ONTARIO ASPHALT PAVEMENT COUNCIL

The ABCs of an Asphalt Plant in your neighbourhood

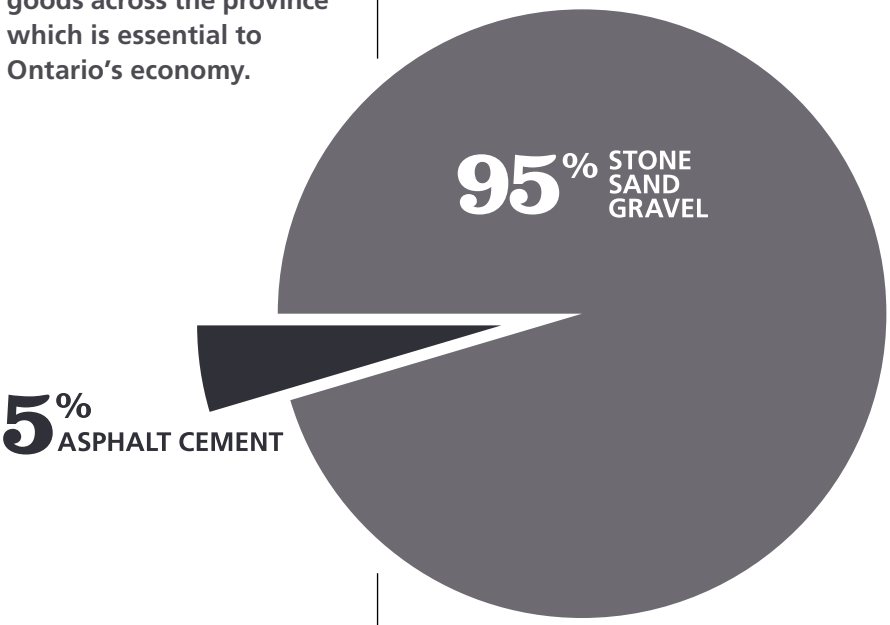
Essential to Ontario's infrastructure requirements, over 150 asphalt plants operate in Ontario supplying critical construction materials required to build and maintain Ontario's roads. Ontario's approximately 150,000 centreline[1] kilometres of road infrastructure (approximately 95 per cent of which is paved with asphalt) serves the travelling public on a daily basis. This critical network of roads enables commuters to travel to work; travellers to visit friends, families and places of interest; children to arrive at school and extracurricular activities; emergency responders to reach persons in distress; and expedites the flow of goods across the province which is essential to Ontario's economy.

It may not be surprising that asphalt plants, which are located in both urban and rural areas, may be situated near local communities. Our members are responsible neighbours that run well regulated operations, contribute to the local economy, and engage with their community. As with most industrial facilities, the operations within the facility may not be well understood and this may prompt questions and possibly concerns by members of the community.

This communication provides information about the basic operations of an asphalt plant and provides information regarding questions that neighbours may have about impacts to the community and the environment.

WHAT IS ASPHALT?

Hot Mix Asphalt is an engineered material composed of approximately 5 per cent asphalt cement and 95 per cent aggregate (stone, sand and gravel). Asphalt cement is a crude oil derived product. It is one of the heaviest, most viscous parts of petroleum and is sometimes called



binder or bitumen. Asphalt cement is the black liquid that acts as the glue that holds the asphalt mixture together.

Some mixes also require small amounts of additives which can range from chemicals that improve mix performance to natural fibres that strengthen specialty mixes.

Although asphalt cement looks like tar, it is not. Asphalt cement is derived from petroleum crude oil whereas tar generally refers to coal tar which is a by-product of coke from coal production.

WHAT HAPPENS AT AN ASPHALT PLANT?

Paving aggregates are dried and heated and then mixed and coated with asphalt cement. Asphalt mixtures are typically mixed at temperatures between 150°C and 165°C. The resulting asphalt mixture is put into silos for short-term storage, and then it is trucked to the paving site. Plants generally need to be within 30 to 60 minutes away from paving sites; further distances contribute to increased traffic congestion and vehicular emissions. Go to http://www.onasphalt.org/asphalt101/asphalt-plant-tour.html to take a virtual tour of an asphalt plant.

REGULATED BY THE MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE

All asphalt plants in Ontario are required to receive an Environmental Certificate of Approval that is approved by the Ministry of the Environment and Climate Change with respect to air and noise emissions. Plants must operate in accordance with their permit requirements.

OAPC AND THE ONTARIO ASPHALT INDUSTRY

The Ontario Asphalt Pavement Council (OAPC) represents close to 95 per cent of Ontario's asphalt producers and suppliers. OAPC publishes an Environmental Practices Guide[2] that members may use to ensure plants are operating using best-in-class operations intended to control and minimize impacts to the environment and the surrounding community. It is a comprehensive guide that is also internationally recognized. Various

industry organizations in the U.S. have also referenced these guidelines. OAPC also awards qualifying plants with Trillium Awards[3] for those plants that exceed the already rigorous standards required by government regulations. The Trillium Award sets the standard by which all others are judged: good plant operators who are also good corporate citizens. Facilities must meet rigorous criteria and facilities must meet high standards in the areas of Appearance, Operations, Environment, Safety, and Community Relations. When a plant earns a Trillium Award they are recognized as being the best of the best.

OAPC is a council of the Ontario Road Builders' Association[4].

ASPHALT AND THE ENVIRONMENT

Most asphalt plant emissions derive from the combustion process used to heat and dry aggregates and keep the asphalt cement hot so that it remains fluid. The majority of asphalt plants in Ontario operate using natural gas. There are some plants that may use fuel oil; however, that is the exception rather than the norm. Water vapour is visible while drying aggregates.

Dust from the aggregate drying process is captured by a baghouse filter or wet scrubber system which keeps it from entering the environment. Dust from sources outside of the aggregate drying process such as from the delivery and handling of aggregates or from vehicle traffic are managed through the best practices described in the OAPC Environmental Practices Guide.[2]

Odours may arise from heated materials. Community members should feel free to contact the company operating the asphalt plant in order to deal with any odour concerns.

The Government of Canada has concluded that asphalt cement does not constitute a danger in Canada to human life or health.[5]

Asphalt cement is inert and insoluble in water. Studies have shown that asphalt cement does not leach contaminants into the soil and water.[5,6]

TRAFFIC MANAGEMENT

During peak construction periods, asphalt plants may experience heavy truck traffic along roads leading to and from the plant. Trucks deliver raw materials such as aggregate and asphalt cement used to produce asphalt mix to the plant and transport asphalt mix to the construction project. Asphalt facilities aim to carefully manage traffic flow in order to minimize delays at the plant and at the job site. This helps ensure that asphalt arrives at the paving site at the right temperature which is necessary to ensure a quality product. From time to time a back-up signal may be heard beeping.

POSITIVE CONTRIBUTIONS

There is a lot more than meets the eye when it comes to an asphalt plant. These operations provide benefits to the community, to society, and to the economy.

1. **Vital to our infrastructure** – Asphalt pavements are an essential part of the roads that get us to where we need to be. Asphalt also makes up the surface of the majority of parking lots, airport runways, biking trails and recreational surfaces such as tennis and basketball courts and running tracks. Ontario rides, parks, lands and plays on asphalt. When asphalt is trucked to a paving site, it must arrive hot. We need asphalt plants throughout communities in Ontario to ensure smooth, cost-effective, durable pavements. »

2. **Good for the economy:** The asphalt industry of Ontario supports the province's approximately $37 billion construction industry.[7] Ontario's asphalt producers and contractors employ approximately 30,000 workers during peak construction season (March to October).[8] During this period, it is estimated that $8.1 billion in total employment income is created by the asphalt industry. Asphalt plants within a community provide local jobs for its residents.

3. **Giving back to the community:** Plant owners and operators typically live in the community where they work. They care about their community and many of them give back in several ways, including:

    a. Supporting local charities, sports teams and community activities

    b. Providing emergency services when requested by the local municipality

    c. Participation in local environmental activities such as clean-up programs

    d. Take your kids to work day

    e. Hosting plant tours for neighbours, press and local officials

4. **100% recyclable:** Asphalt is completely recyclable- and is in fact the most recycled material in North America (more than steel, plastic, or paper).[9] Reclaimed Asphalt Pavement (RAP) is engineered into new pavements as permitted by government specifications. The engineering and specifications help ensure that the new pavement lasts for its intended lifetime.

OAPC's asphalt producer members live and work in our communities and it is imperative to be good stewards of the community and the environment. Ontario's asphalt industry is vital to ensuring that our infrastructure needs are met and our communities remain vibrant. To this end OAPC members strive to be good neighbours on a daily basis.

Notes:

1. Centreline refers to the painted line that runs down the middle of a road.
2. Environmental Practices Guide, 5th Ed (2015). http://www.onasphalt.org/publications/ohmpa_publications/fact_sheets.html
3. OAPC Trillium Awards – http://www.onasphalt.org/awards/trilliumaward/index.html
4. Ontario Road Builders Association – http://orba.org
5. "Screening Assessment Petroleum Sector Approach – Asphalt and Oxidized Asphalt", Cat. No.: En-14-279/2017E-PDF, ISBN 978-0-660-09363-5, Environment and Climate Change Canada & Health Canada (August 2017).
6. "The Environmental Impacts of Asphalt Plants", SR-206 2014-05, National Asphalt Pavement Association (2014). http://www.asphaltpavement.org/PDFs/SR206-EnviromentalImpact-web.pdf
7. "Aggregates Build Ontario.", Ontario Stone Sand and Gravel Association (2015). http://www.ossga.com/multimedia/2016-08-03-144207-45155/aggregates_build_ontario_2015_web.pdf
8. Phillips J., Drolet, R., "The Road Ahead – Assessing the Impact of Cap and Trade for Ontario's Transportation Infrastructure Industry." Report submitted by Dawson Strategic to the Ontario Road Builders Association (2016). http://orba.org/wp-content/uploads/2016/06/The-Road-Ahead-Assessing-the-Impact-of-Cap-and-Trade-for-Ontario%E2%80%99s-Transportation-Infrastructure-Industry.pdf
9. "The ABCs of Asphalt Pavement Recycling", (2017) – http://www.onasphalt.org/files/Publications/ABCs%20of%20RAP.pdf

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