

IDLING REDUCTION PROGRAMS FOR THE CHICAGO METROPOLITAN AREA

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EXECUTIVE SUMMARY

The Clean Air Counts Initiative is a public/private partnership that has a goal of improving air quality in the Chicago metropolitan area. Clean Air Counts has asked the Illinois Sustainable Technology Center to evaluate municipal lead programs to reduce idling. Idling refers to the practice of operating a motor vehicle engine when the vehicle is not moving. While necessary at times, idling often produces little or no discernable benefit. However, idling vehicles consume fuel and produce VOC and NO_x emissions, which contribute to smog formation. Reducing idling can be a straightforward approach to achieving lower fuel consumption and improved air quality. A municipal idling reduction program can also enhance community image and improve community health.

There is a wealth of educational and promotional materials on the subject of idling readily available to municipalities. For example, the United States Environmental Protection Agency (EPA) and the Illinois Environmental Protection Agency (IEPA) sponsor the Clean School Bus USA and Illinois Clean School Bus programs, respectively. The United States Department of Energy's National Idling Reduction Network identifies workable solutions to heavy vehicle idling. The American Society of Mechanical Engineer's Florida Section and Natural Resources Canada have both worked on dispelling myths that encourage idling.

This paper presents two approaches for municipal lead idling reduction programs. The first involves establishing an internal policy to reduce emissions from the municipal fleet. Establishing and adhering to a written fleet idling policy demonstrates leadership and provides an example for the public to follow. The City of Chicago and Forest Preserve District of DuPage County both have idling reduction policies. Other municipalities can use these policies as models.

In the second approach, municipalities sponsor a public awareness campaign to educate local citizens on idling issues. Due to schools' high vehicular traffic density, targeting drivers around these education facilities is a practical way to begin a campaign. The Village of Lombard has placed anti-idling signs in its municipal yard, commuter train station and all of its schools. These signs encourage all drivers to minimize idling. Municipalities may also find willing program partners with bus companies like Cook Illinois Company.

I. INTRODUCTION

The Clean Air Counts Initiative is a public/private partnership that has a goal of improving air quality by reducing emissions of smog precursors, such as nitrogen oxides (NO_x) and volatile organic compounds (VOCs) in the Chicago metropolitan area.* Numerous businesses, organizations, local governments and citizens have joined Clean Air Counts and adopted strategies to reduce these air emissions. These strategies include using low VOC paints, low VOC cleaners and energy efficient lighting.¹ Clean Air Counts tracks the implementation of these strategies and quantifies the resulting reductions in air emissions to the Chicago metropolitan area.

Seeking to go beyond the current initiative strategies, local government participants are exploring municipal policy options that can further reduce smog precursors in their communities. Specifically, Clean Air Counts asked the Illinois Sustainable Technology Center to help identify and evaluate policies to reduce vehicle idling. Idling refers to the practice of operating a motor vehicle engine when the vehicle is not moving. Drivers may choose to idle their motor vehicles in the winter to warm them up, while waiting to pick someone up outside of a school, while unloading cargo or in a situation that requires frequent starting and stopping, such as a drive-through. While necessary at times to power heating and air conditioning or electronic and communication equipment in emergency vehicles, idling often produces little or no discernable benefits. However, idling vehicles consume fuel and produce VOC and NO_x emissions, which lead to smog formation. Reducing idling can be a “low hanging fruit” approach to lowering fuel consumption and improving air quality.

There are several benefits to implementing idling reduction programs that target either municipal employees or drivers in the community. Reducing idling from fleet vehicles reduces fuel consumption and wear and tear. Less idling also leads to reductions in smog precursor emissions and thus may reduce respiratory ailments. These programs can also be used to reduce carbon emissions and their resultant impacts on climate. Furthermore, municipalities may adopt idling reduction programs as part of their efforts to be environmentally responsible or green. These programs can be very popular with residents.

Benefits Of Reducing Idling
✓ Reduced fuel consumption
✓ Environmental protection
✓ Enhanced community image
✓ Improved community health

As they develop a program, municipalities should review existing educational resources and learn from successful programs. There are many approaches that a municipality can take with respect to reducing idling. Programs can be broad in scope covering everyone and all types of vehicles, or they may be more focused. This paper suggests two focused approaches for program implementation. The first involves establishing an internal policy to reduce emissions from municipal fleets. Establishing policies and practices by municipal employees sets a good example and demonstrates leadership to the public. The second approach involves conducting a public awareness campaign to reduce idling in the community as a whole. It is recommended

* The Chicago Metropolitan Region refers to Cook, Du Page, Kane, Lake, McHenry and Will Counties.

that municipalities began their public awareness campaigns by partnering with local education facilities. These approaches are discussed in more detailed in Section III.

II. IDLING PROGRAM RESOURCES

As a starting point, municipalities that wish to implement an idling reduction program should review existing resources. A summary of potentially useful online resources is given in Appendix A. Readers that are interested in quantifying emissions from idling vehicles should refer to a campaign document entitled *Estimating Smog Precursor Emissions From Idling Vehicles In The Chicago Metropolitan Area*.

A. State Of Illinois Anti-Idling Statute

An Illinois statute (Public Act 094-0845) to prevent the idling of diesel vehicles provides a starting point for idling policies. The statute limits idling of diesel vehicles weighing at least 8,000 lbs. to 10 minutes within any 60 minute period in the Metropolitan Chicago and Metropolitan East St. Louis areas when the temperature is between 32 and 80°F. However, there are a number of exceptions to the law, which are listed in Appendix B.

Because the State of Illinois statute is narrowly focused, there is a need for municipalities to establish idling programs. While it has a Clean School Bus Program, the State of Illinois has not attempted to educate the public at large on reducing idling. Also, the Illinois statute does not apply to either small diesel or gasoline powered vehicles even though these vehicles also generate emissions due to idling.

B. State and National Educational Programs

There are several national programs that have educational resources that local governments can use when implementing idling reduction programs. The Illinois Clean School Bus Program provides promotional materials, such as presentations, posters, CD's and factsheets targeted to local schools and busing companies.² The Illinois Environmental Protection Agency (IEPA) sponsors this program. Clean School Bus USA, administered by the U.S. Environmental Protection Agency (EPA), provides additional educational resources along with grant funding for school bus retrofits and replacements.³

The EPA's SmartWay Transport is a voluntary partnership between various freight industry sectors that establishes incentives for fuel efficiency improvements and greenhouse gas emissions reductions.⁴ There are three primary components of the program: creating partnerships, reducing all unnecessary engine idling, and increasing the efficiency and use of rail and intermodal operations. SmartWay has compiled a list of state and vehicle laws cataloguing the variety of existing and proposed idling laws.⁵ The U.S. Department of Energy's National Idling Reduction Network brings together trucking and transit companies, railroads, equipment manufacturers, local, state and federal government agencies (including regulators), and national research laboratories to identify consistent, workable solutions to heavy vehicle idling for the entire United States.⁶

Even if they do not realize it, some municipalities may have committed to reducing idling. For example, idling is a component of the U.S. Mayors Climate Protection Agreement, which seeks

to meet or exceed Kyoto Protocol targets for reducing global warming pollution. Signatories to the agreement have pledged to take several actions in their operations and communities, including launching an employee education program concerning idling. Over 800 mayors, 23 of whom represent towns in the Chicago metropolitan area, have signed the agreement as of July 17, 2008.⁷

C. Dispelling Idling Myths

Several groups have focused on educating drivers of passenger vehicles and dispelling myths that encourage idling, such as:

- (1) A car should idle before driving to warm it up
- (2) Idling a vehicle is more fuel-efficient than restarting it.

Through field tests, the American Society of Mechanical Engineers Florida Section showed that restarting a car with a six-valve (V6) engine consumes approximately the same amount of fuel as idling for five seconds.⁸ Several other environmental groups advocate for either a “10-second” or a “30-second” rule. Natural Resources Canada (A Canadian Government Agency) stresses that idling is not an effective way to warm up a car. Even in winter, only 30 seconds is needed to warm the car’s engine. Other vehicle parts, such as the axles, do not warm up until the vehicle is driven.⁹

III. PROGRAM IMPLEMENTATION

This section presents two approaches for municipal lead idling reduction programs. The first involves establishing an internal policy to reduce emissions from the municipal fleet. In the second, municipalities take the lead in creating public awareness campaign.

A. Municipal Fleet Policies

For municipalities that are seeking to “practice what they preach”, establishing a written policy to govern fleet vehicles is an appropriate place to begin when creating an idling reduction program. Reducing idling from fleet vehicles conserves fuel, extends the life of the vehicles and is a benefit to the environment. Establishing and adhering to a written fleet policy demonstrates leadership and provides an example for the public to follow.

Ideally, an idling reduction policy should contain the following components:

- Cover all vehicles operated by the municipality and its contractors.
- State an acceptable maximum allowable idle time (0 –5 minutes).
- Provide provisions for extreme weather.
- Provide provisions for vehicles with specialized equipment, such as emergency vehicles.
- Have an effective and efficient way to measure the policy’s effectiveness.
- Provide a means of informing employees of the policy’s requirements and effectiveness.

The City of Chicago’s Fleet Management Department and Forest Preserve District of DuPage County have written policies that can be used as models for other local governments. Both

policies limit idling to 5 minutes in a 60-minute period if the outside temperature is between 40 and 80°F. The City of Chicago provides exceptions for emergency service vehicles, vehicles standing in traffic and airport support equipment. The Forest Preserve District policy does not apply to emergency incidents vehicles, vehicles whose batteries may be discharged because of onboard auxiliary equipment (i.e., emergency lights, radar, computers, etc.) and several other special situations. These policies can be found in Appendix C and Appendix D.

There are policies that are more stringent than those of the City of Chicago and the Forest Preserve District of DuPage County. Omaha, Nebraska limits start-up or warm-up idling to five minutes unless the temperature is below 15°F for fleet. Also, vehicles are to be turned off when parked unless it is necessary for them to run because of operational or emergency needs.¹⁰ In Cleveland, the policy is that no city vehicle or piece of equipment is to be idled in a non-emergency situation. Exemptions include police vehicles working traffic enforcement, emergency vehicles, and during inclement weather.

Cities have very diverse vehicles. Some operate waste collection programs. In Abilene, Texas a specific focus was reducing fuel use in garbage trucks. This shows that a municipality can start their program with one department and expand it from there. In Abilene the City's Solid Waste Services Division equipped their refuse collection trucks with operate-in-gear-at-idle systems. With these systems the engines operate at greatly reduced revolutions per minute. They use a larger hydraulic pump that produces the flow needed to load and compact refuse at standard idling speeds. This reduces fuel usage and engine wear. Without this technology truck operators must shift the transmission and throttle. Compared to vehicles that did not have this technology, fuel consumption was reduced between 15 to 20%. They are also less noisy. The time saved with this technology is also significant.¹¹ Thus, vehicle retrofit technologies can help reduce both emissions from idling and from driving.

The Police Department in Wood Dale Illinois established a program to reduce excessive idling and travel in 2007. The Wood Dale policy, dated January 1, 2007 prohibits idling of police department owned vehicles when the vehicle is not moving or when vehicles are not performing work for a period of time greater than five minutes in any one-hour period. The Wood Dale policy specifies that it is not acceptable to idle a police department vehicle under the following conditions:

- When the vehicle is parked in and around the police station
- When the vehicle is parked at a location during a call for service
- When the vehicle is parked at a place of business during a break
- When the vehicle is parked during the running of radar at a set location

Disciplinary action may be taken if vehicles are observed idling unnecessarily.

The Police Department tracks gasoline usage and miles driven on a monthly basis (Figure 2). Average fuel efficiency (measured in miles per gallon) is used to track compliance with the idling policy. The Department regularly communicates the fuel efficiency data to staff.

Employees are frequently reminded not to add unnecessary miles to vehicles and to be logical in their random patrol efforts.¹²

Wood Dale provides a method to track compliance with idling reduction policies. Because most municipalities have the ability to track miles driven and fuel purchases, fuel efficiency can be easily calculated on a periodic basis. If fuel efficiency drops over time, employees can be reminded to adhere to the idling policy. Of course, other factors such as changes in driving conditions (i.e. highway versus local streets) or new vehicle purchases, affect fuel efficiency. Therefore, while fuel efficiency may be the most appropriate measure for adherence with idling reduction policies, it is not completely conclusive. On the other hand, widespread adherence to an idling reduction policy will undoubtedly help municipalities maximize their fuel efficiency and thus minimize vehicular emissions and reduce fuel purchase costs.

Figure 2: Wood Dale Police Department's Fuel Efficiency Tracking Metric



B. Partnering With The Local Schools

Partnering with educational facilities is a practical way to begin a public awareness campaign. A typical school receives a large amount of vehicular traffic during a school day, not only from buses but also from delivery vehicles and automobiles of the relatives of the children. Therefore, an idling reduction campaign at schools would extend beyond the campus and into the community. Focusing on educational facilities could be a cost effective way to reach a diverse group of drivers. Furthermore, epidemiologic and clinical investigations have suggested a strong link between particulate air pollution and detrimental health effects, including cardiopulmonary morbidity and mortality. Other studies have shown that proximity to traffic is risk factor for wheezing, asthma severity, outcomes and prevalence.¹³ For this reason, school-based idling reduction campaigns can have a significant impact on community health.

The Village of Lombard, Illinois has implemented a practical public awareness campaign from which others can learn. In 2007, Lombard worked with its local schools to determine strategic

locations where vehicles often idle while waiting to pick-up children (Figure 2). Lombard also extended the program to their commuter rail station (Figure 3). In total, the village purchased 30 signs for approximately \$900 (Figure 4). Interestingly, the Lombard program is paying dividends beyond its target audiences at the schools and commuter rail station. Dave Gorman, Assistant Director of Public Works, has said that the department used less fuel in June 2008 than it did in May even though it logged in an additional 3,000 miles. Mr. Gorman believes that while hanging the signs, his department's employees internalized the idling reduction message.¹⁴ In addition, Lombard has placed a sign in the municipal yard to reinforce this message.

Municipalities may find that school bus companies are willing partners in idling reduction programs. Many bussing companies have adopted idling reduction policies because of the Illinois statute that restricts the idling of passenger buses in the Metropolitan Chicago and Metropolitan East St. Louis areas (see Appendix B). For example, Cook Illinois Corporation has an active idle reduction policy. According to company owner John Benish Jr., "Anti-idling is a win-win situation for the environment and the fuel it saves".^{15,16} Cook Illinois Corporation is providing anti-idling key chains for all its drivers this fall to serve as a constant reminder to keep idling to a minimum. Cook Illinois Corporation transports approximately 400,000 children daily, operates 1,900 schools buses and is headquartered in Oak Forest, IL.

C. Limiting Idling in Traffic With Hybrid Vehicles

Vehicle procurement can also play a role in reducing emissions from idling. Unlike their conventional counterparts, hybrids turn off their engines when not in motion. Therefore, hybrid vehicles inherently have lower idling profiles. Hybrid automobiles have been readily available for several years. Now, diesel hybrid passenger buses are available too. Reduced idling emissions might provide another incentive, in addition to fuel savings, to invest in hybrids.

Figure 2: Anti-Idling Sign Posted In the Parking Lot at Madison Elementary School



Figure 3: Anti Idling Sign Posted Outside of a Commuter Rail Station in Lombard, IL



Figure 4: Village of Lombard's Anti-Idling Sign



IV. CONCLUSION

There are many benefits to implementing a municipal idling reduction program, including reduced fuel consumption, environmental protection, enhanced community image and improved community health. Establishing and adhering to a written fleet idling policy demonstrates leadership and provides an example for the public to follow. Municipalities can expand their program by sponsoring a public awareness campaign to educate citizens and convince them to act on idling issues.

Municipalities desiring to promote idling reduction should take advantage of existing resources and information while tailoring a program to its individual community. For example, the EPA and IEPA sponsor the Clean School USA and Illinois Clean School Bus programs, respectively. The DOE also sponsors the National Idling Reduction Network. These programs have made available a wealth of educational and promotional materials. Municipalities can use the policies of their peers as models. Municipalities can also learn from the Wood Dale Police Department's measurement program. They track fuel efficiency, in part, as a way to determine department wide compliance with their idling policy. They also report this data to staff monthly as a way to remind them of the policy.

Targeting drivers around schools is a practical way to begin a public awareness campaign due to the high vehicular traffic density and diversity of drivers. Municipalities may find willing partners with bus companies and other groups. This program can be as simple and inexpensive as placing signs in strategic locations such as the Village of Lombard has done. These signs remind school bus drivers of their legal requirements with respect to idling and encourage all drivers to minimize this practice. This approach is not limited to schools. It can be applied to other locations in the community where people or goods are picked up or dropped off. This includes parks, sporting and entertainment arenas, commuter train stations, shopping centers and warehouses among others.

By starting with municipal operations and expanding idling reduction programs to the community, municipalities can play an important role in reducing emissions, lowering fuel consumption and improving air quality for its citizens. Idling reduction programs can complement other sustainability programs and help reinforce a conservation ethic in the community.

APPENDIX A: IDLING REDUCTION PROGRAM RESOURCES

Program	Sponsor	Website
Clean Air Counts	Metropolitan Mayors Caucus	www.cleanaircounts.org
Illinois Clean School Bus Program	IL Environmental Protection Agency	www.epa.state.il.us/air/cleanbus
Clean School Bus USA	US Environmental Protection Agency	www.epa.gov/cleanschoolbus
SmartWay Transport	US Environmental Protection Agency	www.epa.gov/smartway
National Idling Reduction Network	US Department of Energy	www1.eere.energy.gov/vehiclesandfuels/resources/fcvt_national_idling.html
Idle Myths	Natural Resources Canada	oee.rncan.gc.ca/transportation/business/documents/idling-newsletters/spring2003.cfm?attr=8#myths
Compilation of State, County, and Local Anti-Idling Regulations	US Environmental Protection Agency	www.epa.gov/otaq/smartway/documents/420b06004.pdf
The U.S. Mayors Climate Protection Agreement	The United States Conference of Mayors	usmayors.org/climateprotection/documents/mcpAgreement.pdf
Diesel Technology Forum	Trade Association	http://www.dieselforum.org/

APPENDIX B: ILLINOIS LAW TO REDUCE IDLING OF DIESEL VEHICLES

[Public Act 094-0845, IL Vehicle Code §11-1429]

An Illinois statute to prevent the idling of diesel vehicles provides a starting point to communities seeking to implement an anti-idling policy.* The Act limits the idling of diesel vehicles weighing at least 8,000 lbs. to 10 minutes within any 60 minute period in the Metropolitan Chicago and Metro East St. Louis areas. However, there are a number of exceptions to the law.

Affected areas	The law only applies to diesel vehicles in operation in the counties of Cook, DuPage, Lake, Kane, McHenry, Will, Madison, St. Clair, or Monroe or the townships of Aux Sable and Goose Lake in Grundy County and the township of Oswego in Kendall County.
Temperature limitations	The anti-idling provisions only take effect when the outdoor temperature is not less than 32 degrees and not greater than 80 degrees.
Passenger bus provision	Passenger buses, including school buses and tour buses, may idle a maximum of <u>15 minutes</u> in any 60 minute period to maintain passenger comfort only while non-driver passengers are on board.
Weighing, loading, and unloading cargo and freight	While waiting to weigh, load, or unload cargo or freight, the operator may not idle for a period longer than <u>30 minutes</u> unless the vehicle is in a line of vehicles that regularly and periodically moves forward.
Electric utility vehicles	Electric utility vehicles may idle when operated for electricity generation or hydraulic pressure to power equipment necessary in the restoration, repair, modification or installation of electric utility service.
Sleeping berths	If the motor vehicle has a sleeping berth, idling is allowed when the operator is occupying the vehicle during a rest or sleep period and idling of the vehicle is required to operate air conditioning or heating.
Auxiliary equipment	When idling of the motor vehicle is required to operate auxiliary equipment to accomplish the <u>intended use of the vehicle</u> (such as loading, unloading, mixing, or processing cargo; controlling cargo temperature; construction operations; lumbering operations; oil or gas well servicing; or farming operations), provided that this exemption does <i>not</i> apply when the vehicle is idling solely for cabin comfort or to operate non-essential equipment such as air conditioning, heating, microwave ovens, or televisions [however, defrosters, heaters and air conditioners may be operated to prevent a <u>safety or health emergency</u>].

* Available online at <http://www.ilga.gov/legislation/publicacts/fulltext.asp?Name=094-0845>

<p>Other exceptions (Idling allowed)</p>	<ul style="list-style-type: none"> • <u>Government inspections and maintenance/service/repair/diagnosis</u> of vehicles when idling is necessary for such purpose. • <u>Armored vehicles</u> being loaded or unloaded or when a person remains inside to guard the contents of the vehicle. • <u>Mechanical difficulties</u>, over which the driver has no control, cause idling. • <u>Auxiliary power units</u> or generator sets may operate as an alternative to idling the main engine. • The motor vehicle idles while <u>forced to remain motionless</u> because of on-highway traffic, an official traffic control device or signal, or at the direction of a law enforcement official. • A police, fire, ambulance, public safety, other emergency or law enforcement motor vehicle, or any motor <u>vehicle used in an emergency capacity</u>, idles while in an emergency or training mode and not for the convenience of the vehicle operator. • The vehicle is operated as <u>airport ground support equipment</u>.
<p>Fines</p>	<p>Violation of the law is a petty offense and results in a fine of <u>\$50 for the first conviction</u> and <u>\$150 for a second</u> or subsequent conviction within any 12 month period.</p> <p>Fines apply only to the operator of the motor vehicle and do <i>not</i> apply to the owner of a motor vehicle rented or leased to another entity or person operating the vehicle.</p>

APPENDIX C: WOOD DALE POLICE DEPARTMENT VEHICLE ANTI-IDLING POLICY



I. PURPOSE

A. Air pollution is a major public health concern in Northeastern Illinois. The six county Chicago region is currently designated as non-attainment for the one-hour Federal ozone standard. Air pollution can cause or aggravate lung illnesses such as acute respiratory infections, asthma, chronic bronchitis, emphysema, and lung cancer. In addition to health impacts, air pollution imposes significant economic costs and negative impacts on our quality of life (nuisance).

B. Exhaust from vehicles (both on- and off-road) is a substantive source of ozone precursors in the six county Chicago region. Vehicle exhaust is also a source of carbon monoxide, particulate matter, toxic air contaminants, and greenhouse gases. Although new engines have become leaner due to improved emission control technologies, the slow turn over in their inventory and the number of miles/hours these vehicles idle each year is hindering progress in improving regional air quality.

C. Public agencies can play an important role in improving air quality by limiting the amount of time engines are allowed to idle within their jurisdiction. Public agencies have the responsibility to lead the effort to improve air quality by adopting ordinances that are cost effective in reducing ozone precursor emissions and toxic air contaminants.

D. The City of Wood Dale created the Wood Dale Clean Air Counts Committee whose purpose is to promulgate initiatives designed to lessen air pollution emissions from the city proper.

E. The Wood Dale Police Department will assist in this endeavor by adopting this Vehicle Anti-Idling Policy.

II. POLICY

A. This operating procedure establishes a prohibition on the idling of police department owned vehicles when the vehicle is not moving or when the vehicles are not performing work for a period of time greater than five minutes in any one-hour period.

B. It will no longer be acceptable to leave a police department owned vehicle idling, (running), under the following conditions:

- 1) When the vehicle is parked in and around the police station;
- 2) When the vehicle is parked at a location during a call for service;
- 3) When the vehicle is parked at a place of business during a break; and
- 4) When the vehicle is parked during the running of radar at a set location.

It is understood that an emergency call for service may supersede this policy when time and necessity may be critical. Also, during times of extreme weather conditions; it may be essential to leave the vehicle running, (for the K-9 or arrestees kept in a squad). All incidents in violation of this standard operating procedure will be observed on a case by case basis.

IV. PROCEDURE

Police Department owned vehicles should never be left running longer than five minutes when stationary. Employees are ordered to turn off their engines when the vehicles are parked instead of idling.

APPENDIX D: CITY OF CHICAGO VEHICLE IDLING MANAGEMENT POLICY

The City of Chicago (“City”) utilizes a fleet of over 2,400 medium- and heavy-duty (diesel-powered) vehicles and more than 5,000 automobiles and light-duty (gasoline-powered) vehicles to carry out its municipal operations. Exhaust from these vehicles contains a variety of pollutants, such as Nitrogen Oxides, Carbon Monoxide, Carbon Dioxide, and other chemicals that form ground-level ozone (smog) and may contribute to global warming. These pollutants may aggravate respiratory ailments (like asthma), cause lung damage, and may lead to cancer.

Unnecessary idling of the City’s fleet wastes approximately 1 gallon of fuel per hour for diesel vehicles and roughly 0.75 gallons of fuel per hour for automobiles or light-duty vehicles. If the City’s fleet of vehicles were to idle for one hour per day, yearly emissions are estimated to approach 87 metric tons of Nitrogen Oxides, 390 metric tons of Carbon Monoxide, and 13,929 metric tons of Carbon Dioxide. From a cost perspective, the same amount of idling would result in approximately \$2,861,000 in unnecessary fuel expenditures.

Vehicle idling can also produce avoidable wear and tear on engines. Because an idling engine operates below its optimum temperature, residue deposits can form within the engine to reduce fuel efficiency by 5% and diminish engine life. Lower operating temperatures can cause premature corrosion damage to exhaust piping and mufflers.

The Chicago Vehicle Idling Management Policy is designed to improve air quality while realizing significant savings in fuel and operating costs.

Policy

1. No driver of a municipal vehicle shall cause or allow the vehicle to idle for a period of more than 5 minutes in a 60-minute period.
2. The policy shall not apply to:
 - Emergency service vehicles, such as fire apparatus, police vehicles, or ambulances;
 - Vehicles standing in traffic;
 - Airport support equipment;
 - Vehicles being serviced or repaired;
 - Idling when necessary to operate auxiliary equipment that is required to accomplish the intended use of the vehicle;
 - Idling to provide heat within the cab of the vehicle if the outside temperature is less than 40° F and there is no accessible temperature-controlled area within a reasonable distance; or
 - Idling to provide cooling within the cab of the vehicle if the outside temperature is more than 80° F, there is no accessible temperature-controlled area within a reasonable distance, and the vehicle is equipped with air conditioning.

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