



## EXCESSIVE IDLING OF HIGHWAY VEHICLES AT LONG ISLAND RAIL ROAD AND METRO-NORTH RAILROAD

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### INTRODUCTION

Over the course of thousands of hours each year, vehicles across America run their engines without moving an inch. These vehicles are “idling.” While as a practical matter some vehicle idling may be unavoidable, excessive idling almost literally burns money and contaminates the environment. According to the U.S. Department of Energy’s Argonne National Laboratory, vehicle idling throughout the country wastes six billion gallons of fuel each year at a cost of \$20 billion.

Not only does excessive vehicle idling burden the public with wasted fuel and noxious emissions, it is also prohibited under New York state law.<sup>1</sup> This law bans certain vehicles from idling for periods exceeding five minutes.

Further, our review of operating manuals for a number of the vehicles in the combined fleet of the Long Island Rail Road (LIRR) and Metro-North Railroad (MNR) revealed that excessive idling is generally discouraged by the manufacturers and can actually cause engine damage.

While vehicle idling may be reduced through the enforcement of law, in the larger sense curbing excessive idling remains the individual and corporate responsibility of vehicle owners and drivers. Toward this end, the Automatic Vehicle Location Monitoring (AVLM) system, a GPS-based technology developed and utilized primarily to track vehicles, has emerged as a powerful management tool to limit idling, protect the environment, and save organizations millions of dollars in wasted fuel costs.

Beginning in 2007, the LIRR installed AVLM devices on its 586 highway vehicles for maintenance purposes. In a pilot program started in February 2012, MNR similarly installed AVLM on 48 of its 603 highway vehicles. Neither railroad installed AVLM with the intention of monitoring vehicle idling, but an analysis by the Office of the MTA Inspector General (OIG) shows that vehicles in both agencies idle unnecessarily, and often illegally (meaning over five minutes).

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<sup>1</sup> See Environmental Conservation Law §3-0301; 6 NYCRR 217-3.

## Summary of Findings

Based on our analysis, we conclude that LIRR and MNR highway vehicles idled illegally for a combined total of over 20,000 hours each month.

Our examination found that:

- LIRR's highway fleet idled illegally for over 12,600 hours in January 2012. This figure was calculated based on detailed AVL data available to the OIG. Illegal idling wasted over 13,000 gallons of fuel at a cost of \$40,000. This figure represents 20 percent of LIRR's fuel costs for the month. The total annual cost of idling at LIRR likely exceeds \$500,000.
- MNR's fleet also wastes fuel, as revealed by our analysis of available AVL data for the period between February 1 and April 30, 2012 and OIG observations in facility parking areas. Projecting from the data available, MNR highway vehicles idled illegally for an average of 8,000 hours per month during the study period, thereby wasting over 7,000 gallons of fuel, at a cost of over \$25,000—14 percent of MNR's fuel costs for the month. The total annual cost of idling at MNR could exceed \$300,000.

We recommend that both agencies avoid vehicle idling that is illegal or otherwise unnecessary (i.e. for reasons other than traffic congestion or control) by taking appropriate measures, including revising their respective vehicle policies and procedures; educating their managers and employees; and imposing appropriate discipline. We also recommend that MNR deploy AVL on its highway fleet and that both railroads monitor vehicle performance using AVL technology and other appropriate means.

## Summary of Agency Response

OIG provided its findings, observations, and supporting data to LIRR in March 2012 and to MNR in May. On June 20, we issued our preliminary report to the agencies with an opportunity to comment. OIG received a written response from MNR dated August 3 and from the LIRR dated August 13.

Both LIRR and MNR agreed with our recommendations and have taken steps to reduce excessive (meaning unnecessary/illegal) vehicle idling. Indeed, MNR management began its response to us as follows: "We have received and reviewed the preliminary report on excessive idling, and we plan to take immediate actions to reduce idling company-wide." For its part LIRR management wrote "We are pleased to report that the implementation of many of the recommendations contained in your audit and other corrective actions has contributed to a significant reduction in the frequency and magnitude of vehicle idling." To help ensure that these changes are permanent, LIRR has assigned the responsibility for monitoring idling through AVL records to a new administrative unit that will provide oversight of vehicle usage. While the railroads questioned the likelihood of saving money at the level proposed by the OIG, both

agreed that reducing idling presents real opportunities to save on fuel costs. In terms of training, the Procurement and Safety and Training departments of LIRR will ensure that employees are advised about idling, while MNR initiated a “No Idling” campaign through a variety of communication channels including employee newsletters and vehicle stickers.

### **LIRR AND MNR HIGHWAY FLEET COMPOSITION**

The highway fleets at the two commuter railroads are similar in both size and scope. LIRR owns 586 highway vehicles and MNR owns 603. Both agencies utilize their highway fleet to transport workers and tools to job sites throughout the metropolitan region.

At LIRR, 466 highway vehicles (80 percent of the fleet) are assigned to sub-departments within the Engineering Department. Together, these sub-departments are charged with maintaining LIRR’s infrastructure in a state of good repair. The sub-departments include, but are not limited to, Track, Signal, Structures, Power, and Communications. LIRR’s remaining 120 highway vehicles are assigned to other departments, such as Passenger Services and Maintenance of Equipment.

At MNR, 468 vehicles (78 percent of the fleet) are housed in the Maintenance of Way Department. This department is similar to LIRR’s Engineering Department in that it is responsible for maintaining MNR’s extensive physical plant. MNR’s remaining 135 vehicles are housed in the Mechanical, Operation Services, and Customer Service departments.

The agencies use these vehicles for various purposes. For example, track workers drive crew trucks to transport workers and large tools to the right-of-way to replace ties, tighten ballasts, and trim vegetation, while vehicles in the respective Signal departments transport workers and large tools to test and replace signals on a cyclical basis.

## ILLEGAL IDLING

New York state law prohibits idling of heavy duty vehicles, defined as vehicles weighing more than 8,500 pounds, for longer than five minutes.<sup>2</sup> Specifically, section 217-3.2 of the State Idling Regulations provides that “No person who owns, operates or leases a heavy duty vehicle... shall allow or permit the engine of such heavy duty vehicles to idle for more than five consecutive minutes when the heavy duty vehicle is not in motion.” Relevant exceptions include vehicles when powering an auxiliary function and hybrid-electric vehicles.

When calculating total idle times and associated costs at LIRR and MNR, the OIG excluded the following vehicle types in accordance with these exceptions:

- **Auxiliary Function Vehicles:** These vehicles use engine fuel to power an auxiliary function. Examples of these functions include a crane (referred to as a “boom”) with a bucket that lifts workers to tall equipment. LIRR owns 128 of these vehicles and MNR owns 74 such vehicles. Because LIRR and MNR’s AVL system are not currently able to distinguish between idling that occurs when an auxiliary function is or is not being powered, we excluded all of these vehicles in our calculations of illegal idling.
- **Hybrid Electric Vehicles:** At idle, a hybrid electric vehicle’s engine shuts off and therefore does not burn fuel.

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<sup>2</sup> Environmental Conservation Law §3-30101; Compilation of Codes, Rules, and Regulations of the State of New York, Title 6. Department of Environmental Conservation; Chapter III, Air Resources; Subchapter A. Prevention and Control of Air Contamination and Air Pollution; Part 217. Motor Vehicle Emissions; Subpart 217-3. Idling Prohibition for Heavy Duty Vehicles (hereafter the “State Idling Regulations”).

## VEHICLE IDLING AT THE LONG ISLAND RAIL ROAD

In 2007, the LIRR contracted with Interfleet, Inc., a company that provides AVLM tracking services, to monitor its highway fleet. The service was procured to reduce the time that personnel spent tracking vehicle location and use, as well as to facilitate accident investigation and the preparation of reports on company commutation usage and maintenance history.

During our review we focused on the capacity of the AVLM system to track excessive idling. Specifically, the system includes a sensor connected to the vehicle's engine that identifies whether the vehicle is on or off. If the sensor indicates the vehicle is on and it has not moved for two minutes or longer, the vehicle is considered idling for reporting purposes. The idling sensor is configured in this manner to distinguish between involuntary idling (i.e. traffic congestion or control) and voluntary idling. This ability to automatically monitor idling is a powerful management tool that greatly informed our findings and recommendations below.

### Findings

To analyze vehicle idling at LIRR the OIG obtained idle time, travel time, and other data from the AVLM system reflecting every movement made by a vehicle. Data was collected for 18 workdays over a four week period in January 2012 on the 374 vehicles subject to the State Idling Regulations.<sup>3</sup>

The results of our analysis indicate that illegal idling is common in many LIRR departments and that the cost of wasted fuel could exceed \$500,000 annually.

Over the four week period, we found that:

- Vehicles idled in violation of state law for over 12,600 hours.
- These vehicles idled on average for two hours and eight minutes each day they were used.
- Given LIRR's average fuel costs for the month, we calculated that idling at LIRR wasted over 13,000 gallons of fuel at a cost of over \$40,000.

LIRR officials acknowledged that while a few vehicles in the Signal department may have idled because they were powering crossing gates that were being repaired, the vast majority of vehicles did not have an operational reason to idle.

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<sup>3</sup> Because most employees who operate highway vehicles do not work on federally observed holidays, we did not include data from two holidays (New Year's Day and Martin Luther King Day) when calculating average daily idle time.

**Table 1: Idling Statistics by LIRR Department and Sub-department – January 2012**

	Idling Hours	Percent of Total Idling Hours	Vehicles per Department	Average Hours of Idle per Day
<b>Engineering Department</b>				
Signal	3,581	28%	93	2:22
Track	2,000	16%	60	2:11
Structures	1,710	13%	55	1:57
Third Rail	1,611	13%	28	3:27
Communications	981	8%	36	1:49
Power	622	5%	20	1:51
Electric and Lighting	314	2%	8	2:27
High Tension	70	1%	1	4:09
Project Management	2	0%	1	0:10
<b>Engineering Department Subtotal</b>	<b>10,891</b>	<b>86%</b>	<b>302</b>	<b>2:16</b>
<b>Other Departments</b>				
Passenger Services	1,183	10%	27	2:45
Maintenance of Equipment	463	4%	22	1:20
Transportation Services	75	0%	7	0:44
Safety and Training	32	0%	8	0:18
General Office	13	0%	2	0:27
Information Systems	5	0%	2	0:11
Procurement and Logistics	2	0%	2	0:05
Executive	0	0%	1	0:03
Quality Assurance	0	0%	1	0:00
<b>Other Departments Subtotal</b>	<b>1,773</b>	<b>14%</b>	<b>72</b>	<b>1:34</b>
<b>Total</b>	<b>12,664</b>	<b>100%</b>	<b>374</b>	<b>2:08</b>

### Idling Statistics

Table 1 represents a summary of our statistical findings regarding vehicle idling at the LIRR. The table shows that vehicles in the study pool assigned to sub-departments of the Engineering Department, whose workers are responsible for maintaining LIRR's physical plant, idle far more on average than those in departments outside of Engineering except Passenger Services (as shown in Table 1 above). Vehicles assigned to Engineering idled for an average of two hours and 16 minutes each day, while vehicles in all other departments idled for an average of one hour and 34 minutes each day – 42 minutes less on average than Engineering. Furthermore, of the total hours of illegal vehicle idling in January, 86 percent occurred in Engineering and only 14 percent in other departments, the majority of which occurred in Passenger Services.

A more detailed analysis, as seen on Table 2, shows that a large percent of all idling occurs in the morning. Indeed, 30 percent of idling occurred between 8:00 a.m. and 10:00 a.m. These

findings support statements by agency officials and workers that vehicles are idled in the yard prior to a crew leaving for an assignment in the morning and during the crew's lunch break.

**Table 2: Time of Day When Idling Occurs at LIRR**

<b>Time of Day</b>	<b>Percent of Total Idling</b>
6:00 a.m. - 8:00 a.m.	11%
8:00 a.m. - 10:00 a.m.	30%
10:00 a.m. - 12:00 p.m.	16%
12:00 p.m. - 2:00 p.m.	19%
2:00 p.m. - 4:00 p.m.	11%
4:00 p.m. - 6:00 a.m.	13%
Total	100%

### **The Agency Rationale for Vehicle Idling**

We presented our data to LIRR officials for comment. They acknowledged that vehicle idling is common, but appeared surprised by the extent of it. One official related that workers idle vehicles in the morning to warm them up before leaving the crew facility. Another speculated that the practice was a remnant of a precaution taken by workers in years past when starters and batteries in LIRR's vehicles were less reliable. Whatever the reason, employees apparently typically turn on their trucks at the start of a shift and leave them running. This could explain why the largest percent of idling occurs between 8:00 a.m. and 10:00 a.m., which is when most LIRR workers begin their daily shifts.

Another manager stated that while many shifts begin between 7:00 a.m. and 8:30 a.m., safety precautions prevent workers from entering the right-of-way during the morning peak period before 10:00 a.m. Thus, it is common for workers to wait in their vehicles and idle near the right-of-way while they await track clearance. Officials also noted that employees idle vehicles during breaks to keep warm in winter or cool in summer.

## Two LIRR Vehicles Idling at Forest Hills Station



### OIG Observations of Vehicle Idling

In order to verify Interfleet's accuracy in recording vehicle idling and to observe why operators idled their vehicles, the OIG conducted observations of LIRR vehicles idling in the field.

On Wednesday, March 28, 2012, the OIG observed two Track department vehicles idling beneath an LIRR overpass in Laurelton, Queens. During a rain shower in the early afternoon, one vehicle idled for one hour and 20 minutes and the other for 50 minutes. The temperature was 57 degrees at that time. (Track workers are not required to work in the rain per their collective bargaining agreement.) The employees appeared to have waited out the rain in their vehicles—with their engines idling.

In another instance, on Saturday, March 31, 2012, at 8:50 a.m., we observed two Structures vehicles idling at the Forest Hills station in Queens. Thereafter, we learned that work crews had been assigned to this station to assist passengers boarding trains on an interior track via a temporary ramp while the local track was out of service for maintenance purposes. We obtained AVL data on the two trucks and found that between 7:00 p.m. on Friday, March 30<sup>th</sup>, through

early Sunday morning, April 1<sup>st</sup>, the two vehicles idled for a combined total of 25 hours, just steps from a four-story residential apartment building. Vehicle #1 idled for 15 of the 30 hours it was parked at Forest Hills station. Six of these idling hours occurred during the evening to early morning. Vehicle #2 idled for all but 30 minutes of the ten hours and 40 minutes it spent at the station. It appears that the crews waited in their vehicles and allowed them to idle except for the time that they actually assisted passengers at the station. The mean temperature on each of the three days beginning March 30<sup>th</sup> was 50 degrees, 42 degrees and 48 degrees respectively.

## VEHICLE IDLING AT METRO-NORTH RAILROAD

In 2011, as part of its ongoing efforts to identify management efficiencies and eliminate its operating deficit, the MTA contracted McKinsey & Company, a management consulting firm, to analyze AVL M's potential as a tool to reduce highway fleet costs across the constituent agencies. As part of McKinsey's overall review regarding MNR, it found that installing the AVL M technology fleet-wide, combined with management actions, could produce a net savings at MNR of \$200,000 to \$300,000 annually even after factoring in the \$300,000 - \$400,000 cost of the AVL M system. The gross savings of \$500,000 to \$700,000 identified on an annual basis included:

- \$100,000 to \$200,000 by using AVL M to monitor and reduce vehicle idling and speeding.
- \$300,000 to \$400,000 by tracking vehicle utilization and deferring the replacement of vehicles that are not regularly used. This is commonly referred to as "right sizing" a vehicle fleet.
- \$100,000 by detecting maintenance issues early using in-vehicle diagnostics.

Consistent with the recommendations of McKinsey's report, MNR commenced a pilot program using AVL M technology on a limited number of its highway vehicles this winter. The agency contracted with GE Fleet Services to install AVL M devices on 48 of its 603 vehicles (eight percent) from February 1, 2012 through April 30, 2012.

GE Fleet Services provided LIRR with the capability to monitor vehicles by utilizing a device plugged into the vehicle's Electronic Control Module (ECM). In addition to serving as an antenna to track the vehicle's location, the device tracks vehicle idling by reading indicators within the ECM's operating hardware.

### Findings

OIG obtained data from GE Fleet Service's AVL M system, collected during MNR's AVL M pilot program, to analyze idling at MNR. The data provided us with location, time of day, and idling time for each stop and movement made by a vehicle from February 1 to April 30, 2012. To project total idle time, we identified the 15 heavy duty vehicles in MNR's pilot program that are subject to the State Idling Regulations. We calculated the average idle time for these 15 vehicles and then applied it to the 339 heavy duty vehicles within MNR's fleet. The limited size of our sample was a consequence of the limited number of vehicles in MNR's pilot program; a limitation that also precluded us from projecting idling within individual MNR departments. Our analysis found evidence of vehicle idling at MNR that is both illegal and likely costs the agency more than \$300,000 a year in wasted fuel.

Over an average four-week period:

- We project that vehicles idled in violation of state law for over 8,000 hours.
- These vehicles idled for an average of one hour and 20 minutes for each day used.
- Given MNR's average fuel costs for the month, we calculated that idling at MNR wasted over 7,000 gallons of fuel at a cost of over \$25,000 each month.

**Table 3: Time of Day When Idling Occurs at MNR**

<b>Time of Day</b>	<b>Percent of Total Idling</b>
6:00 a.m. - 8:00 a.m.	15%
8:00 a.m. - 10:00 a.m.	25%
10:00 a.m. - 12:00 p.m.	19%
12:00 p.m. - 2:00 p.m.	17%
2:00 p.m. - 4:00 p.m.	8%
4:00 p.m. - 6:00 a.m.	17%
Total	100%

### **Idling Statistics**

Our analysis of the 15 heavy duty vehicles in the pilot program shows that vehicles at MNR, like those at the LIRR, idle more in the morning than at any other time of day. Indeed, at both MNR and the LIRR the largest share of idling occurs between 8:00 a.m. and 10:00 a.m.—25 and 30 percent respectively. And again, that time period is when workers start the morning shift.

### **OIG Observation of MNR Vehicle Idling**

To supplement our analysis of idling data received from the MNR AVL M pilot program, particularly given the limited number of vehicles included, the OIG conducted observations of vehicles in the field at two MNR facilities. Investigators arrived at vehicle yards unannounced on four separate occasions and walked the property to observe whether vehicles were idling. In each instance, investigators found several vehicles idling as described below.

Over two mornings at the North White Plains Yard, the OIG observed vehicles idling in a lot containing approximately 45 to 50 vehicles. On April 24<sup>th</sup>, we observed 17 vehicles idling at one point in the morning. Investigators made three passes through the yard. Six of the 17 vehicles were observed idling on consecutive passes. Four were observed idling for periods exceeding 30 minutes and two were observed idling for more than ten minutes. The remaining 11 vehicles idled for an undetermined period of time.

On April 25<sup>th</sup>, investigators at the North White Plains Yard found 13 vehicles idling at some point in the morning. Similar to the observation on April 24<sup>th</sup>, investigators made three passes through the yard to identify idling vehicles and found several vehicles idling on consecutive passes. Of the 13 vehicles observed idling, three were observed idling between 20 and 25 minutes, four between ten and 20 minutes and two for more than seven minutes. The remaining four vehicles idled for an undetermined period of time. The average temperature on April 24<sup>th</sup> was 49 degrees Fahrenheit and 47 degrees on April 25<sup>th</sup>.

Investigators also observed idling at the Croton Harmon Yard on April 24<sup>th</sup>, and April 26, 2012 that appeared to exceed the legal five-minute limit. At 7:56 a.m. on April 24<sup>th</sup>, investigators observed four of 20 vehicles idling. They later observed these same four vehicles idling at 8:06 a.m. and at 8:14 a.m. Two days later, on April 26<sup>th</sup>, investigators observed four vehicles idling at 7:41 a.m. These same vehicles were also observed idling at 7:51 a.m. On these two days the temperature was 49 degrees and 47 degrees Fahrenheit, respectively.

OIG's observations at North White Plains and Croton Harmon further corroborate AVL data and statements from agency officials reflecting that crews idle their vehicles in the yard prior to leaving for their daily assignments in the field.

## “BENEFICIAL” IDLING IS A DESTRUCTIVE MYTH

During our review regarding vehicle idling we observed that common myths have persisted throughout the years. Foremost amongst these is that idling a vehicle is beneficial for its engine. For example, some drivers claim that:

- Cars should run in an idling mode for several minutes before they are driven;
- Idling is good for the vehicle’s engine; and
- Each time a car is started, it wastes more fuel than if it idles.

United States Department of Energy officials at the Argonne National Laboratory in Chicago, who had researched the harmful effects of idling, confirmed in conversation with the OIG that the purported benefits of idling are simply myths. Similar myths regarding the benefits of idling for school buses have been rejected by the U.S. Environmental Protection Agency. Further, Canada’s Office of Energy Efficiency, which has extensively researched the topic of vehicle idling, concluded that starting a vehicle’s engine uses the same amount of fuel as ten seconds at idle. Therefore, it recommends that vehicle operators turn off their engine if they plan to idle for more than ten seconds.

### **Idling Can Cause Engine Damage in Some Vehicles**

In addition to wasting fuel and damaging the environment, vehicle idling can cause engine damage according to the manufacturers of a number of vehicle models owned by LIRR and MNR. The OIG reviewed the owner manuals for 37 vehicle-types<sup>4</sup> that make up 354 of MNR and LIRRs combined fleet of 1,190 vehicles and found the following warnings:

- The manual for 41 vehicles warns that long periods of idling in cold weather can cause a build-up of heavy deposits of carbon and rust on valve stems causing them to stick which, in turn, can cause valve train damage.
- The manual for 287 vehicles warns that extended idling at high engine speeds can produce very high temperatures in the engine and exhaust system, creating the risk of fire or other damage.
- The manual for 26 vehicles warns that long periods of engine idling can cause excessive exhaust temperatures that can damage the vehicle and require the need for more frequent oil changes.

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<sup>4</sup> We reviewed the manuals for the 2003- 2012 Ford F250, F350, F450, F550, F650, F750, the 2004-2011 Ford E350 and the 2004 Dodge Durango.

## LIRR AND MNR POLICIES DO NOT REFER TO IDLING LAW

As previously noted, the State Idling Regulations prohibit heavy duty diesel and gasoline powered vehicles from idling for periods exceeding five minutes. For their part, though, LIRR and MNR policies relating to the use and operation of highway vehicles do not adequately reflect this prohibition, nor do they safeguard the agency from the costs associated with illegal and unnecessary vehicle idling.

Indeed, while LIRR and MNR policies explain who can be assigned a vehicle, when and where they can use it, and how they should operate it safely, neither the “LIRR Passenger and Work Vehicle Assignment and Replacement” nor MNR’s “Company Passenger Vehicle Assignment & Use” specifically addresses the practice of vehicle idling, let alone points out that it is illegal to do so for more than five minutes.<sup>5</sup>

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<sup>5</sup> Corporate Policy & Procedure PL-004 (LIRR); Operating Procedure No. 10-005 (MNR).

### **ACTION NEEDED BY MANAGEMENT**

We estimate that LIRR and MNR's illegal idling wastes over \$800,000 each year while potentially damaging the vehicle and needlessly polluting the environment. Although the AVL data we obtained covers only a period of one month at LIRR and only 15 vehicles at MNR for a period of three months, discussions with managers indicate that excessive idling has been ongoing for many years and has been an accepted practice for both LIRR and MNR employees.

In response to a citizen's complaint of an idling truck in a residential area, the LIRR chief engineer issued a directive dated September 8, 2011, informing all employees in the Engineering Department that idling for more than five minutes violated state law. He also observed that trucks consume up to one gallon of diesel fuel for each hour at idle and clearly implied that idling was destructive to the environment. The directive then declared that "Effective immediately the idling of Engineering fleet vehicles beyond five minutes, whether the vehicle is attended or unattended, is prohibited." While this directive is certainly a good start, we note that engineering officials told us that they have never attempted to enforce the idling ban, explaining that it had not been a priority, in part because they were unaware of the extent of the idling and the potential cost savings.

The LIRR AVL contract with Interfleet provides for management access to the website where officials can view vehicle location in real time and run reports on vehicle usage—including reports on vehicles idling over two minutes (the cutoff to account for traffic signals and congestion). Management should take full advantage of the AVL system and generate monthly reports that track idling. These reports can readily identify the departments, vehicles, and employees that continue to idle illegally.

MNR has taken nominal action in the past to reduce vehicle idling by asking drivers to sign "no idling" pledges, but has not enforced them. In any event, a full-scale installation of AVL would allow the agency to comprehensively monitor vehicle usage and enforce idling prohibitions in the future.

OIG recommends that MNR move forward with a full deployment of AVL on its highway fleet of 603 vehicles. Our research has found that employers throughout the United States use AVL to achieve a variety of efficiencies. In addition to reducing vehicle idling, organizations use AVL to monitor vehicle usage and "right size" their highway fleet; review and analyze payroll data; check billed overtime; identify unauthorized vehicle use; increase deployment efficiency; enhance productivity; improve customer service; and assist in the recovery of stolen vehicles. Furthermore, OIG has previously found LIRR's AVL to be a valuable analytical tool in other reviews and investigations. Given the efficiencies identified through OIG research regarding the benefits of AVL, our own recent experience, and the McKinsey & Company's report to MNR regarding AVL's potential efficiencies, we recommend that MNR move forward with a full deployment of AVL to its highway fleet.

While broad deployment of AVL is certainly important, such deployment is not the end product. Rather, the overarching goal of MNR and LIRR must be to strengthen and enforce their policies designed to prevent excessive idling—a practice that is illegal, wasteful, and environmentally destructive. To accomplish that goal both railroads must do more to educate their workers about these policies and to dispel the myths that idling is beneficial.

## RECOMMENDATIONS

1. LIRR and MNR should prohibit unnecessary idling for all vehicles in their respective highway fleets.
2. LIRR and MNR should amend their current vehicle policies (LIRR Policy and Procedure PL-004 and MNR Operating Procedure No. 10-005) as follows:
  - a. Inform employees that idling heavy duty vehicles for more than five minutes is a violation of state law.
  - b. Declare that unnecessary idling, even for less than five minutes, is a violation of agency policy.
  - c. Establish procedures governing any vehicles for which idling exemptions exist, such as when powering an auxiliary function.
3. LIRR and MNR should educate employees about the nature and enforcement of the revised policies as well as the reasons behind them, and should dispel the myths that idling is beneficial.
4. MNR should deploy AVLM throughout its highway fleet.
5. LIRR and MNR should generate monthly reports from its AVLM system that include all relevant details on the nature and extent of idling and the identity of those involved.
6. After implementing the recommendations above, LIRR and MNR management should establish enforcement procedures for violation of any idling rules.

## AGENCY RESPONSE

### Long Island Rail Road

LIRR agreed with OIG's recommendations and has taken steps to implement them. In a written response, LIRR stated that it is committed to reducing idling and will update LIRR Policy and Procedure PL-004 in the 4<sup>th</sup> Quarter of 2012 to reflect OIG's recommendations. Drivers have been sent directives reminding them of the five minute vehicle idling limit. To ensure compliance and achieve other objectives, LIRR will implement new management structures to monitor vehicle idling and reduce instances of drivers idling illegally and/or unnecessarily.

Additionally, to build on the OIG recommendations and its own corrective actions LIRR will further its efforts to reduce excessive idling by appropriate enforcement in accordance with its applicable policies, procedures, and collective bargaining agreements. LIRR management reported that "[T]he implementation of many of the recommendations contained in your audit and other corrective actions" contributed to a "significant reduction in the frequency and magnitude of vehicle idling."

## **Metro-North Railroad**

MNR also agreed with OIG's recommendations and will be implementing them over the next several months. MNR's Operating Procedure No. 10-005 will be amended in accordance with OIG's recommendations to greatly reduce, if not eliminate, illegal and unnecessary idling, and the Senior Vice President of Operations will disseminate instructive guidelines to all departments. Furthermore, in order to better educate employees, MNR has already initiated a "No Idling" campaign, including notices in employee newsletters and vehicle stickers.

Notably, MNR agreed to deploy AVL M throughout its fleet of highway vehicles and asserted that "A specific implementation and management plan will be decided upon by the end of the year." This deployment, combined with its planned managerial oversight, should significantly improve MNR's ability to monitor and reduce idling fleetwide. Additionally, similar to LIRR, MNR will further its efforts to reduce excessive idling by appropriate enforcement in accordance with its applicable policies, procedures, and collective bargaining agreements.

## **CONCLUSION**

Certainly, we are encouraged that the LIRR and MNR have accepted our recommendations and intensified and expanded their efforts to reduce excessive vehicle idling. Unquestionably, these efforts will result in financial savings and a cleaner environment.

In a broader sense, we are particularly encouraged by the agencies' acceptance of Automatic Vehicle Location Monitoring technology. As we explained in the preceding pages, employers throughout the United States use AVL M to achieve a variety of efficiencies. Besides reducing vehicle idling, organizations use AVL M to monitor vehicle usage and "right size" their highway fleet; review and analyze payroll data; check billed overtime; identify unauthorized vehicle use; increase deployment efficiency; enhance productivity; improve customer service; and assist in the recovery of stolen vehicles. In short, AVL M has the proven ability to help railroad management manage more efficiently, thereby benefiting the railroads themselves and the public they serve.