

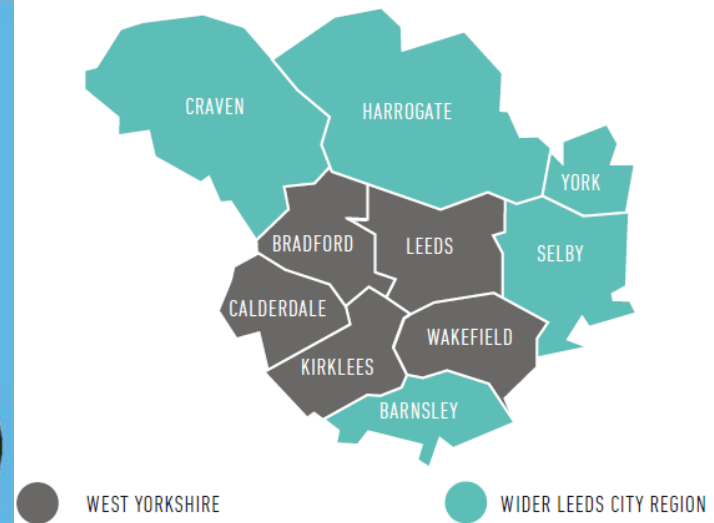
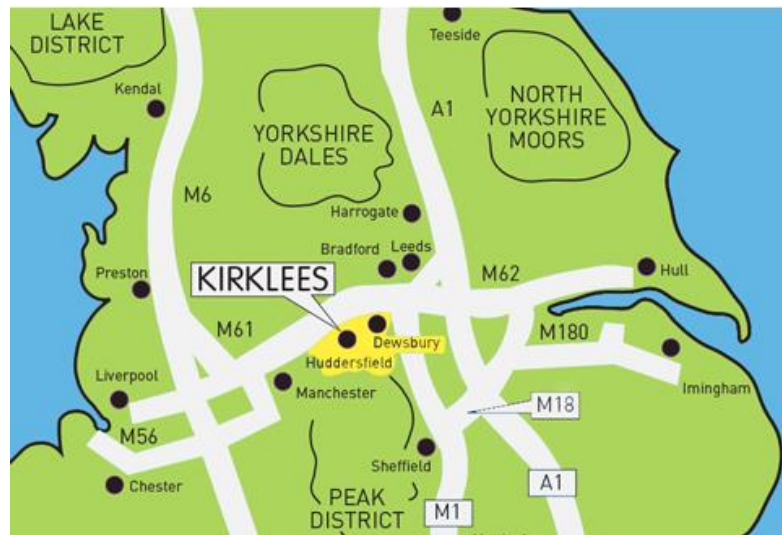
TTF Autumn Meeting Maintenance Fund Update

Louise Hewlett
Group Engineer UTC

15th November 2022

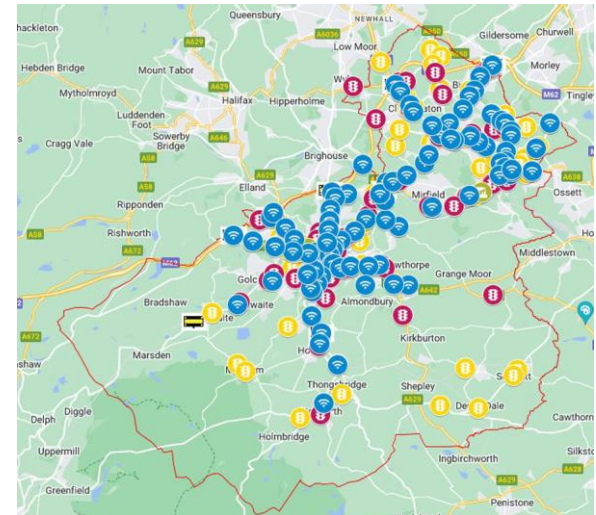
Introduction

- Kirklees – Where are we?



Introduction

- Kirklees – Our Assets
- 134 Signal controlled junctions
- 97 Signal controlled crossings
- 2 Wig wags
- 17 VMS
- 115 Bluetooth journey time detectors
- 7 Pollution monitors



Introduction

- Kirklees – Finances
- £100,000 Council capital
- £340,000 LTP3
- Application for £440,000
- Award of £250,000



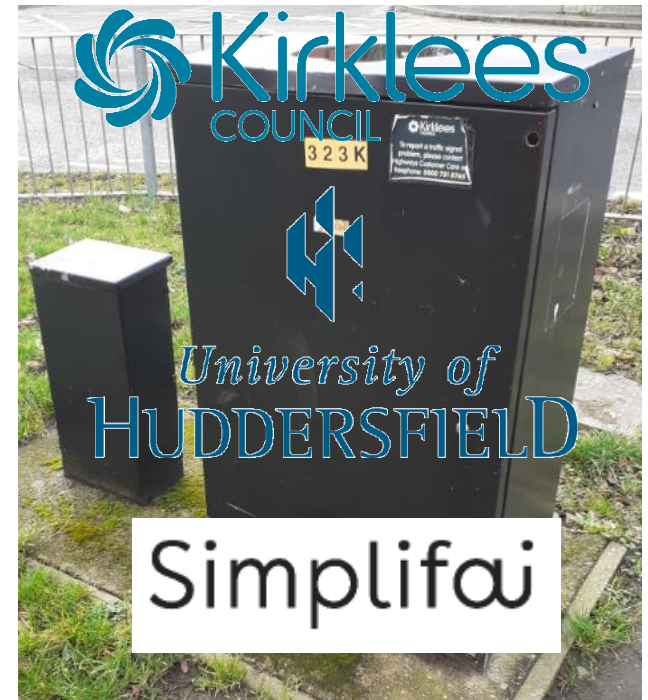
Summary Budget Booklet

**Traffic signals maintenance scheme
award winners**

-20 and 2020-21

Programme Development

- Revised budget of £250,000
- Further collaboration with The University of Huddersfield and Simplifai Systems
- Concentrate on 15 obsolete controller replacements



- Existing collaboration
 - A629 Wakefield Road, Huddersfield



ASPECT Programme

- Objectives

- Deliver enhanced capability for our assets using analytics
- Wider deployment of the monitoring, analytics and intelligence systems

- Strategy

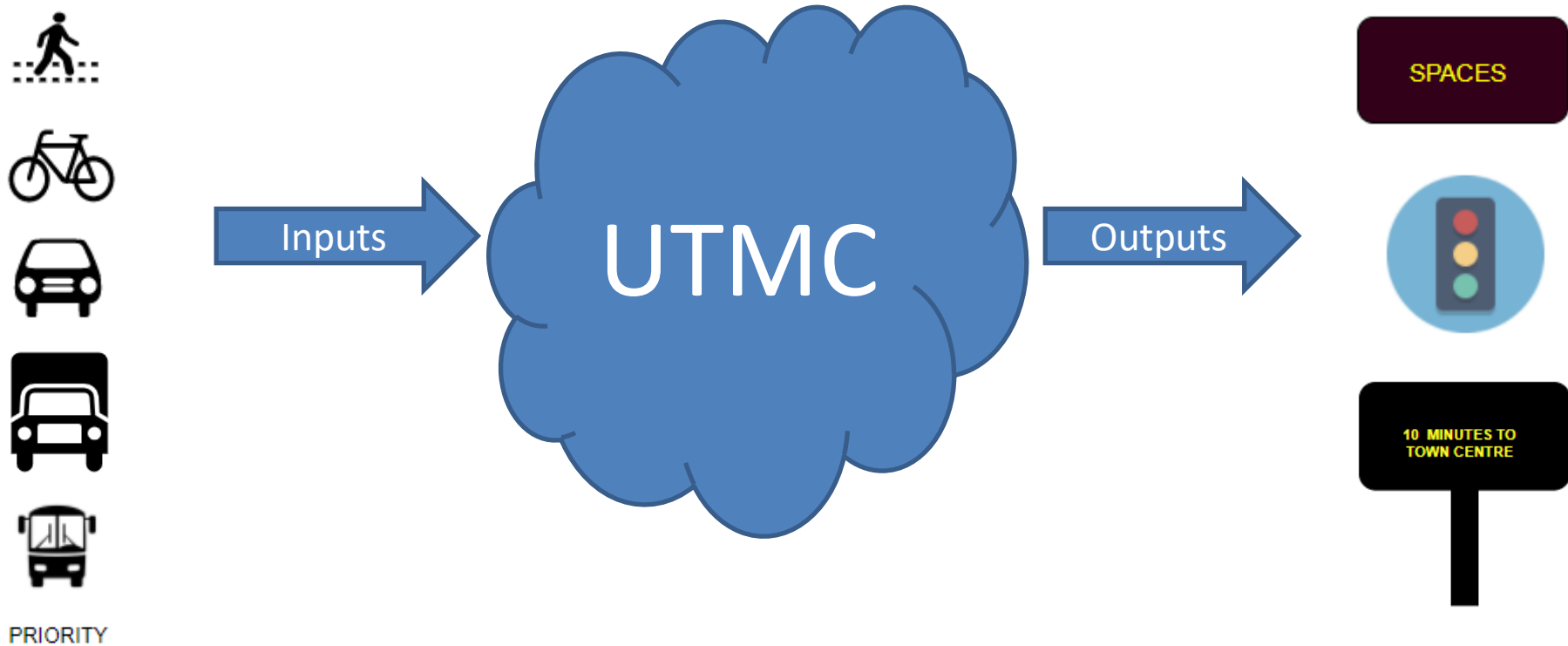
- Creation of data lake
- Visualise data
- Creation of simulator
- Network deployment

ASPECT Programme Outcomes

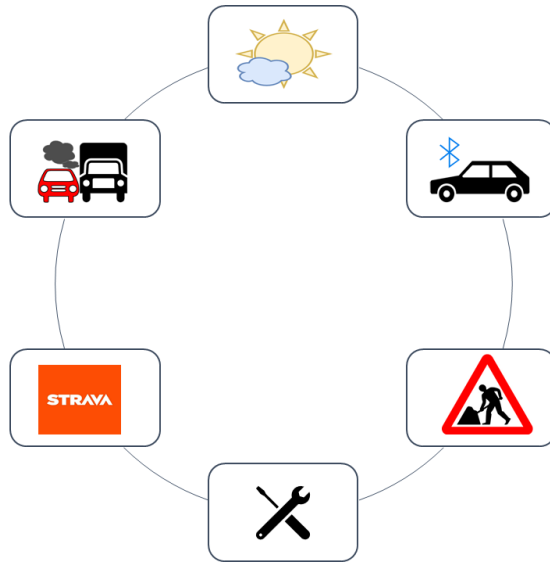
- Desired Outcomes
 - Prediction tool
 - Database
 - Analytical tool
 - Manage planned events tool
 - Manage unplanned events tool
 - AI model representation



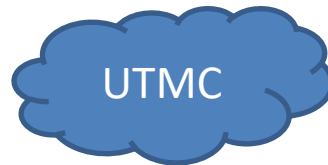
ASPECT Development



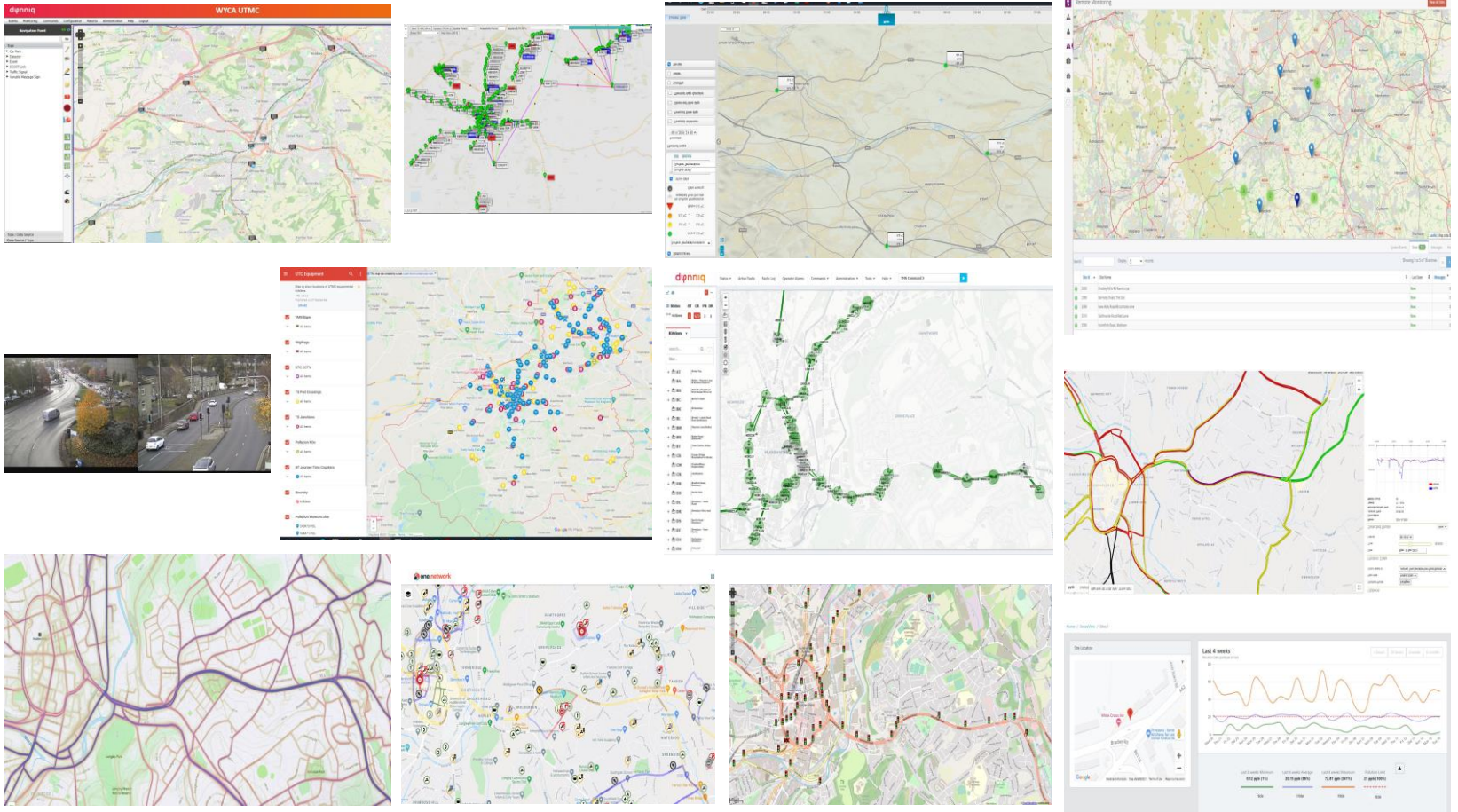
ASPECT Development



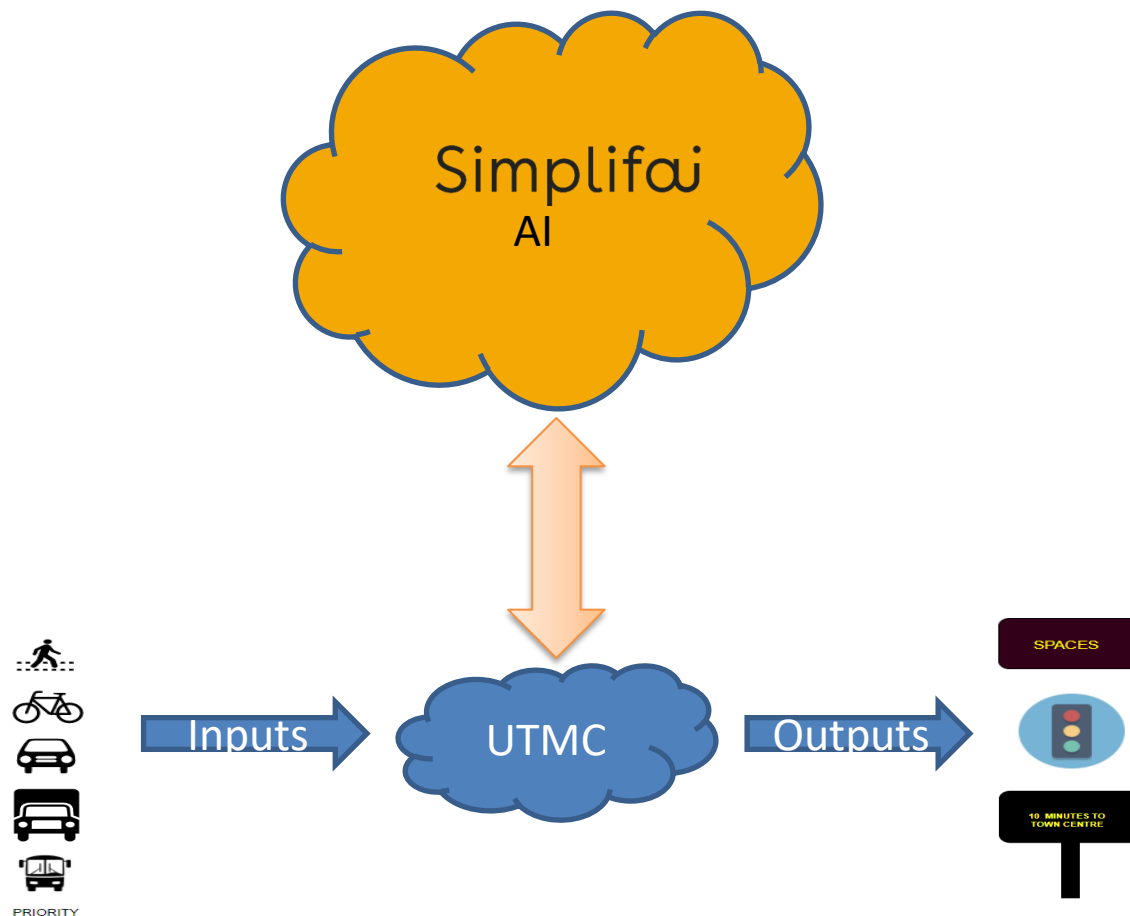
- Home
- Office
- AI Lab
- On Site



ASPECT Development



ASPECT Development



ASPECT Progress

- Start delayed by 3 months to January 2022
- Further delays caused by various technical issues
- Delays to:
 - Completion of data ingress
 - Operational reviews
 - Automation of modelling
 - Deployment on site

ASPECT Progress

- Phase 1 – scoping and data ingress – complete
 - Bulk import of historical data
 - Visualisation of data
 - Creation of data lake
- Benefits
 - Data was transformed into a usable format
 - Visualise previously hidden real time data

ASPECT Progress

- Phase 2 – bulk updates and operational reviews – substantially complete
 - Review of WR region and validation against traffic survey
 - Automation
 - Air quality
 - Astrid
 - Fault data, Scoot data, BOD, weather – outstanding
- Benefits
 - Highlighted errors in data

ASPECT Progress

- Phase 3 – modelling and use of AI – substantially complete
 - Simulations for WR and WW regions
 - Validation of simulation for WR region
 - Interventions for disruptions – outstanding
 - Deployment on site – outstanding
- Benefits
 - Technique and methodology has been refined

ASPECT Next Steps

- Create link to site to push the created plans back out
- Test plans for planned events
- Expand network coverage



Controller Programme Development

- 232 traffic signal installations
- 32 > 15 years old
- 8 < 15 years old but obsolete control
- 20 sites identified
- 3 dropped due to other opportunities

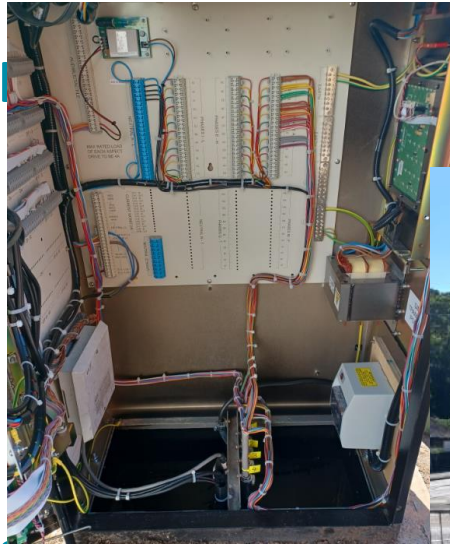


Controller Programme Risks

- Confirmation of funds
- Supplier constraints
- Contractual issues
- Staff resources
- Conflict with other schemes

Controller Programme Progress

- 6 Sites fully refurbished



- 1st

1st November

Controller Programme Results

- To date...
- Only 2 'all out' faults
 - 1 power fail
 - 1 reported incorrectly
- Site 585K Market Place
 - 5 'all out' reports due to c
 - No faults reported since c



Overall Programme Summary

- On track to complete before March 2023
 - £130,000 spent to date
 - £72,000 committed
 - £21,000 estimated
 - £223,000 + additional staff time and contingencies

Thank You

