



The Oxford City Council Story - Connected Fleet

Presented by: Ian Bourton, Oxford City Council

Where we Were...

- APSE Service Review
 - Expensive per household at £72.55
 - Recycling rates low at 38%



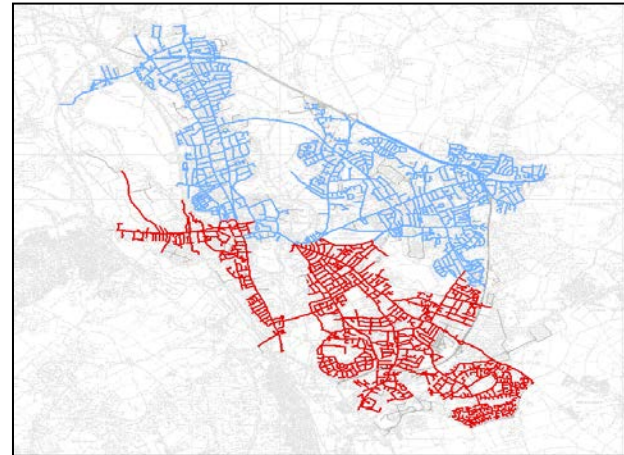
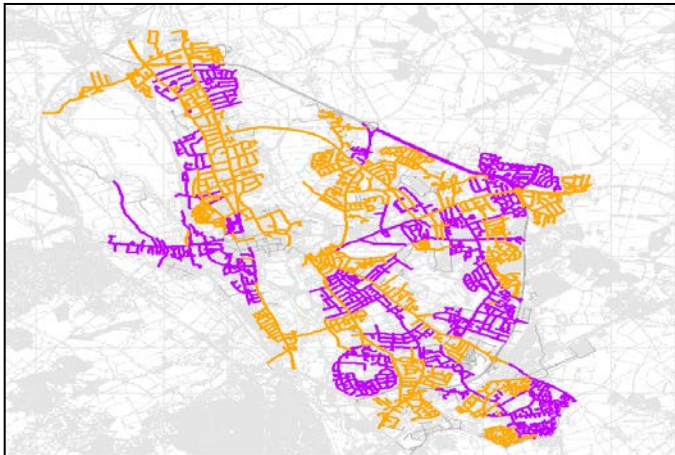
- Internal Pressures
 - Single status, carbon reduction targets, a complicated recycling system
 - Council reviewing waste delivery model - FSR

- In House Submission Included
 - Domestic 4 day 9 ¼ hour Working Week
 - Bulky Waste Collected by Appointment
 - Proper Back Office Solution
 - In Cab Technology
 - Bin Weighing
 - End Kerb Side Sort
 - Co-mingled Service
 - Move to wheelie bin system
 - End Task and Finish
 - Garden Waste Subscription Service
 - Memorandum of Understanding

Technology

Rounds Review

- 4 Day working week means new collection rounds for all
- Route optimisation using Software - bringing in the knowledge and expertise of the crews
 - Made rounds more balanced and equal
 - Reduction of 1785 miles travelled over a fortnight and the associated fuel savings
 - Moved from 17 collection rounds to 15 per day



The Connected Fleet



In-cab Device, Rounds Management & Back Office System



Dynamic Bin Weighing/RFID & Overload Protection



VISION TECHNIQUES



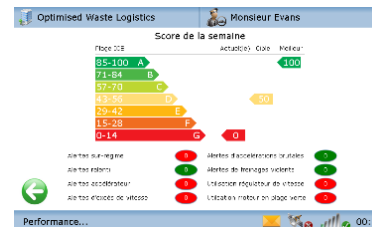
Live Safety & Crash Camera



CANbus Body Telematics Data & Fuel Saving Pack



EcoTrak driver behaviour & tracking

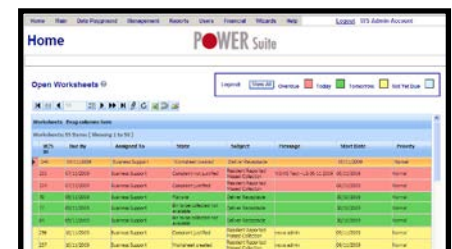




Back Office System



- **Manages the Collection Rounds**
 - Maps and Tracks Collection Vehicles
 - Integrated to Corporate CRM System
 - Links to the LLPG
 - Administers Notifications e.g. Assisted Collections, Key Codes etc
 - Captures Exceptions e.g. not recycling, non presented
 - Back Office/SDA2 In Cab connection real time, two way messaging
 - Commercial Waste Operations and Invoicing
 - Panic Switches
 - Appointments
 - Ad hoc Round Management – Bulkies, Bin deliveries
 - Efficient Routing
 - Crew Manage Garden Waste on in cab devices - SDA2



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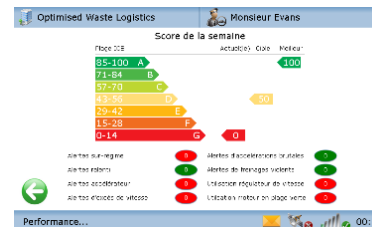
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EcoTrak driver behaviour & tracking



Vehicle Cameras

- Four Cameras on Vehicle – Streaming Live Data
- Viewing Live or Recorded through the CMS portal
- Challenge Missed Bin reports
 - 50% reduction 4249 (2010) to 2131 (2014)
- Challenge Third Party Collision Claims
- Collision at Fault Evidence
- Health and Safety Management – Live or Recorded Images
- Assists Cycle Awareness
- Assisting with Complaint Reports
- Protecting the Crews
- Gritting Evidence and Viewing



Non Presented Letter to Resident - Example

Oxford Direct Services
Telephone: 01865 249811
E-mail: recycling@oxford.gov.uk

Direct Services
Marsh Road
Oxford OX4 2HH

www.oxford.gov.uk



Resident
1 Ox Rd
Oxford
OX1 1AA

REF: 265472
18/11/2015

Dear Resident,

Thank you for reporting your missed collection on 18/11/2015. Unfortunately, the crew that service this waste type have reported your bin as 'Not Presented' and therefore we are unable to return on this occasion.

All of our vehicles have an in-cab reporting system installed complete with CCTV. This allows our operatives to report any issues with collections in real time, including bins that have not been put out for collection. Please remember that Oxford City Council operate curtilage based system which means your household are required to present the waste bins at the edge of your property or on the street to meet our policy on the correct presentation of waste. We cannot collect from inside your garden. I have included our full guidelines with this letter.

As you have disputed our crew's log we have obtained the CCTV footage from the time they visited your road and can confirm that your bin was not correctly presented for collection as it was left down the side of your house (adjacent to parked car).



We are sorry that we cannot return on this occasion and would like to ensure you that we always aim to service all households where possible.

If you have any further queries please do not hesitate to contact our call centre on (01865) 249

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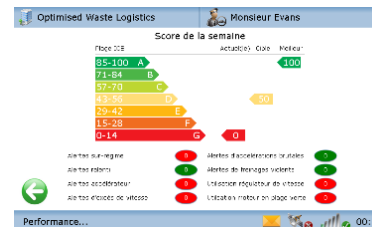
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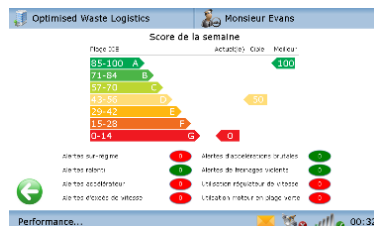
EcoTrak driver behaviour & tracking





Driver Behaviours & Tracking

- Driver ID linked to CMS
- Full Vehicle Tracking
- System Informs the Driver of Violations on SDA1 and SDA2
 - Speeding, harsh breaking/acceleration, over revving etc
- Management Reports on Behaviours
 - Whose costing us money / increasing pollutants
- 1-2-1s with both Good and Poor Drivers
- Individual Driver Development Programmes
- Drivers Top 5 League Table/Staff Awards Presentation





Driver Behaviours & Tracking

- **Driver Achievements:**

- Improved average RCV mpg from 3.5 (2013) to 5.13 (2015)
- Accident Rate reduced by 24%

- Increasing External Income Successfully is Impacting on Fleet Usage...
- Annual Comparison:

01 Nov 2013 – 31 Oct 2014 and 01 Nov 2014 – 31 Oct 2015

We purchased 12 more vehicles

AND

We travelled 89,027 more miles

BUT

We managed to use 10,301 litres less fuel

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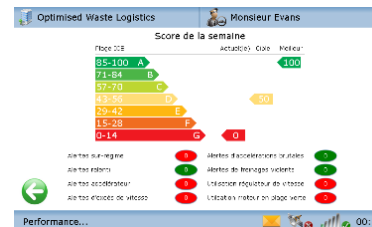
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RCV Vehicle

- Dennis Eagle – 26 Tonne Narrow Body Rear Steer with Terberg Omni Del or DE Beta Lifter
- Oxford buy into the Dennis Connect concept



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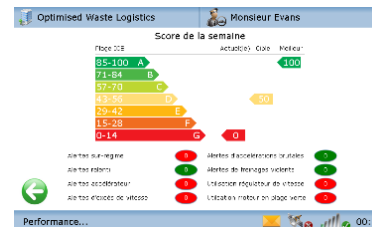
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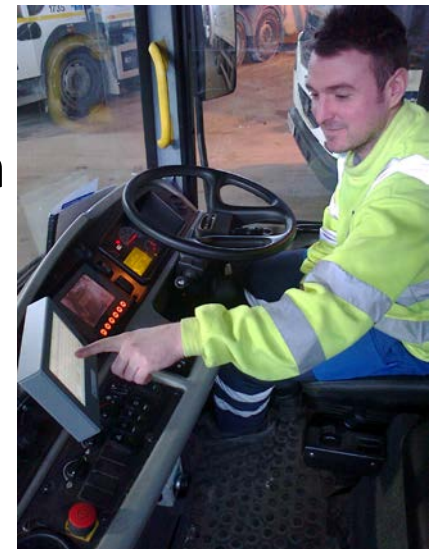
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On Board Weighing

- VWS Chassis Weighing – assisting the driver
- VWS Commercial Bin Weighing
 - Opportunity to review customer charges
 - Opportunity for customers see their own recycling figures and promote own green credentials
- Integrates with CMS
 - Shows date, time, weight & location of bin
 - Identifies Extra Lifts
 - Reduces Missed Bin Claims



Impact

- 302 Mixed fleet of RCVs, LGVs, Vans and Cars & Approx. 350 plant & trailers
- 2014.15 R&W cost per Household £51.55 - 29% reduction on pre FSR
- Missed bin complaints down by 50.15% from 2011
- Increased staff morale; Better driver engagement
- Individual driver development plans in place
- Vehicle systems are connected and integrate with the end user systems
- Fuel Savings in excess of 5% in last year
- Average MPG for RCV fleet increased from 3.5 MPG to 5.1 MPG
- Remapped Euro 6 RCVs improved MPG by 4.31%
- Accidents rates have reduced by 24% in the last year
- All commercial side waste captured and paid for
- Increase in Commercial Waste sales of over £900k in last 3 years



Awards

2014

- Municipal Journal Council of the Year 2014
- APSE Best Service Team Transport and Fleet 2014
- Fleet News Green Fleet of the Year Award Winner 2014

2015

- APSE Overall Council of the Year Winner 2015
- UK Green Apple Organisation Local Authority Best Practice Silver Award Winner 2015
- Green Fleet Public Sector Fleet of the Year Winner 2015



Thank you