



Thank you for this opportunity for Civics United for Railroad Environmental Solutions Inc. to provide testimony. <https://climate.ny.gov>. This scope does not include Climate Leadership and Community Protection policies, laws, and practices that already exist in other states and in the New York City region. The DAC does not include railyards and adjacent tracks in neighborhoods used for yard operations. Please amend the scope and DAC in the following ways so that New York State can truly claim World Leadership in Climate Leadership and Community Protection.

#### **DAC Comments:**

- The scope includes a strategy to "Fund low-emission zones and car-free streets: The State should prioritize investments in local projects that establish low-emission transportation zones, car-free streets, and similar concepts that encourage travelers to take alternative transportation modes and support the infrastructure required to shift freight to lower-emission modes, like rail, cargo bikes, and electric trucks." However, today freight rail in NYS is outmoded and creates pollution hot spots. Railroads got Legacy Fleet locomotives that are still being used excluded from the Clean Air Act. Older locomotives used in NYS are not a "low emission mode," which is why California has taken steps to tax their carbon emissions first, and then eventually ban them.

The California Air Resources Board has studied pollution from railyards ("Railyard Health Risk Assessments and Mitigation Measures," accessed May 25, 2022, <https://ww2.arb.ca.gov/resources/documents/railyard-health-risk-assessments-and-mitigation-measures>), determined there are harms, and developed strategies and taken actions to address harms. New York State has not. See the California Air Resources Board's web page entitled, "Reducing Rail Emissions in California," California Air Resources Board, <https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california>, accessed May 22, 2022, which provides a road map for NYS's Climate Leadership and Community Protection aspirations in this regard.

Families by freight railyards -- from Stillwater/Mechanicville to Fresh Pond Yard -- are exposed to pollution and noise from rail yard operations that create health risks because railroads have failed to modernize their fleets to Tier 4 emissions standards. Also, the railroads are hauling unenclosed, landfill-bound waste that emits spillage, blowoff, leachate, and odors.

Polluted community air creates health risks. Neighborhoods in Queens by freight rail operations -- only some of which are designated as Disadvantaged Communities -- have experienced double the Covid rates per 100,000 people as Queens as a whole, and more than double the NYC rate.

Although some communities by railyards are designated Disadvantaged under the draft criteria, others are not. NYS must specifically include a 1 km. zone around railyards and adjacent tracks in neighborhoods where yard operations take place daily as a factor in determining a Disadvantaged

Community. NYS also must modify the scope of the Climate Leadership and Community Protection Act to include strategies modeled after the California Air Resources Board's, and on near zero emissions Tier 4 Switcher repowering that has already taken place at the PANY-NJ's Greenville Yard (2015) and at Waste Management/New York & Atlantic Railway (2018) in the NYC region (see below).



## 40% less fuel + measurable reductions in ghg, local air pollution

October 1, 2019 / Brooklyn news / Williamsburg

**Trash dump express: New fuel-efficient locomotive rolls out in Williamsburg**

» Enlarge this image



Photo by Trey Pentecost

Waste Management showed off their recently-launched Green Locomotives at their Varick Avenue yards in Williamsburg on Sept. 26.

BY KEVIN DUGGAN

Waste honchos at a trash hauling business showed off a new “green” locomotive at a Williamsburg industrial yard on Sept. 26, which will help keep Kings County clean in more ways than one, according to an executive at the garbage company.

“It’s a much cleaner burning locomotive, much more fuel efficient,” said Jim Van Woert, director of diversion strategies at Waste Management.

Brooklyn news / Williamsburg, October 1, 2019

- 19.4 tons nitrogen oxide (NO<sub>x</sub>), a 99 percent reduction annually;
- 0.48 tons particulate matter (PM<sub>2.5</sub>), a 99 percent reduction annually; and
- 26,000 gallons of diesel saved, a 40 percent reduction annually.

US EPA “New York City Locomotive Repowers” October 2019

### Scope Comments:

- The scope states that "Based on this assessment, emission reductions are needed from all sectors of the economy to achieve the goals and requirements of the Climate Act." So this must include public sector passenger and freight rail, and private sector freight rail. The scope must include low carbon procurement policies, laws, and rules for rail fleets operating within NYS, such as the California Air Resources Board already has developed and is implementing: "Reducing Rail Emissions in California," California Air Resources Board, <https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california>, accessed May 22, 2022.
- For about \$2 million per locomotive the LIRR can repower its MP-15 work trains and its freight rail concessionaire's freight locomotives to near zero emissions Tier 4 Switcher locomotives. This will eliminate the NOx emissions of a million cars from the MTA system. This will measurably advance the achievement of New York's goal of 85% Reduction in GHG Emissions by 2050. These are 1970's Legacy Fleet locomotives that the rail industry got excluded from the Clean Air Act and is still using. Unlike California, NYS presently has no strategies to eliminate this pollution, which is taking place in a NYS Public Authority's right of way. However, amendments to the scope will fix this.

- The draft scope reads as though the Tier 4 near zero emissions Switcher locomotive repowering technology that PANY-NJ and Waste Management have been using for years in the NYC region, and the Class 1 railroads are employing does not exist. As written, the draft scope points vaguely to the future use of new locomotive fuels instead of to the use in NYS of already proven, on-the-shelf technology that reliably eliminates 95% or more of current locomotive pollution and saves up to 40% on fuel. Right now the scope reads: "Some segments of hard- to-electrify subsectors, such as aviation, freight rail, and potentially some MHD vehicles are expected to rely on green hydrogen and renewable biofuels (e.g., renewable jet fuel) to fully replace fossil fuel combustion if zero emission applications are not feasible." The draft scope makes it sound like there is nothing railroads can do now except wait for hydrogen-powered locomotives (which are at least 15 years in the future, if ever). This is absolutely untrue. There is action railroads can take today to eliminate almost all their GHG, and the scope needs to say this. The New York Metropolitan Transportation Council's next to last Regional Freight Plan update already included repowering rail fleets to Tier 4 or cleaner emissions as a Goal. This 2022 scope needs to catch up and include it too.

Table 4.4 Policies and Programs

No.	Item	Location	Primary Desired Outcome	Potential Private Benefits			Source
				Cost	Speed	Reliability	
<b>GOAL: REGIONAL ENVIRONMENT</b>							
90	* Railcar Clearance Improvement Program for double stack & auto carrier. Strategy and study to identify and prioritize clearance improvement projects on Bay Ridge Line.	New York City	Reduce pollutants	✓	✓	✓	MRFC Action Plan (DRAFT); Goods Movement Action Program
110	* Refrigerated warehousing. Develop vertical refrigerated warehousing at Hunts Point, Freight Village locations, or elsewhere as appropriate.	NYMTC planning area	Reduce GHG emissions	✓	✓	✓	Freight Transportation Working Group
187	* Clean Freight Corridors Program. Implement fleet replacements/upgrades, fueling, electric charging, and other services to support clean corridor goals.	NYMTC planning area	Reduce GHG emissions	✓			Freight Transportation Working Group
123	* Pursue funding to replace diesel locomotives with Tier 4 or cleaner locomotives	NYMTC planning area	Mitigated externalities	✓			Plan 2045 Outreach; PFAC Freight Subcommittee
<b>GOAL: REGIONAL ECONOMY</b>							
94	* NYC Waterways Dredging Program: Newtown Creek, Jamaica Bay, Flushing Bay. Maintain authorized depth in "secondary" navigable channels, including, but not limited to Newtown Creek, Jamaica Bay, Flushing Bay	New York City	Global and national gateway	✓		✓	PFAC Freight Subcommittee
106	* Brookhaven Freight Village	Suburban Long Island	Goods movement supports growth	✓	✓	✓	Regional Freight Plan analysis
107	* Sunset Park Multimodal Freight and Logistics Hub	New York City	Goods movement supports growth	✓	✓	✓	Regional Freight Plan analysis
108	* Canal Village Freight Village	Lower Hudson Valley	Goods movement supports growth	✓	✓	✓	Regional Freight Plan analysis
134	+ NYS Thruway Exit 10 economic development and light industrial park.	Lower Hudson Valley	Goods movement supports growth	✓	✓	✓	Regional Transportation Plan 2045
<b>GOAL: QUALITY OF LIFE</b>							
124	* Replace gondola cars with sealed containers for waste hauling by rail	NYMTC planning area	Mitigated externalities				Plan 2045 Outreach
<b>GOAL: TRANSPORTATION ACCESS</b>							
180	* Regional truck navigation. Improve regional truck navigation by providing quality underlying data regarding truck route restrictions.	NYMTC planning area	Increased reliability		✓	✓	Goods Movement Action Program (G-MAP)
177	* Streamline permitting for oversize/overweight (OS/OW) vehicles across jurisdictional boundaries	NYMTC planning area	Increased reliability	✓			Goods Movement Action Program (G-MAP)
178	* Harmonize size and weight regulations across multiple jurisdictions in and beyond the planning area	NYMTC planning area	Increased reliability	✓			Goods Movement Action Program (G-MAP)
181	+ Gather GPS based truck traffic data citywide for planning purposes	New York City	Increased reliability		✓	✓	PFAC Freight Subcommittee; Plan 2045 Outreach
114	* Promote multiple mode access for freight development sites.	NYMTC planning area	Increased reliability	✓	✓	✓	Freight Transportation Working Group
109	* Regional Off-Peak Delivery Program. Expand participation in off-peak delivery programs throughout the region.	NYMTC planning area	Increased reliability	✓	✓	✓	Plan 2040 Freight Summary Report; Goods Movement Action Program


NYMTC Regional Transportation Plan 2045

- PANY-NJ has been using repowered Tier 4 Switcher locomotives since 2015. Seven years later, MTA-LIRR work trains are still 1970's Legacy Fleet locomotives. The scope must include specific strategies for pollution reduction from public fleets, including procurement rules, to demonstrate public leadership and accountability in improving public health and the environment, and for cost efficiency.

- Repowering LIRR's and NYA's 1970's Legacy Fleet locomotives to Tier 4 Switcher emissions gives NYS a bigger NOx reduction bang for the buck than, for example, replacement of pre 1991 port trucks with 907 Compressed Natural Gas trucks, or 106 MY200 Hydrogen and 144 Battery-Electric buses.

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## Preliminary Data Shows Big NOx Reduction Opportunities with Locomotives Investments for New York



### How to Make the Most of a \$127 million Investment for Immediate NOx Reduction

Application	Price Per \$127 million	# of Vehicles or Equipment placed into Service for \$127 million	Anticipated NOx Reduction per Year per Project	Total Cost to Exclusively Fund a Particular Project	Cost to Remove Each lb of NOx (\$/lb)	Total NOx Reduction (lbs) per year
pre 1991 port truck replacement with <b>Clean Diesel</b>	\$110,000	1,155	1,282	\$127,000,000	\$86	<b>1,480,127</b>
pre 1991 port truck replacement with CNG	\$140,000	907	1,292	\$127,000,000	\$108	<b>1,172,029</b>
MY2000 bus replacement with Hydrogen	\$1,200,000	106	1,162	\$127,000,000	\$1,033	122,978
MY2000 bus replacement with Battery-Electric	\$880,000	144	1,162	\$127,000,000	\$757	167,698
MY2000 bus with <b>Clean Diesel</b>	\$370,000	343	1,062	\$127,000,000	\$348	364,524
T0 to T4 <b>Clean Diesel</b> switch locomotive	\$3,000,000	42	37,602	\$127,000,000	\$80	<b>1,591,818</b>

Source: (1) National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases and U.S. Ports". U.S. EPA (September 21, 2016), (2) "clean Diesel Versus CNG Buses: Cost, Air Quality and Climate Impacts." Clean Air Task Force (2012). (3) "From Deceit to Transformation: How Connecticut Can Leverage Volkswagen Settlement Funds to Accelerate Progress to a Clean Transportation System. CONN PIRG. January 18, 2017. (4) "Consortium to Fund New Flyer Hydrogen Buses to ACTransit", Passenger Transport, February 24, 2017. (5) Locomotive engine upgrade cost based on a range of industry estimates.



Slide courtesy of the Diesel Technology Forum

- The NYS Legislature has given the LIRR \$25 million in appropriations since 2013 to repower Legacy Fleet locomotives used by LIRR's freight rail concessionaire, the New York & Atlantic Railway. Instead of doing this, LIRR first had a favored vendor repower two prototype "Tier 3+" locomotives that have proven to be unreliable, and then mounted a procurement for brand new, misapplied line haul locomotives, up to 2800 bhp. LIRR maintains that they have had an "open procurement" for locomotives since 2018. However, more than \$20 million of the appropriations the Legislature has given to LIRR since 2013 -- @ \$3 million a year -- are still sitting in Comptroller's Contract #DR36644 (accessed May 25, 2022).

New York State Comptroller Thomas P. DiNapoli  
Office of the State Comptroller

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Contract Number = DR36644

Vendor Name	Department/Facility	Contract Number	Current Contract Amount	Spending to Date	Contract Start Date	Contract End Date	Contract Description	Contract Type	Original Contract Approved/Filed Date
LONG ISLAND RAILROAD COMPANY	Department of Transportation	DR36644	\$25,000,000.00	\$4,650,739.15	12/02/2013	12/31/2025	Long Island Rail Road Green Freight Locomotive Queens County	Grant	12/26/2013

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- More than 750,000 Queens residents who live within 1 km of freight rail tracks -- where waste-by-rail is also hauled in open rail cars -- are needlessly breathing pollution from these Legacy fleet locomotives because LIRR hasn't repowered MP-15 Switchers with the remaining \$20 million. Areas in Queens by freight rail operations, including Disadvantaged Communities, have experienced double the Covid rates per 100,000 people as Queens as a whole, and more than double the NYC rate. Repowering MP-15s -- including the four locomotives LIRR first leased and then sold to NYA, as Phil Eng promised -- is most cost efficient and would eliminate 95% of toxic emissions from these Legacy Fleet locomotives. The scope needs strategies that get this done.



A rough total population count would be 1,744,153 using ACS 2014-2018 data. This uses census tracts so it over selects.

Row Labels	Sum of acsEstimate!!RACE!!Total population
Bronx County	420091
Nassau County	264344
Queens County	765115
Suffolk County	294603
<b>Grand Total</b>	<b>1744153</b>

- Railroads have persistently skirted away from emissions regulation by using locomotives the industry got exempted from the federal Clean Air Act. California has proven that these toxic emissions are harmful: <https://ww2.arb.ca.gov/resources/documents/petition-rulemaking-seeking-amendment-locomotive-emission-standards>, "PETITION FOR RULEMAKING: SEEKING THE AMENDMENT OF THE LOCOMOTIVE EMISSION STANDARDS," April 2017, California Air Resources Board, accessed May 22, 2022. NYS and the MTA must stop turning a blind eye to the toxic smoke coming out of LIRR work trains and New York & Atlantic Railway freight locomotives in MTA's right of way, and to the toxic smoke coming out of Providence & Worcester's locomotives, which operate by Fresh Pond Yard in NYC. If New York truly intends to be "Nation-Leading," this already outdated draft scope must be updated to include rail fleet GHG reduction strategies and actions that PANY-NJ and Waste Management already took years ago.

**SWITCH LOCOMOTIVES**

Replacing **1** of the oldest engines with the newest clean diesel Tier 4 engines removes **37,602 lbs of NOx / Year.** This is equivalent to...

Replacing **29** older trucks **OR** Removing **30,000** cars for 1 year

**Tier 4 = Near Zero Emissions**

Engine Type	NOx (g/hp-hr)
Oldest Uncontrolled Engines	~18
Latest Generation Tier 4 Standard	~0.3

**95% Reduction**

**Upgrading Locomotive Switch Engines Delivers Cleaner Air Faster**

By 2020, the U.S. EPA estimates that only 5% of switch engines in service will be powered by the latest clean diesel engine. The VW Environmental Mitigation Trust represents an opportunity to get the latest clean diesel technology into service faster to generate significant air quality benefits immediately.

**DIESEL TECHNOLOGY FORUM**

Slide courtesy of the Diesel Technology Forum

- The scope needs to be updated to include strategies from the new Environmental Justice law that addresses cumulative impacts from the siting of additional polluting facilities in Environmental Justice communities. This must include:
  - No exemptions for new or "expanded" so-called "green" facilities (e.g., not requiring Great Gardens to go through the enhanced participation process for EJ communities when it went from a compost pile to a burner).
  - As part of the definition that will be developed for the "significant impacts" threshold, include measurable cumulative impacts, including:
    - Baseline types and quantities of emissions and discharges and associated health risks.

- Disclosure of any gaps in DEC and federal data about pollution from existing facilities.
  - Number and type of existing and proposed facilities.
  - Deforestation, loss of protected open space or conservation lands.
  - Health impacts and lawsuits associated with existing polluting facilities, e.g., cancer clusters, odors, particulates, civil rights.
  - Quantification of GHG associated with transport to and from facilities, including from across the region, e.g., NYC organics, C&D.
  - Existing and proposed waste tonnage, for transfer stations, burners, etc.
  
- The scope must be updated to include C&D as well as MSW. The New York Metropolitan Transportation Council included both in its upcoming study, because that's what is necessary to have a realistic picture of GHG and other impacts. C&D is 68% of landfilled waste. Environmental Justice communities are burdened with both of these types of waste facilities, as well as others. Massive increases in C&D processing facilities capacity are being planned and permitted for EJ communities in Suffolk County, where there is an industry competition to have the most C&D tonnage to export to landfills, including from places that lack state-approved SWMPs. NYC's Commercial Waste Zone law excludes C&D, so it can still be trucked all over the NYC region and beyond. Scrap and Waste-by-rail are NYS's #1 rail export and the NYMTC region's #1 export by tonnage. C&D export represents massive pollution, including from transport and landfilling -- including gypsum that can be recycled, but produces toxic hydrogen sulfide gas when it is landfilled. If NYS wants to be a World Leader it will include strategies for managing C&D in the scope, such as those that can be found at the links below:
  - [https://ec.europa.eu/environment/strategy/circular-economy-action-plan\\_en](https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en)
  - <https://www.gov.uk/government/publications/recycled-gypsum-from-waste-plasterboard-quality-protocol/recycled-gypsum-from-waste-plasterboard-quality-protocol>
  - <https://www.oneclicklca.com/how-to-meet-london-plan-requirements/#:~:text=The%20new%20London%20Plan%20supports%20development%20proposals%20that,material%20in%20London%20arises%20from%20the%20built%20environment.>
  
- The section starting on page 241 needs to be replaced by strategies from the new Environmental Justice law and reflect that fact that NYC had to pass the Waste Equity Law to reduce tonnage in EJ communities, and pass the Commercial Waste Zone law to reduce truck traffic. Now the section reads: "Therefore, the following strategies are aimed at addressing the full lifecycle of materials and products from product creation to the beneficial use of materials that would have otherwise been wasted. For waste management facilities located in Disadvantaged Communities, reducing the volume of material handled and capturing methane reduces odors that significantly impact quality of

life for those communities and pose potential health impacts. Reducing waste volumes will also reduce the need for transfer facilities and will reduce truck traffic from waste hauling that can impact Disadvantaged Communities. The strategies recognize that combustion and landfilling of some components of the waste stream will continue beyond 2050, although the amount of material disposed will be dramatically reduced, and ultimately facilities needed for disposal will be few. The applicability of the zero-emission electricity requirement and the specifics of how it will be implemented after 2040 will be addressed by the PSC, including how waste combustion will be handled." The idea that Environmental Justice communities will get relief because MSW facilities will somehow wither away due to the implementation of zero waste strategies is disingenuous. What is more likely, and already a provision in NYC's Waste Equity law, is that that tonnage reductions will be replaced by increases in so-called "green" tonnage, which is exactly where this scope and the new Environmental Justice law must come into play. It is to the credit of the authors of the scope that they expressed strong concerns about new types of waste management technologies (e.g., "advanced recycling") and the possibility that these facilities too will be sited in EJ communities, per usual.

- The authors of the scope are to be commended for including circular strategies for re-use, and strategies that eliminate waste, including composting and EPR. This scope should be updated with the latest legislative developments in NYS and NYC, and information about the circular economy that is needed for Sustainability, Climate Leadership, and Community Protection. The work DEC is doing for the scope and DAC must inform the next round of SWMPs.