Appendix C

HOUSING GROWTH

APPENDIX C – HOUSING GROWTH

This appendix provides a more detailed overview of the housing need and strategic housing sites in the Local Plan of each district and unitary authority in the Transport East Region.

HOUSING NEED

The housing need set out in each district and unitary authority in the Transport East region is summarised in Table 1 below. The information has been informed through a review of each authorities adopted or emerging Local Plan.

Table 1: Local Plan Forecasted Housing Need

	DISTRICT	HOUSING NEED DATA SOURCE	STATUS OF LOCAL PLAN	LOCAL PLAN PERIOD	FORECASTED HOUSING NEED
Essex	Basildon	Emerging Local Plan Revised Publication Local Plan 2014-2034	Emerging Draft	2014-2034	15,465
	Braintree	Local Plan Publication Draft for Consultation	Publication Draft	2013-2033	14,320
	Brentwood	Pre-Submission Local Plan	Pre-Submission Draft	2016-2033	7,752
	Castle Point	Pre-Publication Local Plan	Pre-Publication Draft	2018-2033	5,136
	Chelmsford	Draft Local Plan Pre-Submission Document	Pre-Submission Draft	2013-2036	18,515
	Colchester	Local Plan Publication Draft	Publication Draft	2017-2033	18,400
	Epping Forest	Local Plan Submission Version 2017	Submission Document	2011-2033	12,573
	Harlow	Local Development Plan	Pre-Submission Draft	2010-2033	9,200
	Maldon	Pre-Submission Local Development Plan	Pre-Submission Draft	2014-2029	4,410
	Rochford	Local Development Framework Core Strategy Adopted Version	Adopted	2010-2025	4,750
	Tendring	Local Plan Publication Draft	Publication Draft	2013-2033	11,000
	Uttlesford	Regulation 19 Pre-Submission	Pre-Submission Draft	2011-2033	14,000
Norfolk	Breckland	Local Plan Pre-Submission Publication	Pre-Submission Draft	2011-2036	15,298
	Broadland	Joint Core Strategy for Broadland, Norwich and South Norfolk	Adopted	2008-2026	36,820
	Norwich				
	South Norfolk				
	Great Yarmouth	Local Plan Core Strategy	Adopted	2013-2031	7,140

	DISTRICT	HOUSING NEED DATA SOURCE	STATUS OF LOCAL PLAN	LOCAL PLAN PERIOD	FORECASTED HOUSING NEED
	King's Lynn and West Norfolk	Local Development Framework Core Strategy	Adopted	2011-2026	16,500
	North Norfolk	Local Development Framework Core Strategy	Adopted	2001-2021	8,000
Suffolk	Babergh	ISPA Statement of Common Ground - March 2019	Adopted	2018 - 2036	7,560
	Forest Heath	Draft FHDC Single Issue Review Local Plan Document	Draft	2011-2031	6,800
	Ipswich	Local Plan Core Strategy and Policies Development Plan Document Review	Adopted	2011-2031	9,777
	Mid Suffolk	ISPA Statement of Common Ground - March 2019	Adopted	2018 - 2036	10,620
	St Edmundsbury	Local Plan Core Strategy	Adopted	2011-2031	15,400
	Suffolk Coastal	Core Strategy and Development Management Policies	Final Draft	2018-2036	10,476
	Waveney	Local Plan	Adopted	2014-2036	9,235
Southend	Southend-on-Sea	New Local Plan Non-Technical Summary	Draft Consultation	2018-2038	18,000
Thurrock	Thurrock	Core Strategy	Adopted	2011-2026	23,250
TOTAL					**325,312**

Thurrock has set the highest target across the region, of 23,250 dwellings complete by 2026. The area with the lowest level of forecasted housing growth is Mid Suffolk – 2,123 dwellings. A number of the Local Plans are currently or will soon be updated, such as that of West Suffolk and East Suffolk Councils, so the forecasted housing numbers could change following their adoption.

STRATEGIC HOUSING SITES

A summary of the largest housing developments proposed in each district and unitary authority in the Transport East region is outlined below.

The information has been sourced from the relevant Local Authority. If no data was provided this has been collected through a review of each district and unitary authority's Local Plan and Core Strategy documents. The source of this information has been noted next to each strategic housing site.

It should be noted that some of the sites identified in the Local Plan and Core Strategy documents may have been partially built out or built out in full. Where possible, this has been manually corrected where more up to date data has been provided by the Local Authority. However direct comparison of strategic employment sites across Local Authorities in the Transport East region should be treated with caution.

NORFOLK

- Broadland, South Norfolk and Norwich:

• Norwich City Council Area	3,000	Joint Core Strategy
• Old Catton, Sprowston, Rackheath and Thorpe St Andrew	7,000	Joint Core Strategy
• Easton and Costessey	1,000	Joint Core Strategy
• Hethersett	1,000	Joint Core Strategy
• Long Stratton	1,800	Joint Core Strategy
• Wymondham	2,200	Joint Core Strategy
• Broadland smaller sites within NPA	2,000	Joint Core Strategy
• South Norfolk smaller sites within the NPA	1,800	Joint Core Strategy
• Cringleford	1,200	Joint Core Strategy

- Breckland

• Thetford	5,000	Core Strategy
• Attleborough	2,650	Request

- Great Yarmouth

• Beacon Park	1,000	Local Plan Core Strategy

- King's Lynn and West Norfolk

• King's Lynn area	7,510	Core Strategy
• Downham Market	2,710	Core Strategy
• Rural Areas	2,880	Core Strategy
• West Winch	1,600	Dev. Management Plan

- North Norfolk

• Cromer	1,133	Core Strategy
• Fakenham	1,430	Core Strategy
• North Walsham	1,170	Core Strategy
• Service Villages	1,695	Core Strategy

- Norwich

• Three Score, Bowthorpe	1,200	Dev. Management Plan

SUFFOLK

- Babergh

• Chiltern Woods	1,050	Local Plan

- Forest Heath

• Newmarket	1,440	Core Strategy
• Mildenhall	1,330	Core Strategy
• Brandon	1,260	Core Strategy

- Ipswich
  - Ipswich Garden Suburb — 3,500 — Local Plan
- Mid Suffolk
  - Stowmarket — 1,925 — Core Strategy
- St Edmundsbury
  - Bury St Edmunds — 8,118 — Core Strategy
  - Haverhill — 5,301 — Core Strategy
  - Key Service Centres — 2,212 — Core Strategy
- Suffolk Coastal
  - Eastern Ipswich Area — 2,320 — Local Plan
  - Felixstowe with Walton — 1,760 — Local Plan
  - Market Towns — 1,520 — Local Plan
  - Key and Local Service Centres — 1,350 — Local Plan
  - Brightwell Lakes — 2,000 — Local Plan
  - North Felixstowe Garden Community — 2,000 — Local Plan
- Waveney
  - Kirley Waterfront — 1,380 — Local Plan
  - Beccles and Worlingham — 1,250 — Local Plan

ESSEX

- Basildon
  - Basildon Town Centre — 2,128 — Emerging Local Plan
  - Land South of Wickford — 1,100 — Emerging Local Plan
  - South West Billericay — 1,700 — Emerging Local Plan
- Braintree
  - Garden Communities - Colchester / Braintree Borders — 2,500 — Draft Local Plan
  - Garden Communities - West of Braintree — 2,500 — Draft Local Plan
  - Land East of Great Notley — 1,750 — Draft Local Plan
  - Land East of Broad Road — 1,000 — Draft Local Plan
- Brentwood
  - Dunton Hills Garden Village — 2,700 — Pre-Submission Local Plan
- Chelmsford
  - Chelmer Waterside — 1,100 — Pre-Submission Local Plan
  - North-East Chelmsford — 3,000 — Pre-Submission Local Plan
  - North of South Woodham Ferrers — 1,000 — Pre-Submission Local Plan

- Colchester
  - Tendring / Colchester Borders Garden Community — 2,500 — Local Plan Draft
  - Middlewick Ranges — 1,000 — Local Plan Draft
- Epping Forest
  - Latton Priory — 1,050 — Local Plan
  - Water Lane Area — 2,100 — Local Plan
- Harlow
  - East of Harlow — 2,600 — Pre-Submission Local Plan
  - Gilston Area — 3,000 — Pre-Submission Local Plan
- Maldon
  - South Maldon Garden Suburb — 1,375 — Pre-Submission Local Plan
  - North Heybridge Garden Suburb — 1,235 — Pre-Submission Local Plan
- Tendring
  - Hartley Gardens, Clacton — 800-1,000 — Local Plan Draft
- Uttlesford
  - Easton Park Garden Community — 1,925 — Pre-Submission Local Plan

SOUTHEND ON SEA

- Southend Town Centre — 2,000 — Core Strategy
- Shoeburyness — 1,400 — Core Strategy

THURROCK

- Purfleet — 2,850 — Request
- West Thurrock / Lakeside Basin — 3,365 — Core Strategy
- Grays — 2,605 — Core Strategy
- Outlying settlements north of the A13 — 2,100 — Core Strategy

Appendix D

EMPLOYMENT GROWTH

APPENDIX D – EMPLOYMENT GROWTH

This appendix provides a more detailed overview of the employment forecasted need and strategic employment sites in the Local Plan of each district and unitary authority in the Transport East Region.

EMPLOYMENT NEED

The employment need set out in each district and unitary authority in the Transport East region is summarised in Table 1 below. The information has been informed through a review of each authorities adopted or emerging Local Plan.

Table 1: Local Plan Forecasted Employment Need

	DISTRICT	EMPLOYMENT NEED DATA SOURCE	STATUS OF LOCAL PLAN	LOCAL PLAN PERIOD	FORECASTED EMPLOYMENT NEED
Essex	Basildon	Emerging Local Plan Revised Publication Local Plan 2014-2034	Emerging Draft	2014-2034	20,000
	Braintree	Local Plan Publication Draft for Consultation	Publication Draft	2013-2033	11,760
	Brentwood	Pre-Submission Local Plan	Pre-Submission Draft	2016-2033	5,000
	Castle Point	Pre-Publication Local Plan	Pre-Publication Draft	2018-2033	Unknown
	Chelmsford	Draft Local Plan Pre-Submission Document	Pre-Submission Draft	2013-2036	16,675
	Colchester	Local Plan Publication Draft	Publication Draft	2017-2033	14,848
	Epping Forest	Local Plan Submission Version 2017	Submission Document	2011-2033	10,800
	Harlow	Local Development Plan	Pre-Submission Draft	2010-2033	8,060
	Maldon	Pre-Submission Local Development Plan	Pre-Submission Draft	2014-2029	4,410
	Rochford	Local Development Framework Core Strategy Adopted Version	Adopted	2010-2025	3,000
	Tendring	Local Plan Publication Draft	Publication Draft	2013-2033	9,800
	Uttlesford	Regulation 19 Pre-Submission	Pre-Submission Draft	2011-2033	14,000
Norfolk	Breckland	Local Plan Pre-Submission Publication	Pre-Submission Draft	2011-2036	14,000
	Broadland	Joint Core Strategy for Broadland, Norwich and South Norfolk	Adopted	2008-2026	27,0001
	Norwich				
	South Norfolk				

[1] The Norwich City Deal is predicted to create 13,000 additional jobs across Greater Norwich (Source: Greater Norwich City Deal, 2013)

	DISTRICT	EMPLOYMENT NEED DATA SOURCE	STATUS OF LOCAL PLAN	LOCAL PLAN PERIOD	FORECASTED EMPLOYMENT NEED
	Great Yarmouth	Local Plan Core Strategy	Adopted	2013-2031	Unknown
	King's Lynn and West Norfolk	Local Development Framework Core Strategy	Adopted	2011-2026	5,000
	North Norfolk	Local Development Framework Core Strategy	Adopted	2001-2021	4,000
Suffolk	Babergh	ISPA Statement of Common Ground - March 2019	Adopted	2018 - 2036	2,970
	Forest Heath	Draft FHDC Single Issue Review Local Plan Document	Draft	2011-2031	7,300
	Ipswich	Local Plan Core Strategy and Policies Development Plan Document Review	Adopted	2011-2031	12,500
	Mid Suffolk	ISPA Statement of Common Ground - March 2019	Adopted	2018 - 2036	5,270
	St Edmundsbury	Local Plan Core Strategy	Adopted	2011-2031	13,000
	Suffolk Coastal	Core Strategy and Development Management Policies	Final Draft	2018-2036	6,500
	Waveney	Local Plan	Adopted	2014-2036	5,000
Southend	Southend-on-Sea	New Local Plan Non-Technical Summary	Draft Consultation	2018-2038	10,000
Thurrock	Thurrock	Core Strategy	Adopted	2011-2026	26,000
TOTAL					**256,893**

The joint area of Broadland, Norwich and South Norfolk have set the highest target to create 27,000 new jobs by 2026. The area with the lowest job creation forecast is Rochford, which predicted only 3,000 new jobs will be created by 2025. No jobs forecast is included in the Local Plan documents for Castle Point and Great Yarmouth; a number of the Local Plans are currently or will soon be updated, such as that of West Suffolk and East Suffolk Councils, so the forecasted housing numbers could change following their adoption.

STRATEGIC EMPLOYMENT SITES

A summary of the largest housing developments proposed in each district and unitary authority in the Transport East region is outlined below (greater than 5 ha in size).

The information has been sourced from the relevant Local Authority. If no data was provided this has been collected through a review of each district and unitary authority's Local Plan and Core Strategy documents. The source of this information has been noted next to each strategic employment site.

It should be noted that some of the sites identified in the Local Plan and Core Strategy documents may have been partially built out or built out in full. Where possible, this has been manually corrected where

more up to date data has been provided by the Local Authority. However direct comparison of strategic employment sites across Local Authorities in the Transport East region should be treated with caution.

NORFOLK

- Broadland, South Norfolk and Norwich:

• Norwich City Centre	10ha	Joint Core Strategy
• Norwich Research Park	55ha	Joint Core Strategy
• Aeropark	40ha	Planning Permission
• Rackheath	25ha	Joint Core Strategy
• Wymondham	20ha	Joint Core Strategy
• Hethel	20ha	Joint Core Strategy
• Taverham	6ha	Local Plan
• Blofield	10ha	Local Plan
• Brundall	6ha	Local Plan
• Horsham and Newton St Faith	35ha	Local Plan
• Longwater Employment Area	13ha	Local Plan
• Long Stratton	9.5ha	Area Action Plan
• Broadland Business Park	46ha	Request

- Breckland

• Attleborough	10ha	Local Plan
• Snetterton Heath	20ha	Local Plan
• Snetterton	14ha	Local Plan
• Thetford Sustainable Urban Extension	22ha	Local Plan
• Thetford Enterprise Park	18ha	Request
• Dereham	8ha	Request
• Swaffham	10ha	Request

- Great Yarmouth

• Beacon Park Extension	15ha	Local Plan
• Great Yarmouth Outer Harbour	22ha	Local Plan

- King's Lynn and West Norfolk

• Hardwick	27ha	Request
• Saddlebow	23ha	Request
• St Johns Way, Downham Market	17ha	Request

- North Norfolk

• North Walsham	11ha	Request
• Fakenham	10ha	Request
• Egmere	30ha	Request
• Scottow	10ha	Request

SUFFOLK

- Babergh

- Sproughton 36ha Local Plan
- Wherstead 7ha Local Plan
- Brantham 25ha Local Plan

- Mid Suffolk
  - Cedars Park, Stowmarket 10ha Local Plan
  - Mill Lane Phase 1 & 2, Stowmarket 40ha Local Plan
  - Mendlesham Airfield 6ha Local Plan
- St Edmundsbury
  - Suffolk Business Park 68ha Local Plan
  - Hanchett End, Haverhill 12ha Local Plan
  - Park Farm, Ingham 86ha Local Plan
- Suffolk Coastal
  - Ransomes, Nacton 30ha Local Plan
  - Parham former airfield 6ha Local Plan
  - Deback former airfield 11ha Local Plan
  - Bentwaters Park 390ha Local Plan
  - Land at Innocence Farm 67ha Local Plan
- Waveney
  - Kirkley Waterfront 8ha Local Plan
  - South Lowestoft Industrial Estate 20ha Local Plan
  - Oakes Farm, Carlton Colville 30ha Local Plan
  - Power Park 23ha Local Plan

ESSEX

- Basildon
  - Burnt Mills Extension 48ha Local Plan
- Braintree
  - North West Braintree 10ha Local Plan
- Brentwood
  - Brentwood Enterprise Park 26ha Local Plan
  - Childerditch Industrial Estate 21ha Local Plan
  - Codham Hall Farm 10ha Local Plan
- Castle Point
  - Charfleets Industrial Estate Extension 11ha Local Plan
  - South of Northwick Road 10ha Local Plan
- Epping Forest
  - Oakwod Hill Industrial Estate 6ha Local Plan

• Langston Road Industrial Estate	30ha	Local Plan
• Cartersfield Road Industrial Estate	9ha	Local Plan
• Meridian Business Park	24ha	Local Plan
• Land north of A121	28ha	Local Plan
▪ Harlow		
• Harlow Business Park	19ha	Local Plan
▪ Maldon		
• Beckingham Business Park	6ha	Local Plan
• The Causeway, Maldon and Heybridge	44ha	Local Plan
• Oval Park, Langford	12ha	Local Plan
▪ Rochford		
• West of A1245, Rayleigh	9ha	Local Plan
▪ Tendring		
• Mercedes site, Bathside Bay	7ha	Local Plan
• Tendring / Colchester Borders Community	6ha	Local Plan
▪ Uttlesford		
• Northern Stansted Employment Area	55ha	Local Plan
• Little Canfield	6ha	Local Plan
• Chesterford Research Park	29ha	Local Plan
SOUTHEND ON SEA		
▪ Southend Town Centre	2,000 jobs	Local Plan
▪ Shoeburyness	1,400 jobs	Local Plan
THURROCK		
▪ Former West Thurrock Power Station (Northern Ashfield)	17ha	Request
▪ Land north of Tilbury	24ha	Request
▪ London Gateway	258ha	Local Plan
▪ Bluelands (West), Purfleet	6ha	Request
▪ Land adjoining Van den Bergh & Jurgens, West Thurrock	16ha	Request
▪ Thurrock Park	6ha	Request
▪ Tilbury Power Station	14ha	Request
▪ Ponds Farm	9ha	Request
▪ Land at Coryton Oil Refinery	167ha	Request

Appendix E

CAV INNOVATE UK FUNDING

Competition Title	Programme Title	Project Title	Public Description	Competition Year	Innovate UK Product Type	Participant Name	Is Lead Participant	Project Start Date	Project End Date	Grant Offered (£)	Total Costs (£)	Actual Spend to Date (£)	Project Status	Postcode	Address Region	Address LEP
Connected and Autonomous Vehicles - CRD	Connected & Autonomous Vehicles CR&D	UK Connected Intelligent Transport Environment (UK CITE)	The UK Connected and Intelligent Transport Environment (UK CITE) creates a real-world-lab for companies to test how connected and autonomous vehicles (CAV) can interact with communications infrastructure (so called V2X). The project will install the relevant infrastructure along sections of the M42, M40, A45, A46 and Coventry city centre. This test environment will be available to other vehicle manufacturers or fleet users who wish to test V2X technologies. It will act as a world class research asset to attract R&D to the UK. CAV test vehicles will examine the impact of V2X on road safety, traffic flow and the ability to provide other services like WiFi. Cyber-security will also be included from the outset. V2X will improve a vehicles journey through the road network. E.g. in case of an accident instead of an expensive gantry on the motorway a connected car could provide warnings and guidance to the driver, or an autonomous vehicle could respond automatically. The impact on the UK road network will be simulated based on these trials - enabling the UK to get the most benefits from CAV for the least infrastructure cost.	2015/16	Collaborative R&D	Visteon Engineering Services Limited	Yes	01/06/2016	31/12/2018	£519,676.00	£1,039,352.00	£519,676.00	Live	CM2 5LB	East of England	South East
Connected and Autonomous Vehicles 2 -Stream 2	CAV 2, Stream 2	Smart ADAS Verification and Validation Methodology (SAVVY)	There is an emerging and strong demand for new techniques to enable the robust design and verification & validation (V&V) of ADAS features in a safe, repeatable, controlled and scientifically rigorous environment. This is driven by a number of challenges: reduced engagement of, and reliance on, the driver in the driving task; the very high number and complexity of use cases & test scenarios; reduced access to prototype vehicles; and limited test time, human resources and cost constraints. This project will therefore deliver a novel, efficient and accelerated simulation and simulator based V&V process for ADAS technologies. This project will create the building blocks for the V&V of future technologies based on Field Programmable Gate Array (FPGA) using deep learning and Convolutional Neural Network (CNN) algorithms. These methodologies will be evaluated throughout a product development lifecycle of a real-time ADAS control system. This project will facilitate collaboration between AVL (consortium lead), Vertizan, Myrtle Software, Warwick University and Horiba MIRA, and will bring together the learning and innovations from 3 current Innovate UK funded feasibility studies.	2016/17	Collaborative R&D	AVL POWERTRAIN UK LIMITED	Yes	01/07/2017	31/12/2019	£409,186.00	£818,371.00	£288,595.38	Live	SS15 6LN	East of England	South East

Connected and Autonomous Vehicles Test Bed (Phase 2)	Connected and Autonomous Vehicles Test Bed 2	UK Central CAV Testbed (Midlands Future Mobility)	Driven by the need to reduce traffic congestion and accidents on our roads, the development and deployment of CAVs (connected and autonomous vehicles) will provide significant societal benefits, as well as business opportunities for the the automotive, comunications, infrastructure and transport sectors in the UK. Demonstrating CAVs on road, in real-world driving situations, not only helps to establish confidence in the technology, but also provides invaluable learning that can be incorporated to achieve the ultimate aim of making them, and the additional services that they could provide, a commercially viable and desirable means of road-transport. A consortium comprising of Amey, AVL, Costain, Coventry University, HORIBA MIRA, TfWM (Transport for West Midlands), WIG (Wireless Infrastructure Group) and the University of Warwick will therefore deliver a full suite of urban environments, in Coventry and Birmingham, to test CAVs and their related technologies and services, in order to accelerate their deployment in the real-world, benefitting the region and UK companies. Furthermore the testing will be supported by extensive public engagement and a database of participants who will help support the more human elements of technology and service evaluation. To attract continued R&D investment into the region and the UK, the test infrastructure will be operational after the project conclusion and will be fully self-sustaining.	2017/18	Collaborative R&D	AVL POWERTRAIN UK LIMITED	No	01/03/2018	30/11/2020	£346,125.00	£692,250.00	£119,824.89	Live	SS15 6LN	East of England	South East
Connected and Autonomous Vehicles 2 -Stream 2	CAV 2, Stream 2	Connected Fully Integrated Driver Ecosystem (Con-FIDE)	The Con-FIDE project will develop Lightfoot Connected Car technology, which will be the only technology in the world that truly connects the car to the driver, and connects the driver to an entire driving ecosystem that gives a vast array of social, economic and health benefits, making motoring cheaper and safer for all. The product will build a fun, competitive community of drivers who will benefit from economic, social and health advantages including reduced fuel usage, lower insurance premiums, better privacy and an all-round safer, more enjoyable driving experience. This will be achieved by further developing our successful Lightfoot real-time driver coaching technology, that has been proven in the commercial fleet sector, into a full "connected vehicle" solution in conjunction with a leading UK insurer and other key players in the driving eco-system.	2016/17	Collaborative R&D	Revolve Technologies Limited	No	01/06/2017	31/05/2019	£55,846.00	£111,692.00	£47,469.10	Live	CM13 1XA	East of England	South East

Connected and Autonomous Vehicles 2 -Stream 4	CAV 2, Stream 4	Autonomous and Connected vehicles for CleaneR Air (ACCRA)	UK Government AQ strategy states that there are over 50,000 premature deaths yearly due to AQ pollution. Emissions from transport are a key contributor to poor AQ. Vehicles which have an internal combustion engine and an electric only range can offer zero emission (ZE) operation but cities lack the ability to monitor and control the vehicles. Project ACCRA - a collaboration between Dynniq, Tevva, EarthSense, Transport Systems Catapult, Cenex and Leeds City Council - will address this problem by developing a system capable of allowing remote control of a vehicles energy management system to ensure ZE operation where it has maximum benefit to AQ. The operation will be demonstrated in a proposed Clean Air Zone in Leeds. Under the overall management of the Transport Systems Catapult, the consortium will develop a hybrid vehicle interface (Tevva), a decision-making engine (Dinniq) capable of taking inputs from a range of city data, such as live air quality information (EarthSense) potentially triggering on-demand ZE running instructions (known as active geofencing). The application, markets, business models and scalability of the system will be evaluated by Cenex and the Transport Systems Catapult to inform Leeds and other CAZ cities of the its potential use.	2016/17	Collaborative R&D	TEVVA MOTORS LIMITED	No	01/07/2017	30/06/2018	£84,604.00	£120,863.00	£37,398.32	Final Claim	CM14 4AH	East of England	South East
Connected and Autonomous Vehicles 2 -Stream 3	CAV 2, Stream 3	Anytime, Anywhere Low Cost Localisation	Being able to precisely answer the question of "Where am I?" is critical for autonomous vehicle navigation - a function known as "localisation". There are a number of ways that a vehicle can localise: while GPS is an example of a localisation system, it is insufficiently accurate for autonomous driving systems, as well intermittently available and susceptible to jamming and interference. Lidar, a laser-based scanning technique, is commonly used to provide estimates of localisation to driverless cars, but lidar sensors are too costly for mass market vehicles. Cameras are significantly cheaper than lasers, but image-based localisation is challenging because of changes in lighting, weather, and scene structure. Taking into account the pros and cons of each of the above methods, this joint Ford-Oxbotica project utilises a suite of innovative techniques to perform camera-only localisation in spite of these environmental changes. The project will trial the software using low cost hardware to demonstrate the performance of affordable technology for mass market adoption.	2016/17	Feasibility Studies	Ford Motor Company Limited	No	01/06/2017	31/05/2018	£37,645.00	£75,290.00	£37,645.00	Closed	CM13 3BW	East of England	South East
Connected and Autonomous Vehicles - Technical FS	Connected & Autonomous Vehicles FS	Virtual validation Environment for Driver Assistance Systems (VEDAS)	In today's competitive market, automotive manufacturers and suppliers must achieve faster time to market as well as improved quality and reliability. For ADAS features, this is especially the case due to the rapid growth inthis field. Additionally they must satisfy customer and regulatory demand for greater safety and robustness. Product development and design must be optimised and verified with a limited number of available physical prototypes and to tight timescales. Methods to conduct some of these activities virtually will be of significant benefit. Full-vehicle validation will still be required, so opportunities to make this process more robust and time-effective will appeal to OEMs. This feasibility project will develop processes and methodologies needed to support a virtual validation environment for ADAS and autonomous vehicles. Such an environment will allow faster, more controllable and adaptable validation.	2015/16	Feasibility Studies	AVL POWERTRAIN UK LIMITED	Yes	01/04/2016	31/03/2017	£124,087.00	£248,174.00	£124,083.76	Closed	SS15 6LN	East of England	South East