

Delivery Robots Trial – Update and Expansion

To: Highways and Transport Committee

Meeting Date: 4th October 2022

From: Steve Cox - Executive Director; Place and Sustainability

Electoral division(s): Cambourne, Cherry Hinton, Longstanton, Northstowe & Over, Queen Ediths, Romsey

Key decision: Yes

Forward Plan ref: 2022/098

Outcome: The Committee is asked to consider the details of the trial of delivery robots in Cambourne, note the results of the survey and agree to an expansion of the trial to new areas

Recommendation: The Committee is asked to

a) Approve the continuation and expansion of the trial of food delivery robots as presented within the report

Officer contact:
Name: Sonia Hansen
Post: Traffic Manager
Email: Sonia.Hansen@cambridgeshire.gov.uk
Tel:

Member contacts:
Names: Cllr Alex Beckett / Cllr Neil Shailer
Post: Chair/Vice-Chair
Email: Alex.Beckett@cambridgeshire.gov.uk
Neil.Shailer@cambridgeshire.gov.uk
Tel: 01223 706398

1. Background

- 1.1 Cambridgeshire County Council was approached by Starship Technology to run a trial of food delivery robots in Cambourne. Starship Technology have been successfully running robot delivery services in Milton Keynes and Northampton.
- 1.2 An assessment of safety and risks of running food delivery robots was considered by County policy, and technical leads, and discussion took place with other Local Authorities who have implemented the Starship service in their area.
- 1.3 The Department for Transport have confirmed that delivery robots are not yet specifically defined in legislation, and they are considering the role of delivery robots in the transport system and what, if any, legislative changes might be necessary. Until legislative changes are made, DfT advised that it would be ultimately for the courts to decide on the specific application of the legislation, but it is likely that delivery robots would fall within the definition of a 'mechanically propelled vehicle' and if intended or adapted to be used on the road also a 'motor vehicle' and as such are subject to existing legislation in that as a mechanically propelled vehicle they are not permitted to use footpaths. Officers met with DfT's Centre for Connected and Autonomous Vehicles team and they are aware of the trial in Cambourne.
- 1.4 Cambridgeshire is an innovative dynamic and rapidly developing county and one where new and emerging technology is likely to be supported by the community. Without live trials of emerging technology, it would be difficult for start-up companies like Starship to develop innovative solutions to the issues of last mile delivery, congestion, air quality and over reliance on cars for short journeys to shops. Discussions took place with the Chair and Vice Chair of Highways & Transport Committee and the Local Member for Cambourne about their views on running a trial in Cambourne of delivery robots, considering the risk that it is not currently defined in legislation by DfT against potential benefit of being at the forefront of supporting new and emerging transport technology, and mindful of the technical work undertaken by officers to ensure safe implementation. On the balance of the risks and benefits an agreement was approved for a trial of delivery robots in Cambourne.
- 1.5 Starship Technology are working in partnership with the Co-op and customers can place orders via an app. The robots can deliver hot and cold food as well as groceries and there is potential for partnerships with other shops and takeaways.
- 1.6 The robots operate on pavements and only use roads when crossing them safely, they do not use cycle lanes, they travel less than 4mph and they operate within a fixed area. Artificial intelligence helps the robots understanding the world around them. Human back-up can intervene if they experience any issue.
- 1.7 If the robots encounter a wheelchair user, they will stop at a safe distance. They avoid obstacles and have a flag to help with visibility and emit a noise to signal their presence. They are battery operated so there are no emissions at point of use. They have the potential to reduce short car journey to shops and short deliveries from take aways and can assist those with mobility issues who cannot get to the shops easily.
- 1.8 The trial of robots in Cambourne was launched on 17th May 2022 offering a service to over 3,000 homes of hot and cold food delivery to their door.

- 1.9 The launch of the trial in Cambourne was covered extensively by local media, including the Cambridge News, Cambridge Independent, ITV Anglia and the BBC. It was also communicated on CCC's social media channels, a video was produced and the council's website has a section on the robots along with FAQs.

2. Main Issues

- 2.1 The benefits of the food delivery robots are
- It is a live trial using emerging technology to offer local last mile delivery of groceries
 - The robots are battery operated with no emissions so can help to improve air quality compared to a car doing the same journey
 - They can reduce short car journeys to the shop
 - The robots can provide delivery of essential items to people with limited mobility who struggle to get to the shop
 - They can create an interest and new jobs in Science, Technology, Engineering and Maths (STEM)
- 2.2 There is a risk to the council associated with the trial and its expansion whilst the legislation is not defined specifically in relation to this new vehicle type. The agreement with Starship Technology includes a clause to stop the trial at any time should the Council decide it no longer wishes to proceed with the trial which helps to mitigate this risk.
- 2.3 Starship Technology carried out their own customer survey after the first month of operation and there was overwhelming support for the robots with -
- 97.2% positive about Starship robots delivering in Cambourne
 - 98.4% saying they would recommend Starship to their friends
 - People said the benefits are that it was better for environment than jumping in car (48.4%), it saved them time 40.3%, less food goes to waste (4.8%)
 - 43.5% said they would either drive to the shop (44.2%) or drive to a different shop or supermarket (9.2%) if they did not use Starship to get groceries
 - 17.7% responding had a disability or someone in their household had a disability
- 2.4 The Starship Facebook page has received very positive engagement with people posting pictures of their robot deliveries and children and dogs engaging with the robots. The robots have carried out nearly 12,000 deliveries in Cambourne as of September 2022 and 5735 people have downloaded the app.
- 2.5 There were some concerns raised about the robots going through the country park and so Starship Technology re-set the geo fence so that the robots no longer went through the park. This then prompted some comments that it was taking longer for deliveries as the robots had to go around the park.
- 2.6 The County Council ran its own independent survey over the summer which was sent to stakeholders and promoted to the community via various channels.
- 2.7 The results of the survey are set out in appendix 2.
- 2.8 Details of the comments received in the survey are at the end of appendix 2.

- 2.9 Following the success and positive engagement with the community in Cambourne Starship Technology are keen to expand the trial into new areas of Cambridgeshire to see how the robots will work in different environments. They are proposing to trial in an area of Southeast Cambridge in the Cherry Hinton, Romsey and Queen Ediths divisions. See appendix for proposed trial area. They are also considering extending the trial to the Longstanton / Northstowe area which would largely run on unadopted areas of highway and is of particular interest to see how the service can integrate in a new community.
- 2.10 A trial expansion would continue to be monitored and be operated along the same lines whereby the Council can withdraw support at any time if they wish to. Until such time as DfT clarifies the legislative position it would be prudent to continue to approve any emerging technology as a trial on a case-by-case basis with the option to stop at any time.

3. Alignment with corporate priorities

3.1 Environment and Sustainability

The following bullet points set out details of implications identified by officers:

- The food delivery robots can contribute to carbon reduction by reducing short car journeys to the shop.
- The customer survey by Starship showed a reduction in vehicles miles driven in the first month of the trial as 7798 with over 1670kg reduction in CO2 based on the reduction in miles driven.

3.2 Health and Care

The following bullet points set out details of implications identified by officers

- The delivery robots can provide a service for delivery of essential items to people who are unable to get to the shops easily

3.3 Places and Communities

The following bullet points set out details of implications identified by officers

- The delivery robots trial demonstrated some very positive engagement with the local community in Cambourne via social media with can provide a service for delivery of essential items to people who are unable to get to the shops easily

3.4 Children and Young People

The following bullet points set out details of implications identified by officers

- The delivery robots appeal to children and young people
- Starship will do local outreach with schools
- Robots can create interest for young people in STEM.

3.5 Transport

The following bullet points set out details of implications identified by officers

- The delivery robots offer a trial of new and emerging transport technology solutions for the issue of last mile delivery, reducing short car journeys and congestion

4. Significant Implications

4.1 Resource Implications

There are no significant implications within this category.

4.2 Procurement/Contractual/Council Contract Procedure Rules Implications

There are no significant implications within this category See wording under 4.1 and guidance in Appendix 2.

4.3 Statutory, Legal and Risk Implications

The report above sets out details of significant implications in paragraphs 1.3. and 1.4. There is a risk of judicial review, though mitigation measures are set out in 2.2.

4.4 Equality and Diversity Implications

An Equality Impact Assessment has been undertaken for the first trial in Cambourne and for this proposed expansion of the trial. The following bullet points set out details of significant implications identified by officers:

- The delivery robots can offer a service to people with disabilities who are unable to get to the shops easily
- The robots have a flag and emit a noise to help blind and partially sighted people to recognise them

4.5 Engagement and Communications Implications

The following bullet points set out details of significant implications identified by officers:

- Local stakeholders were sent the survey of the trial in Cambourne

Local Stakeholders were consulted in

4.6 Localism and Local Member Involvement

The following bullet points set out details of significant implications identified by officers:

- The Local Member was involved in the development of the trial in Cambourne
- Local Stakeholders were consulted in the survey

4.7 Public Health Implications

There are no significant implications within this category

4.8 Environment and Climate Change Implications on Priority Areas (See further guidance in Appendix 2):

4.8.1 Implication 1: Energy efficient, low carbon buildings.

Neutral Status:

4.8.2 Implication 2: Low carbon transport.

Positive Status:

Explanation: the trial of emerging transport technology offers a low carbon solution to reducing short car journeys to shops.

4.8.3 Implication 3: Green spaces, peatland, afforestation, habitats and land management.

Neutral Status:

4.8.4 Implication 4: Waste Management and Tackling Plastic Pollution.

Neutral Status

4.8.5 Implication 5: Water use, availability and management:

Neutral Status:

Explanation:

4.8.6 Implication 6: Air Pollution.

Positive Status:

Explanation: the trial of emerging transport technology offers a zero emissions solution to reducing short car journeys to shops.

4.8.7 Implication 7: Resilience of our services and infrastructure, and supporting vulnerable people to cope with climate change.

Neutral Status:

Explanation:

Have the resource implications been cleared by Finance? Yes

Name of Financial Officer: Sarah Heywood

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the Head of Procurement? Yes

Name of Officer: Clare Ellis

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? Yes

Name of Legal Officer: Fiona McMillan

Have the equality and diversity implications been cleared by your EqIA Super User?

Yes

Name of Officer: Elsa Evans

Have any engagement and communication implications been cleared by Communications?

Yes

Name of Officer: Sarah Silk

Have any localism and Local Member involvement issues been cleared by your Service Contact? Yes

Name of Officer: Sue Procter

Have any Public Health implications been cleared by Public Health?

Yes or No

Name of Officer: Iain Green

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer?

Yes

Name of Officer: Emily Bolton

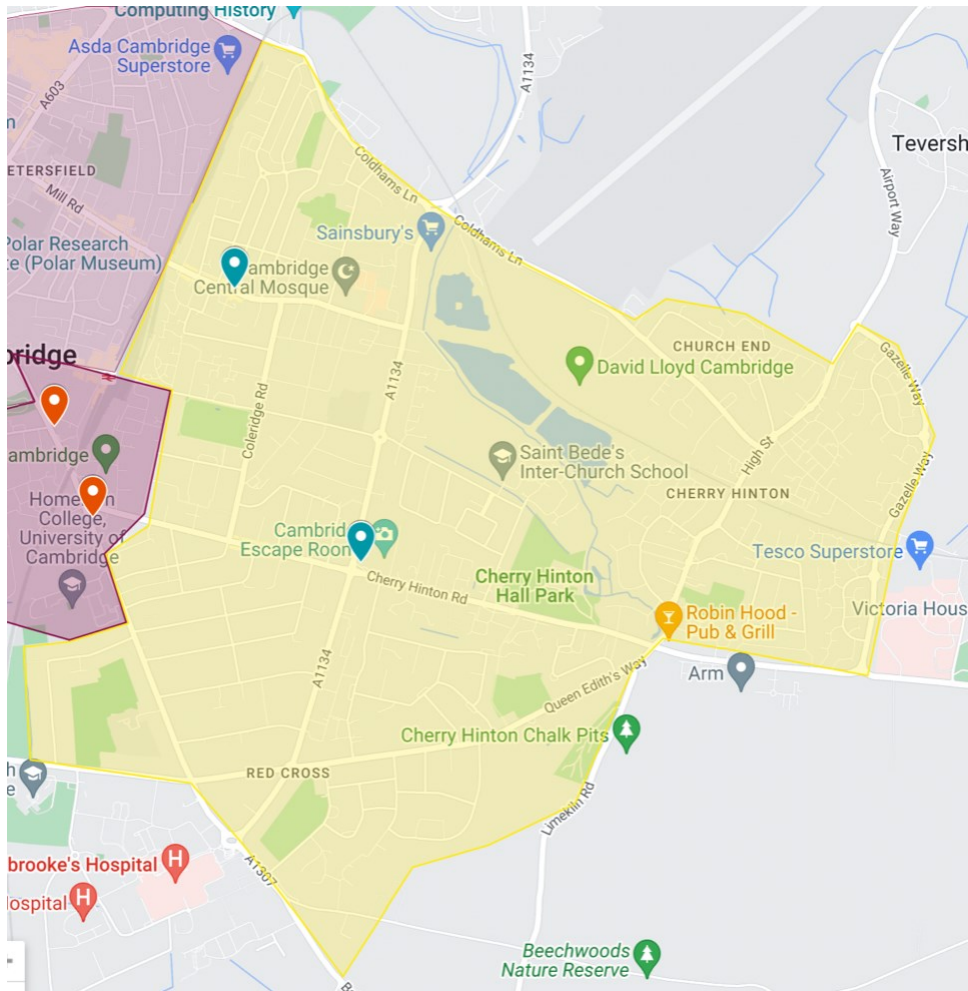
5. Source documents guidance

5.1 Source documents

5.2 Location

Appendix 1

Map of proposed expansion area South East Cambridge



Appendix 2

Delivery Robots Survey Results Sept 2022