



Forward
Thinking



**Off-Hour
Deliveries**

Off-Hour Deliveries (OHD)
Noise Mitigation Strategies



OHD NOISE MITIGATION STRATEGIES

Overview

- The Off-Hour Deliveries (OHD) is a NYC DOT initiative to shift truck deliveries from peak day time hours to the off peak period (7pm – 6am).
- OHD can take place in a manner that is considerate of neighborhood quality of life concerns, such as noise pollution.
- **Noise mitigation** is a key factor for successful OHD implementation.



OHD Noise Mitigation Strategies Menu:

Training/Education

Low Noise Equipment

Truck Noise Mitigation

Noise Absorbing Materials

Training/Education

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EMPLOYEE TRAINING



Transporters

- To reduce noise levels when making deliveries during the off hours, drivers should consider:
 - Noise increases with speed, reduce speed when approaching the delivery area.
 - If early for your delivery slot, do not wait within a residential area.
 - Turn off radio when approaching or leaving a residential delivery area, as well as during the delivery.
 - Avoid speaking loudly or shouting during the delivery.
 - Avoid slamming doors, dropping cargo storage bar, or dragging cargo on surfaces where it will create excessive noise.
 - Do not sound your horn (unless absolutely necessary for safety)
 - Turn off the refrigerator (if possible)

EMPLOYEE TRAINING



Receivers

- There are strategies that can be implemented to reduce noise impacts and be considerate of neighbors.
- Strategies to consider:
 - Avoid playing radio during the off hours in the delivery area.
 - Avoid speaking loudly or shouting to others (including delivery driver) during the deliveries.
 - Encourage drivers to park at the curb and avoid double-parking. Double parking can create congestion and cause other drivers to honk their horns, which in turn increases noise during the delivery.
 - Encourage deliveries to take place at the loading dock (if available) or at the curb closest to the delivery area.

Low Noise Delivery Equipment

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LOW NOISE EQUIPMENT

Delivery Equipment

- When trucks are unloaded, equipment such as pallet jacks or fork lifts are used to move goods from the truck to the delivery point.
- Typically, this equipment has not had noise reduction measures installed, though some vendors have recently developed low noise equipment. These include:

Hand Pallet Jacks:

Low-noise tire models enables the pallet truck to drive smoothly and quietly; shock-absorbing material reduces noise caused by vibrations and rattling that occurs when the forks are lowered.

Pallet Forklifts:

Low-noise models reduces noise and vibration levels within the body as well as the tires. Electric versions can also reduce noise.

LOW NOISE EQUIPMENT

Resources - Sample List of Vendors and Products

Hand Pallet Trucks

- Grainger - Standard Quiet Manual Pallet Jack
- Logitrans - Panther Silent
- Lift-Rite - Stealth Pallet Jack

Forklifts

- Hiab - Moffett: Category E Series
- Maximal USA - M Series (Electric)
- National Forklift - FRHB15-FRHB25



Pictures of sample hand pallet trucks which are designed to meet the growing demand for quieter materials handling solutions.

Truck Noise Mitigation

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TRUCK NOISE MITIGATION

Backup Alarms

- A common source of noise complaints is associated with the backup alarms on trucks and forklifts.
- Self-adjusting and directional backup alarms can assist in mitigating noise while still being loud enough to be heard by pedestrians.
- Examples of vendors producing backup alarms include:

Preco Electronics	45, 200 and 6000 Series	www.precosafety.com
Ecco Group Smart Alarms	500 and 700 Series	www.eccolink.com
Grote Industries	Model 73 040	www.grote.com
Brigade Electronics	BBS-TEK Series	www.bbs-tek.com

TRUCK NOISE MITIGATION

Truck Modifications

- Low noise modifications to trucks can include:
 - Electrically operated roller shuttle cargo door
 - Noise absorbing floor coatings or aluminum floors that are also skid proof inside the trailer
 - Low noise tires, ex. “s-marking” in line with the rolling sound regulation
 - Tail-lift that is used to load and unload the truck
 - Refrigeration units (TRUs) – quiet units including electric or cryogenics
- Consider using **electric, hybrid or natural gas** trucks that are typically quieter than diesel counterparts

Noise Absorbing Materials

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NOISE ABSORBING MATERIALS

Transporters/Receivers

Sound Absorption Sheets

- May be applied to the vehicle as well as the receiving location.
- Can be strategically placed to diminish noise levels.
- Materials: polyether or polyester foam, recycled foam, white glass wool, or recycled textile fiber

Barrier Mats

- May be used in vehicles, lifts, walls, enclosures, doors, ventilations systems, and all vibrating sheet metal structures.
- Materials: bitumen board, ethylene propylene diene monomer—a type of rubber, vinyl.

Multilayer Floor Mats

- May be used where sound and heat insulation is required. Suitable for applications where both low and high frequency noise occurs.
- Materials: rubber and vinyl in various surface textures such as a checkered, diamond or coin patterns.

NOISE ABSORBING MATERIALS

Resources - Sample List of Vendors and Products

Sound Absorption Sheets

- FatMat Sound Control – Self-Adhesive Kit
- Audimute – Peacemaker Sound Barrier Lite

Barrier Mats

- Sound Away – SoundAway Mat
- AudioSeal – Sound Barrier

Multilayer Floor Mats

- IsoStore – GenieMat
- Iso-Step – Floor Underlayment



Sample noise barrier mat for sound reduction.



Sample sound deadening acoustical insulation sheet for trucks.

Contact NYC DOT

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CONTACT NYC DOT

Get in Touch

- NYC DOT is keen on hearing from organizations and businesses implementing OHD.
- Some support and advice is available from the Office of Freight Mobility to assist organizations in the implementation of OHD.

Contact Us Today!

Off-Hour Deliveries (OHD) Program

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OHD NOISE MITIGATION – THANK YOU!

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