



Best Practice Guideline Truck Traffic & Community Concerns

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A **How-To** Guide for the Aggregate Industry

Introduction

The perceived potential and nuisance associated with trucks entering and leaving an aggregate operation are a concern often raised by the public. Residents and local governments commonly cite offsite traffic as a major issue regarding aggregate operations. An operation's neighbours, no doubt, feel trucks can be noisy and dirty, and their size can be intimidating. Another public perception is that trucks' slow acceleration properties can add to traffic congestion and, over time, their weight can cause road deterioration. Truck traffic may possibly be the most difficult issue a producer may face with the public.

In many locations, the truck entering and leaving operations are owned and operated by the plant's customers, so it may seem that individual truck issues are the responsibility of those trucking companies, and managing local traffic is the responsibility of the local community. Still, in the eyes of the community, these trucks are associated with the particular facility. So, it is in a producer's best interest to take a proactive approach to developing company traffic protocols for managing these issues, working in conjunction with trucking companies and local governments, as well as working through and minimizing community concerns about the truck traffic surrounding your operation.

Onsite traffic planning considers aspects of haul roads and industrial traffic, the design of the operation's entrance and exit and weigh scale layout. It can help alleviate most noise, dust and visual impact. Offsite traffic planning can pinpoint concerns and suggest measures to limit impacts. Local planners may request estimates of volumes, times and destinations of truck traffic, but traffic is often unpredictable because of seasonal variables and market fluctuations. Traffic planning can recommend driver protocols, however, and can provide measures that can be taken to reduce the impact on neighbours.

Work with your trucker, and your customers' truckers...

Work with truckers in every way possible to help ensure they present a minimal impact to the community.

- Every operation should have rules that drivers are expected to follow. These rules may be presented as a list that drivers are required to read and sign, keeping a copy of that signed document with them in their vehicles. Another idea is to hold a "Trucker Safety Day" to present these rules periodically.
- Reinforce the rules. Establish award programs to motivate and recognise truckers who exhibit outstanding safety records.
- Although local police will enforce speeding laws, consider assigning an employee (possibly from the Safety Department) to monitor truck activity on access and local roads. An employee in a company-designated vehicle, with proper signage, patrolling the roads and monitoring truck activity, can be an effective presence in the community and can report any offending behaviours to the scale house.
- There may be cases where specific truckers are positively identified as habitual and flagrant traffic law violators. In these cases, you may either deny the trucker access to the operation, or ask your customer not to use those particular truckers unless traffic violations are eliminated.

Work with the Community...

- Attend local traffic advisory boards and committees to interact with community officials in the spirit of cooperation. If there are any truck traffic concerns, work with the community to try and resolve them.
- Encourage neighbours to be watchdogs and let you know about unsafe trucking practices. Emphasise that you want to make sure traffic is safe for the entire community. Present your idea in the spirit of cooperation – wanting neighbours to help you keep on top.

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- Establish a dedicated community liaison committee, the members of which will be responsible for proactively educating the community and dealing with neighbour complaints. Assign one or two people from the committee to be the community contacts for questions. And make sure your neighbours know who the contacts are that they can call with their questions and concerns. This will speed up the process, and as a result. Allay concerns more quickly.
- Make community relations a priority. A proactive approach to the concerns of your community establishes you as a good neighbour from the start – and a little bit of education goes a long way. Lay the ground work early with your neighbours. Meet and develop a rapport with community leaders. Citizens; groups. Homeowners' associations and individuals. Establish yourself as a good neighbour: support local organisations and causes, attend community events and activities. Join your local Chamber of Commerce; it's often a good way to meet key people in your community.
- Hold an open house. By inviting neighbours to come and see who you are and what you do, you may help to change many unflattering opinions and perceptions. Allow your neighbours to see your efforts towards truck traffic control, both onsite and offsite, and how those efforts reduce such concerns as noise and dust.

Best Management Practices (BMPs)...

- Ensure that all trucks leave your property within weight limits, with loads below bed limits, and in compliance with any other local ordinances, such as having loads tarped.

Table TM – 1: On-site traffic BMPs to reduce dust, noise and visual impacts

BMPs & Other Measures	Description	Dust	Noise	Visual
Speed Controls	Reduce truck speeds from unregulated to: <ul style="list-style-type: none"> • 50kph can reduce dust by 25% • 30kph can reduce dust by 65% • 25kph can reduce dust by 80% 	X		
Sheet Vehicles	<ul style="list-style-type: none"> • Cover loads with tarps or sheets 	X		
Road Surfacing	<ul style="list-style-type: none"> • Topping or paving high volume on-site roads with dust free material to reduce dust generation and create a smoother, quieter running surface. Dust generation from traffic may account for up to 40% of all dust generated at a gravel pit or quarry. • Paving roads between washing facilities and site exits 	X	X	
Sweeping	<ul style="list-style-type: none"> • Sweeping surfaced roads to reduce dust 	X		
Drop Height	<ul style="list-style-type: none"> • Reducing drop height into truck can reduce dust generated by up to 25% for that activity, and reduce noise and energy cost to lift material 	X	X	
Spay Facilities	<ul style="list-style-type: none"> • Spraying loads in un-sheeted trucks with water or stabilizer can reduce dust 	X		
Wheel Washer	<ul style="list-style-type: none"> • Installing a wheel washer will prevent mud from leaving the site, reduce dust and make the overall site and adjacent roads cleaner 	X		X
Road Sprays	<ul style="list-style-type: none"> • Regularly spraying roads with water or dust retardant can reduce road dust by as much as 50% 	X		
Site Layout	<ul style="list-style-type: none"> • Locating roads at the lowest possible elevation on site reduces road dust transmission, dust dispersal and visual intrusion • Not placing road along ridge, or allowing it to cross ridges, as that would create a conspicuous break in the skyline • Keeping roads off a ridge also reduces the visibility and spread of dust • Using the lay of the land to hide roads, reduces exposure to wind and to muffle noise • Locating roads downwind from sensitive neighbours reduces dust and noise migration towards those neighbours 	X	X	X

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		X	X	
Refuse to Overload	<ul style="list-style-type: none"> Overloading trucks can cause material loss on-site and off-site, which eventually becomes fugitive dust 	X		
Road Maintenance	<ul style="list-style-type: none"> Grading and compacting road surfaces to prevent uneven running surface which causes both noise and dust 	X	X	
Un-swept Exhaust	<ul style="list-style-type: none"> Using un-swept exhaust to avoid dust generation 	X		
Dust Skirt Loaders	<ul style="list-style-type: none"> Applying dust skirts on overhead bin or conveyor load-out facilities for trucks can reduce dust by 75% during the loading process 	X		
Protect/Screen Roads	<ul style="list-style-type: none"> Placing berms, trees, shrubs, or fences upwind of the haul roads to reduce win exposure and interrupt noise and sight lines 	X	X	X
Strobe back-up Alarms	<ul style="list-style-type: none"> Using strobe lights as an alternative to back up alarms. Request for a variance from the Code requirements for audible alarms should be sent to the Principle Inspector 		X	
Radios	<ul style="list-style-type: none"> Using radio communication instead of horn signals 		X	
Maintenance	<ul style="list-style-type: none"> Tightening loose and rattling hitches, etc 		X	
Non- engine brakes	<ul style="list-style-type: none"> Avoiding use of engine retarder brakes within urban areas 		X	
Entrance Layout	<ul style="list-style-type: none"> Staging, off-setting or curving the site access to prevent direct views into site 			X
Loading Facilities	<ul style="list-style-type: none"> Locating loading facilities to shield visibility from off site locations 			X

- Where required, or simply as a good neighbour practice, spray wheels and/or the entire truck with water to reduce the amount of dust that is deposited on public roadways. Even if it is not a local ordinance, tarping is a good practice. Provide tarping areas so the truckers can properly cover their loads.
- Manage your onsite traffic. This largely involves initial organisation of protocols and procedures. Initial time and costs spent should be recouped through prevention of lost time and resources needed to deal with traffic concerns. An effective tool is an onsite traffic map, which could be part of or based upon an extraction or mine development map.
- Other consideration for onsite traffic planning • location of mine roads • types and volumes of traffic (including personal transport) likely to use onsite roads • speed limits • entrance and exit requirements, and whether access is to a highway or to a local road • a right-of-way hierarchy • entrance/exit, loading facilities and mine/road layout to avoid unnecessary noise, dust and detracting views that may affect your neighbours • traffic and personnel transport protocols and procedures • onsite traffic map • runaway lanes or retardation barriers on steep grades • posting maps, routes protocols and procedures at the entrance, office, parking lot, etc. • training onsite workers.

Managing Off-site Aggregate Traffic

Some of the BMPs and other measures suggested in Table TM-2 can be taken by the procedure, some by trucking companies and other drivers, and some by the road and highway authorities. Table TM-3 lists these actions in association with the organisations or persons that would normally undertake them. Working with the local planning authorities in advance of production will make managing specific aggregate traffic easier.

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Table TM-2: Off-site aggregate traffic concerns and mitigating BMPs and other measures

Local Traffic Concerns	Description	BMPs & Other Measures
Noise	<ul style="list-style-type: none"> The large engines used to power dump trucks, and their heavy-duty braking systems, are substantially louder than domestic motor engines, often drawing negative attention to the trucks. 	<ul style="list-style-type: none"> Equipment Selection Driver training
Driver Behaviour	<ul style="list-style-type: none"> The heavy loading, high noise levels and large size of dump trucks accentuate their movements, and may create the impression of aggressive driving. The nature of product delivery business, where time is money, may encourage aggressive driving behaviour 	<ul style="list-style-type: none"> Driver training
Truck Visibility	<ul style="list-style-type: none"> Industrial vehicles and dump trucks are big and noticeable, heightening perception regarding aggregate supply and delivery traffic 	<ul style="list-style-type: none"> Signage Turning lights
Vibration	<ul style="list-style-type: none"> Heavy vehicles, especially during hard braking, can cause ground vibrations which may be felt up to 250 metres away, depending upon local soil conditions and the sensitivity of local buildings (e.g. rattling china cabinets) 	<ul style="list-style-type: none"> Driver training
Traffic Volume	<ul style="list-style-type: none"> On low-volume roads, dump trucks from local aggregate operations may significantly increase local traffic On already over-subscribed, high-volume roads, added truck traffic will aggravate existing problems. Large trucks are readily noticed, and it may seem like there are more of them than there actually are. 	<ul style="list-style-type: none"> Trip timing
Dust	Dust can be generated by: <ul style="list-style-type: none"> <i>Blow-off</i> from inside the box <i>Bounce-out</i> from rough roads or fast braking <i>Fall-off</i> from exterior box ledges from sloppy loading <i>Mud-fall</i> off from underside of a truck onto road 	<ul style="list-style-type: none"> Wheel Washer Avoid overloading Loading chutes Truck sheeting Wash trucks
Visual Impacts	<ul style="list-style-type: none"> Large high-sided trucks can cause obstruction or block views Away from construction sites, dump trucks can seem out of place and intrude upon a setting such as a residential area 	<ul style="list-style-type: none"> Berm Fencing hedges
Landscape character	<ul style="list-style-type: none"> Large trucks can mar the perception of tranquillity and wildness 	<ul style="list-style-type: none"> Berm Hedges
Detachment	<ul style="list-style-type: none"> Residents, pedestrians and other road users can feel separated and cut off because of perceived difficulty of crossing a road heavily travelled by large trucks 	<ul style="list-style-type: none"> Crossing lights Pedestrian bridges
Fear and intimidation	<ul style="list-style-type: none"> The volume. Size of trucks, speed of traffic and proximity to people increases the likelihood of pedestrian and cyclist fear and intimidation. This factor is also influenced by road width, curb presence and shoulder size. 	<ul style="list-style-type: none"> Fencing Road widths Speed reductions Shoulders Sidewalks
Highway Safety	<ul style="list-style-type: none"> Increases in traffic volumes result in increased road safety hazards for all road users, pedestrians and residents 	<ul style="list-style-type: none"> Fencing Speed reductions
Road degradation	<ul style="list-style-type: none"> Heavy-load traffic can damage roads, depending upon the age and grade of the pavement and construction standards 	<ul style="list-style-type: none"> Avoid overloading Road standards Road upgrades

Table TM- 3: Suggested off-site truck traffic actions, by applicable organisations

Producer	Trucking company/truck driver	Road Authority
<ul style="list-style-type: none"> • Receiving, recording and acting on complaints • Avoid overloading • Spray or covering outgoing loads • Refusing to load rogue drivers • Washing wheels • Loading with chutes to avoid spillage 	<ul style="list-style-type: none"> • Sheeting trucks • Reducing speed • Driver training • Trip timing to avoid rush hours • Equipment selection • Painting trucks with visually appealing images or colours 	<ul style="list-style-type: none"> • Trimming roadside vegetation for visibility • Crossing lights • Signage • Signal lights • Insulating roads with acoustic fences, berms or shrubs • Curbs • Planning for wide roads with adequate shoulders • Sidewalks • Pedestrian bridges • Upgrading roads around aggregate supply area

Other considerations for off-site traffic planning • estimates of possible truck traffic volumes • neighbouring facilities (e.g. residences, schools etc.) • low-ballast roads • overgrown roadside vegetation affecting safety, visibility and pedestrians • preferred trucking route(s) • reduced speed zones for aggregate traffic • driver training and protocols • signage and traffic control measures such as weight-activated turning lights • enhanced pedestrian crossing aids • roadside improvements (sidewalks, hedges or fence) and cost-sharing • dust skirts on overhead load out facilities to reduce dust generation • preventing aggregate from landing on vehicle surface outside box or sweeping off before hauling.

When Neighbours Complain...

If citizens notify you that individual trucks are speeding or otherwise violating traffic laws, attempt to work with the customer(s) to resolve the problem. If that effort is unsuccessful, you may choose to notify local law enforcement officials that a problem exists.

Whether you receive your complaint directly from a resident, or through a local government official, respond promptly. Listen and be concerned. Make sure you neighbours know you understand and empathise, repeat their concerns to let them know you heard and understood. Meet them on an emotional level with your response. Be open and honest, emphasising positives in your language, not negatives. Say things such as, "We promote safe driving practice because..." and repeat the phrase with your reasons. Follow up after your initial response. Continue to follow up if the neighbours feel their concerns have not been resolved.