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# Collection evolution

WITH A PUSH TOWARDS GREATER EFFICIENCIES, THE CITY OF SWAN NEEDED A SAFE AND ECONOMICAL FLEET TO SUPPORT RAPIDLY CHANGING WASTE COLLECTION CONDITIONS.

In the sweltering heat, a driver climbs Perth's Darling Range fully laden with waste on route to the local landfill site.

Travelling and servicing households east of Perth's CBD, the steep inclines and open highways prove challenging in the 40-degree summer.

In Perth's City of Swan, waste drivers need a fuel efficient, comfortable, safe and environmentally friendly vehicle to work reliably and safely every day in the tough conditions.

Operating in high density, rural and semi-rural areas, each day up to 18 Volvo FE Euro 6 Dual Control vehicles collect about 1200-1500 bins each across Perth households over an area of 1042 square kilometres.

Colin Pumphrey, City of Swan Fleet and Waste Manager, has spent the last 15 years managing the city's fleet and waste services. Having an engineering background, Colin's knowledge of engine design and automotive engineering places him in good stead to manage all aspects of the city's

waste, including vehicle specifications, personnel, scheduling, recycling and depot operations.

## DRIVING DOWN THE PRICE

The City of Swan manages all of its waste services in-house, from collection and recycling, to kerbside bulk materials and litter control. Colin says competing against private waste companies on cost and service can be a challenge – which is why council sought to drive numerous efficiencies across its waste collection



and infrastructure.

Its efforts have seen it recognised as having less waste management costs per resident than the national average in a major survey of local government – the Australasian LG Performance Excellence Program 2017.

Colin says that being able to bring all the services together and share resources has offered council a significant competitive advantage.

“We don’t require multiple or complex contracts. We share the vehicles and plant equipment and personnel around all the various services,” Colin says.

He says that over his long career, safety and efficiency have become the main concern for the local government sector in managing their waste services.

“The public expects the best possible collection and recycling service to ensure they’re getting value for money on their rates. You have to provide that at a competitive price and that is a big challenge,” he says.

Colin says ongoing changes to waste collection, including three-bin systems, higher density living and an ageing population (leading to more retirement villages), mean the City of Swan will have to continue to adapt its services and infrastructure.

“The waste industry is an awakening giant and the collection industry still needs to go through a lot of adaptation in the City of Swan and many other Australian cities, particularly the ones on the urban fringes,” he says.

### HOLISTIC PURCHASING DECISION

As part of a commitment to safety, the changing expectations of the public and the new infrastructure that comes with this, the City of Swan selected Volvo to provide a solution.

Volvo was successful in a competitive tender process to support the City of Swan’s bulk verge collections, providing



it with a fleet of new FE Euro 6 Dual Control vehicles.

The City of Swan purchases two to three new vehicles each year in a replacement program to ensure it keeps pace with the latest technology. The fleet of dual control vehicles has now reached 20, with 18 vehicles running at any one time as two perform routine maintenance each day.

Colin says that keeping operational costs low and retaining a high level of service is a major challenge. For this reason, he says safety, whole-of-life costs and fuel economy are key factors when choosing to purchase waste trucks.

“In the City of Swan our selection of any plant and equipment has to go through a very rigorous evaluation process. The Volvo FE’s were chosen because of their safety record and operating efficiency,” he says.

He explains whole-of-life costing includes the purchase price, all operating costs and potential resale value after five years. Fuel efficiency, resale value and maintenance are part and parcel of the whole of life costing.

One of the key tenets of the FE Dual Control’s safety features are a left hand steering circuit independent to the right with its own steering box. Independent left-hand steering means the driver has full control when picking up bins using the left-hand drive, while also

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Colin Pumphrey, **City of Swan Fleet and Waste Manager**

maintaining the capability to drive at standard speeds on the highway in a right-hand position. Independent left and right-hand drive can be adjusted to suit drivers at the flick of a switch.

Colin says independent left-hand steering allows for a more precise alignment with bin pick-up and easier control of operation. He says that left hand independent steering control maintains a full view of road placement, vehicle monitors and safety warning systems.

“Drivers are still able to identify all the visual areas they need to look at, but because it is easier for them, it enables them to get a more accurate pick-up and still be aware of everything else around them.”

To improve driver visibility, the FE Dual Control vehicles feature ergonomic mirror positions, in addition to an optional back-up monitor.

“Good driver visibility is critical even with the various camera, mirror and sensor arrangements, which are all

great tools,” Colin adds.

He says driver acceptance has been high, with positive feedback provided on the left and right hand side cab layout.

Volvo’s FE Euro 6 also offers an electronic braking system, which aims to provide instantaneous brake response under varying conditions.

The system offers hill start assist, reducing the risk of rolling back,

European Economic Area member states. Euro 6 compliant selective catalytic reduction is a way of converting nitrogen oxides (NOx), a key contributor to air pollution, into harmless diatomic nitrogen and water vapour.

Compared with previous models, Volvo estimates the Euro 6 engine has halved particulate emissions and reduces oxides of nitrogen oxides by close to

time. Having someone with a local product knowledge when you need them really helps a lot.”

With more than 82 dealerships, service and parts centres and customer service centres across Australia, Volvo is on hand to provide its customers with ongoing support. The company boasts a 96 per cent parts availability across group parts. The parts are supported by a 24-month part warranty of up to 500,000 kilometres on fitted parts when installed by an authorised Volvo workshop.

“Parts availability plays a key role and having suppliers with a good product knowledge is important. One of the things we base our buying criteria on is backup support and product knowledge,” Colin says.

“We service vehicle brakes quite often so the disc brakes on these vehicles provide a nice quick turnaround in the workshop” Colin says.

Telematics are also an important aspect of any waste collection business aiming to improve safety.

Rather than relying on external sources, Volvo has taken the initiative to include its own telematics system – Dynafleet – which provides instant access to fleet, fuel and driver information. The opening screen shows fleet performance data, including up to the last 30 days.

As the waste industry undergoes a seismic shift in collection infrastructure, Colin is buoyant about the possibilities.

“Increased use of telematics as well as autonomous features reduces the direct functions required by the driver itself which makes the operation safer and puts less pressure on them,” Colin says.

“Many features are already creeping into this area such as adaptive cruise control, lane departure warning systems and I-shift automated gear box. The ultimate change will be a fully or partially electric powered, autonomous waste collection truck.” ■



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maintaining traction and improving drivability in slippery or uneven road conditions.

Forward collision warning with emergency braking and lane keeping support, also lowers the risk of accidents and collisions, whether the truck is picking up bins in a residential area or on the highway travelling to the tip site. Large all-wheel disc brakes are standard features for increased safety and durability.

In order to deliver an ergonomic unit, the FE Euro 6 Dual Control features a significantly quieter cab and braking system when compared to previous models. Colin says that an aerodynamic design allows for a relatively quiet operation at higher speeds.

## HIGH ENVIRONMENTAL STANDARDS

Euro 6 is the latest in emissions standards which defines the acceptable limits for exhaust emissions of new vehicles sold in European Union and

80 per cent. The engines have been engineered to comply without losing power or torque, or increasing fuel consumption.

“Euro 6 is exceptionally low in its emissions, be it nitrous oxide or hydrocarbons. They’re out in the suburbs operating among people and the environment all the time so it’s critical emissions are as low as possible,” Colin says.

A high level of after-sales support and keeping downtime to a minimum is also imperative for the City of Swan.

With two vehicles in the fleet performing routine maintenance every day, the City of Swan’s local Volvo truck dealer Truck Centre WA (TCWA) is there to reduce the number of backup vehicles on standby. TCWA also supports the City of Swan should there be any unforeseen problems out in the field.

“We don’t want to be in an area where we have to rely on someone overseas or on the east coast all the