO2e)	% Change in GHG (MTCO2e)
Traffic Signals	53,507	57,053	6.16	6.57	0.07%
Street Lights	3,168,975	1,996,037	364.90	229.84	-37.01%
Total Street Lighting	**3,222,482**	**2,053,090**	**371.06**	**236.41**	**-36.29%**

Municipal Buildings:

In addition to the Water Treatment Facilities, the City has twelve buildings in its portfolio over 1,000 square feet (see Table 1).

Table 6. North Tonawanda Buildings 1,000 Square feet or larger

	Building Name	Address	Year Built	SQF
1	City Hall	216 Payne Ave	1935	143,748
2	Department of Motor Vehicles (DMV)	500 Wheatfield St	1971	32,347
3	Department of Public Works (DPW)	760 Erie Ave	1979	29,308
4	Water Maintenance Building	585 Erie Ave	1956	10,508
5	Fire Station (Nash)	1425 Nash Rd	1971	65,340
6	Fire Hall (Payne)	786 Payne Ave	1948	2,430
7	Fire Station (Sweeney Hose)	499 Zimmerman St	1972	4,216
8	Fire Hall (Live Hose)	67 Vandervoort	1957	6,358
9	Senior Center	110 Goundry St	1972	136,668
10	Carnegie Art Center	240 Goundry St	1907	9,100
11	Deerwood Golf Course	1818 Sweeney St	1975	11,280
12	Gratwick Riverside Marina	1000 River Road	1958	2,475

Collectively, Municipal Buildings accounted for 643.5 MTCO2e in 2019, and 532.4 MTCO2e in 2021; a 111.1 MTCO2e decrease in GHG emissions between the two years. This category accounted for 13% of total emissions in 2019 and 12% of North Tonawanda's GHG emissions in 2021. The Municipal Buildings category generates roughly one third of what are generated by the Transportation category and 25-30% of what the Water Treatment Facilities generate in a year.

Over the two-year period, City Hall and the Department of Public Works (DPW) had the largest GHG reductions with each facility reducing emissions by over 30 MTCO2e. The Senior Center had the largest percentage decrease of any facility with a 42.5% reduction from pre-pandemic levels.

Table 7: City of North Tonawanda Total GHG Emissions by Facility, 2019 and 2021

Facility	2109 GHG (MTCO2e)	2021 GHG (MTCO2e)	% Change in GHG (MTCO2e)
City Hall	193.57	163.28	-15.65%
DMV	52.69	48.12	-8.67%
DPW	169.76	135.26	-20.33%
Water Maintenance Building	33.07	27.83	-15.86%
Fire Station (Nash)	29.40	25.86	-12.07%
Fire Hall (Payne)	18.34	14.30	-22.03%
Fire Station (Sweeney Hose)	10.79	9.43	-12.61%
Fire Hall (Live Hose)	52.06	44.73	-14.08%
Senior Center	37.28	21.45	-42.47%
Carnegie Art Center	39.61	32.70	-17.44%
Deerwood GC	4.72	7.99	69.14%
Gratwick Riverside Marina	2.19	1.46	-33.35%
Total Buildings Consumption	**643.49**	**532.39**	**-17.3%**

Every building in the City's portfolio saw decreased Scope 1 emissions. Several facilities reduced gas consumption by between 20 – 30%. Most facilities saw more than a 10% reduction in natural gas with the exception of Sweeney Hose.

Similarly, most facilities were also able to reduce electric consumption year-over-year. City Hall, the Water Maintenance Facility, Payne Fire Hall, and Deerwood Golf Course saw slight upticks in electric consumption. This additional usage accounted for a 6 MTCO2e increase in emissions from 2019 to 2021, however, it was not enough to offset electric reduction emissions gains at other facilities.

Table 8: City of North Tonawanda Natural Gas Consumption by Facility, 2019 and 2021

Facility	2019 Natural Gas (Therms)	2021 Natural Gas (Therms)	% Change in Natural Gas Usage
City Hall	31,244	25,165	-19.46%
DMV	7,895	7,049	-10.71%
DPW	25,529	21,425	-16.08%
Water Maintenance Building	5,352	4,232	-20.92%
Fire Station (Nash)	5,537	4,869	-12.07%
Fire Hall (Payne)	3,294	2,519	-23.52%
Fire Station (Sweeney Hose)	595	555	-6.72%
Fire Hall (Live Hose)	8,957	7,934	-11.42%
Senior Center	3,165	2,218	-29.93%
Carnegie Art Center	7,243	5,948	-17.88%
Deerwood GC	-	-	-
Gratwick Riverside Marina	-	-	-
Total Buildings Consumption	**98,811**	**81,914**	**-17.1%**

Table 9: City of North Tonawanda Electric Consumption by Facility, 2019 and 2021

Facility	2019 Electric (kWh)	2021 Electric (kWh)	% Change in Electric Usage
City Hall	239,977	257,317	7.2%
DMV	93,452	92,764	-0.7%
DPW	296,829	186,442	-37.2%
Water Maintenance Building	40,389	46,479	15.1%
Fire Station (Nash)	-	-	-
Fire Hall (Payne)	7,347	7,997	8.8%
Fire Station (Sweeney Hose)	66,223	56,260	-15.0%
Fire Hall (Live Hose)	38,971	22,489	-42.3%
Senior Center	177,791	83,982	-52.8%
Carnegie Art Center	9,872	9,638	-2.4%
Deerwood GC	41,024	69,389	69.1%
Gratwick Riverside Marina	19,031	12,685	-33.3%
Total Buildings Consumption	**1,030,906**	**845,440**	**-18.0%**

Discussion of Results:

This greenhouse gas inventory indicates North Tonawanda is seeing operational emissions move in the right direction. Each category saw GHG reductions over the two year period with one exception. Other observations and opportunities related to maintaining current emissions reductions or building upon them are discussed below.

Water Treatment Facilities:

Although emissions at the Water Treatment Facilities were generally flat during the study period, they more than double emissions from all other buildings combined. This was the only category to see increased emissions during the study period.

Ongoing issues at the Wastewater Treatment Facility related to replacing outdated pumps, digesters, electrical upgrades, and off gassing are major contributors to the high emissions at this facility. Being able to address these issues is a high cost and leadership is working to allocate funding to address these issues, and may ultimately result in the need to replace the facility.

If that were the case it would be recommended to utilize off gasses from the digestion process to offset purchased energy, and incorporating other renewable energy and high efficiency equipment into the project. NYSERDA offers funding to assist with project development and design for net-zero buildings that could be leveraged to help realize a wastewater treatment facility that emits little to no GHGs compared to current emissions.

Transportation Emissions:

Based on this analysis it's hard to decipher if reduced transportation related emissions are due to the replacement of 25 vehicles with presumably more fuel-efficient vehicles (see appendix A), or changes related to the COVID-19 pandemic. A 14.5% reduction in diesel related emissions allowed this category to reduce emissions by 167.2 MTCO2e by 2021. A reduction of over 16,000 Gallons of fuel allowed the City to see gains that also include $151,688 in cost savings.

Adding electric vehicles to the fleet would further the gains shown in this report as Scope 2 emission in Upstate New York emit far less MTCO2e per unit than gasoline or diesel.

Street Lighting:

North Tonawanda's street lighting accounted for the least amount of GHG emissions during the study period. By 2021 this category only accounted for 5% of the City's total GHG emissions. Lighting improvements resulted in 135.1 MTCO2e less emissions from street lights. Converting any remaining street lights or traffic signals to LED would be a natural next step to further reduce energy consumption in this category.

Additional gains could be made by offsetting the City's lighting energy usage with renewable energy.

Municipal Buildings:

Recently completed energy efficiency projects, including lighting upgrades and systems controls, at the Department of Public Works are great examples of how energy project can help reduce emissions while also addressing operational costs at a facility. The City should look for additional opportunities to implement measures that were identified through previously completed energy audits, or plan to have energy audits performed at all City facilities to help identify energy and cost saving measures.

It is also noteworthy that some emissions reductions may have resulted from shifts in operations due to the COVID-19 pandemic. Where possible, changes that had a positive impact on GHG emissions should be considered on a more permanent basis moving forward. Some examples are remote work opportunities, staggered work schedules, and reduced operations where it may apply.

Taking Additional Action:

While the wastewater treatment facility warrants the most immediate attention, there are other additional next step North Tonawanda can take to better understand energy use trends and reduce GHG emissions from government operations. The following recommendations are offered as next steps to support the City's climate smart efforts:

Benchmarking Energy Usage at Municipal Buildings Annually

The City adopted an energy benchmarking policy for municipal buildings in 2021. It is important to complete the annual benchmarking in order to measure energy consumption, the impact of any energy efficiency measures that may be implemented, as well as identifying trends that may warrant further analysis and/or intervention.

Conduct Energy Audits at Municipal Facilities

Detailed energy audits of city owned facilities will allow leadership to identify the most cost effective ways to address energy related issues across the City's building portfolio. Buildings contain heating, ventilation and air conditioning (HVAC) equipment, lighting, information technology equipment, appliances, motors, and pumping equipment. All of these consume energy and provide many opportunities for improved energy efficiency and cost savings. NYSERDA's Clean Energy Communities program offers several best practice avenues to enhance energy efficiency of municipal buildings and can provide further inspiration to the City of North Tonawanda.

Reinvest Savings from Energy Efficiency Improvements

While energy efficiency improvements often pay for themselves over time, the upfront cost may limit the City's ability to implement them in municipal facilities. North Tonawanda should consider using the savings from energy efficiency improvements to create a revolving fund to finance future improvements.

Develop and Maintain a Fleet Inventory

Creating a fleet inventory and updating it on a regular basis can help the City enforce a fleet efficiency policy, if adopted (see below), as well as provide the information needed to "right-size" the fleet (see below). Keeping detailed records of the mileage and gasoline/diesel fuel usage of each vehicle will also aid the development of the next greenhouse gas inventory.

Adopt a Fleet Efficiency Policy

Fleet efficiency policies establish minimum efficiency standards for the municipal fleet, which should be periodically revisited. These policies ensure that the least efficient vehicles are replaced first, and by vehicles that are much more efficient, thus increasing the average fuel efficiency of the municipal fleet over time. These policies can also include provisions for replacing traditional vehicles with battery-electric or plug-in hybrid vehicles, which are increasingly common in the marketplace, and with incentives, can actually have a lower upfront cost than traditional vehicles. For example, the NYS Department of Environmental Conservation (DEC) offers rebates of up to $7,500 per vehicle (depending on electric range) for the purchase or lease of a battery-electric or plug-in hybrid vehicle for municipal fleet use. Battery-electric and plug-in hybrid vehicles also have lower maintenance costs over their lifetimes than traditional vehicles, which can save the City money in the long run.

"Right-Size" the Fleet

The City should consider the needs of each department as requests to purchase vehicles are made. The vehicle fleet shows that the City owns and operates a large fleet of heavy duty vehicles including Garbage Trucks, Fire Trucks, Streets services, and freightliners. Many of the City's light duty vehicles are pickup trucks with only a small number of sedans in use outside of the police department. In many instances there may be opportunities to replaces these vehicles with smaller, more fuel efficient vehicles based on departmental needs. The City could also consider reducing the number of vehicles in the municipal fleet by evaluating the usage of each vehicle and determining whether vehicles could be shared between departments or eliminated from the fleet entirely.

Appendix A: City of North Tonawanda Fleet Inventory

City of North Tonawanda Vehicle List					
Department	**Model Year**	**Make**	**Model**	**Fuel Type**	**Vehicle Type**
Parks & Recreation	2012	Ford	150	Gasoline	Pickup
Parks & Recreation	2020	Ford	150	Gasoline	Pickup
Parks & Recreation	2013	Ford	150	Gasoline	Pickup
Parks & Recreation	2001	Dodge	Truck	Gasoline	Pickup
Parks & Recreation	2013	Ford	150	Gasoline	Pickup
Parks & Recreation	2006	Ford	Dump Truck	Diesel	Heavy Duty
Parks & Recreation	2021	Ford	250 HD Crew	Gasoline	Pickup
Parks & Recreation	2003	Ford	350	Gasoline	Pickup
Parks & Recreation	1993	Ford	350	Gasoline	Pickup
Parks & Recreation	2015	Ford	Dump Truck	Diesel	Heavy Duty
Parks & Recreation	2003	Ford	150	Gasoline	Pickup
Parks & Recreation	2003		Pickup	Gasoline	Pickup
Parks & Recreation	2011	Dodge	Van	Gasoline	Van
Parks & Recreation	2015	Ford	250	Gasoline	Pickup
Parks & Recreation	2016	Ford	Garbage	Diesel	Heavy Duty
Police	2020	Ford	Explorer	Gasoline	SUV
Police	2018	Ford	Explorer	Gasoline	SUV
Police	2018	Ford	Explorer	Gasoline	SUV
Police	2020	Ford	Explorer	Gasoline	SUV
Police	2020	Ford	Explorer	Gasoline	SUV
Police	2020	Ford	Explorer	Gasoline	SUV
Police	2016	Ford	Explorer	Gasoline	SUV
Police	2018	Ford	Explorer	Gasoline	SUV
Police	2017	Ford	Explorer	Gasoline	SUV
Police	2016	Chevy	Tahoe	Gasoline	SUV
Police	2017	Chevy	Impala	Gasoline	Sedan
Police	2018	Ford	Explorer	Gasoline	SUV
Police	2017	Ford	Explorer	Gasoline	SUV
Police	2017	Ford	Explorer	Gasoline	SUV
Police	2012	Chevy	Impala	Gasoline	Sedan
Police	2016	Ford	Explorer	Gasoline	SUV
Police	2018	Ford	Explorer	Gasoline	SUV
Police	2017	Chevy	Impala	Gasoline	Sedan
Police	2015	Chevy	Impala	Gasoline	Sedan
Police	2010	Chevy	Impala	Gasoline	Sedan
Police	2015	Chevy	Impala	Gasoline	Sedan
Police	2010		OSHKO - Armored	Diesel	Heavy Duty
Police	2019	Ford	FORD - SWAT	Diesel	Heavy Duty
Police	2008		KI/CP – Trailer		Trailer
Police	2016	Chevy	Impala	Gasoline	Sedan
Police	2016	Chevy	Impala	Gasoline	Sedan
Police	2016	Chevy	Impala	Gasoline	Sedan

Police	2013	Chevy	Tahoe	Gasoline	SUV
Fire	2018	Chevy	Tahoe	Gasoline	SUV
Fire	2018	Ford	F550-Light Rescue	Diesel	Heavy Duty
Fire	2008		Sutphen Aeriel Platform	Diesel	Heavy Duty
Fire	2015		Sutphen Pumper	Diesel	Heavy Duty
Fire	2019		Rosenbauer Pumper	diesel	Heavy Duty
Fire	2002		Ferrara Pumper	diesel	Heavy Duty
Fire	2000		Pierce Pumper	diesel	Heavy Duty
Fire	1993		Ferrara Pumper	diesel	Heavy Duty
Fire	2007	Ford	Ford Light Rescue	diesel	Heavy Duty
Fire	2018	Chevy	Tahoe	gasoline	SUV
Fire	2010	Chevy	Impala	gasoline	Sedan
Fire	2010	Chevy	Suburban	gasoline	SUV
Fire	2019	Ford	Ford F250	gasoline	SUV
Fire	2008	Chevy	Suburban	gasoline	SUV
Fire	2015	Chevy	Tahoe	gasoline	SUV
Fire	2005	Ford	Excursion	gasoline	SUV
Fire	1999	Chevy	Suburban	gasoline	SUV
Fire	2020	Ford	Transit 250	gasoline	SUV
Fire	2019	Kawasaki	Kawasaki Mule Pro-Mix	gasoline	Cart
Fire	1994		Avon Inflatable Boat	gasoline	Boat
Fire	1991		Ambulance	diesel	Heavy Duty
Fire	2008	Chevy	2500HD	gasoline	Pickup
Fire	1991		Grady White	gasoline	Boat
DPW	2019	Chevy	Tahoe	gasoline	SUV
DPW	2011	Ford	F250	gasoline	Pickup
DPW	2019	Chevy	Silverado Pickup Truck	gasoline	Pickup
DPW	2003	Ford	Truck Pick Up-4x4	gasoline	Pickup
DPW	1992	Chevy	Truck Pick Up	gasoline	Pickup
DPW	2001	Ford	F350	gasoline	Pickup
DPW	2009	GMC	Dump Truck	gasoline	Heavy Duty
DPW	2007	Dodge	RAM2500	gasoline	Pickup
DPW	2001	GMC	GMC	gasoline	Pickup
DPW	2005	Ford	Ford	gasoline	Pickup
DPW	2001	Volvo	Excavator Compact-EC45	diesel	Heavy Duty
DPW	2011	Ford	F150	gasoline	Pickup
DPW	2013		Freightliner	diesel	Heavy Duty
DPW	1999	Dodge	2500	gasoline	Pickup
DPW	2006	Chevy	Chevrolet	gasoline	Van
DPW	2018	Ford	F450	gasoline	Pickup
DPW	2007	Dodge	RAM2500	gasoline	Pickup
DPW	1997	Ford	Super Duty	diesel	Heavy Duty
DPW	1999		LOE F-78		Trailer
DPW	2011	Ford	F250	gasoline	Pickup
DPW	2008	Ford	Bus	diesel	Heavy Duty
DPW	2013		Freightliner F06156	diesel	Heavy Duty
DPW	2004	Ford	F150	gasoline	Pickup

DPW	2007	Dodge	RAM2500	gasoline	Pickup
DPW	2009	Ford	Ford	gasoline	Van
DPW	2007		International-7400 4x2	diesel	Heavy Duty
DPW	2010		Hamm VD90V0	diesel	Heavy Duty
DPW	2018		Hamm-HMHD10C	diesel	Heavy Duty
DPW	2018		Towmaster Trailer		Trailer
DPW	2018		Freightliner M2106	diesel	Heavy Duty
DPW	2007	Volvo	VHD64B	diesel	Heavy Duty
DPW	2007	Volvo	VHD64B	diesel	Heavy Duty
DPW	2007	Volvo	VHD64B	diesel	Heavy Duty
DPW	2010	Ford	Truck-Aerial Bucket	diesel	Heavy Duty
DPW	2002		Bobcat-Load Skid	diesel	Heavy Duty
DPW	2011	Ford	F-450 Stake	gasoline	Pickup
DPW	2011		Case-SV250	diesel	Heavy Duty
DPW	2007		International-4300	diesel	Heavy Duty
DPW	1981		International	diesel	Heavy Duty
DPW	2020		Freightliner-M2106	diesel	Heavy Duty
DPW	2007	Ford	F550	gasoline	Pickup
DPW	2014		Freightliner-M2106	diesel	Heavy Duty
DPW	2017		Freightliner-M2106	diesel	Heavy Duty
DPW	2019		Freightliner-M2106	diesel	Heavy Duty
DPW	2019		Freightliner-M2106	diesel	Heavy Duty
DPW	2019		Freightliner-M2106	diesel	Heavy Duty
DPW	2006		International-4300	diesel	Heavy Duty
DPW	2006		International-7400	diesel	Heavy Duty
DPW	2007		International-7400 4x2	diesel	Heavy Duty
DPW	2005		International-7400 SBA	diesel	Heavy Duty
DPW	2010		International-7400 SBA	diesel	Heavy Duty
DPW	2019		Chevrolet-3500	gasoline	Pickup
DPW	2005		Freightliner-M2106	diesel	Heavy Duty
DPW	2020		Case 221F	diesel	Heavy Duty
DPW	1997		Caterpillar	diesel	Heavy Duty
DPW	2012		Case W/Grout Pump	diesel	Heavy Duty
DPW	2006		Hyundai R140LV-2	diesel	Heavy Duty
DPW	1988		Kelly-paint machine	diesel	Heavy Duty
DPW	2001		Caterpillar	diesel	Heavy Duty
DPW	2012		Case 721F	diesel	Heavy Duty
DPW	2018		Case S721G	diesel	Heavy Duty
DPW	2006	Hyundai	HL740-7	diesel	Heavy Duty
DPW	2017		Willi	diesel	Heavy Duty
DPW	2012		International-4300 SBA	diesel	Heavy Duty
DPW	2021		Freightliner M2106	diesel	Heavy Duty
DPW	2015		Freightliner M2106	diesel	Heavy Duty
DPW	2017		Vogel	diesel	Heavy Duty
DPW	2002		Tailift-FG25F	diesel	Heavy Duty
DPW	2015		Freightline Catch Basin	diesel	Heavy Duty
DPW	2020		Western Star	diesel	Heavy Duty

DPW	2018	Chevy	3500	gasoline	Pickup
DPW	2017	Chevy	3500HD	gasoline	Pickup
DPW	2015		Case 590SN	diesel	Heavy Duty
DPW	2003		CAM	diesel	Heavy Duty
DPW	1992		Redi Haul	diesel	Heavy Duty
DPW	1993		Winston 20 Ton		Trailer
DPW	2011	Ford	Ford F450	gasoline	Pickup
DPW	2011		Komatsu D37PX-22	diesel	Heavy Duty
DPW	2021		Western Star	diesel	Heavy Duty
DPW	2019		Western Star -4700SF	diesel	Heavy Duty
DPW	2009		Peterbilt-367	diesel	Heavy Duty
DPW	2012		International-7500 SFA	diesel	Heavy Duty
DPW	2014		Freightliner CT11406	diesel	Heavy Duty
DPW	2007		Volvo-VHD64F	diesel	Heavy Duty
DPW	2008		Sterling-Vactor 2100J4	diesel	Heavy Duty
DPW	1998	Volvo		diesel	Heavy Duty
DPW	1992		Stone/Roscow/trailer	diesel	Heavy Duty
DPW	2003		Freightliner F180	diesel	Heavy Duty
DPW	2011		Wacker Neuson -WL-30	diesel	Heavy Duty
DPW	2002		Holder C9-72	diesel	Heavy Duty
Water Distribution	1998	Ford	Ford	diesel	Heavy Duty
Water Distribution	2002	Ford	Ford	diesel	Heavy Duty
Water Distribution	2020		PJTRA		Trailer
Water Distribution	2022	Peterbilt	Dump Truck	diesel	Heavy Duty
Water Distribution	2008	Ford	Pick Up Truck	diesel	Pickup
WW/WWTP	2001		Arsenal		Trailer
WW/WWTP	2005	Ford	Dump Truck	diesel	Heavy Duty
WW/WWTP	2005		New Holland	diesel	Heavy Duty
WW/WWTP	2016	Ford	F-250	gasoline	Pickup
WW/WWTP	2014	Ford	F-250	gasoline	Pickup
Engineer	2012	Ford	Van	gasoline	Van
Engineer	2014	Chevy	Suburban	gasoline	SUV
Code Enforcement	2008	Ford	Focus	gasoline	Sedan
Code Enforcement	2008	Ford	Focus	gasoline	Sedan
Building Department	2010	Ford	Focus	gasoline	Sedan
Assessor	2011	Ford	Focus	gasoline	Sedan
Building Maintenance	2009	Ford	Pick up	gasoline	Pickup
Building Maintenance	2016	Ford	Pick up F-25	gasoline	Pickup