Transport for Greater Manchester

HUMANISING AUTONOMY

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Public Space Management using Predictive AI

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In this presentation…

- GM Context
- Delivering our Strategy
- AI in action & Responding to C-19
- Example Outputs
- Future Opportunities
- Scope Expansion

Current Priorities

- Clean Air Plan
- Expansion of GMEV Network with 24 dual-headed rapid chargers
- Bee Network- £160m for a city-region-wide cycling and walking network made up of more than 1,000 miles
- £250m Active Travel Fund
- Future of Mobility Trials
- Integrated ticketing on public transport – shift from flat fare to zones on Metrolink - MaaS

GM Facts

- 2.8m population
- Over 2.1 billion journeys p/a
- 268m public transport mode journeys p/a (12.7%)
- +800,000 on our transport networks every day by 2035
- 1/3 of 1km journeys made by car
- Congestion costs GM businesses £1.3bn

Our vision for 2040

- We want 50% of all trips in Greater Manchester to be made by walking, cycling and public transport by 2040.
- That's a million more sustainable journeys every day.
- This will enable us to deliver a healthier, greener and more productive city-region without increasing overall traffic levels.

To achieve our vision we must:

Ensure new developments support sustainable transport, and our town centres are pleasant, thriving and well connected.

Maximise efficiency and reliability of our existing transport networks

Strengthen our position at the heart of the Northern Powerhouse by fully integrating HS2, Northern Powerhouse Rail, and national infrastructure with regional and local networks.

Care about clean air

Make walking and cycling the natural choice for short journeys

Ensure Manchester Airport and the Airport Enterprise Zone sustainably meets its potential as an international gateway and a GM employment centre.

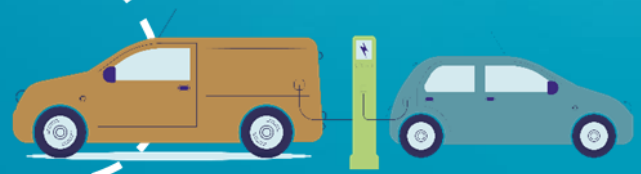
2040 Delivery Plan

Radically transform public transport capacity of the regional centre to benefit the whole of Greater Manchester.

Offer genuine alternatives to the car for travel across the wider city-region, with good orbital connections between town centres.

Move and manage freight in the most sustainable and efficient ways.

Research and harness future technology, innovations and digital connectivity.



Measuring Impact of Social Distancing on Transportation (MISDT)

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INNOVATEUK FUNDING £50K (£15K TO TFGM)

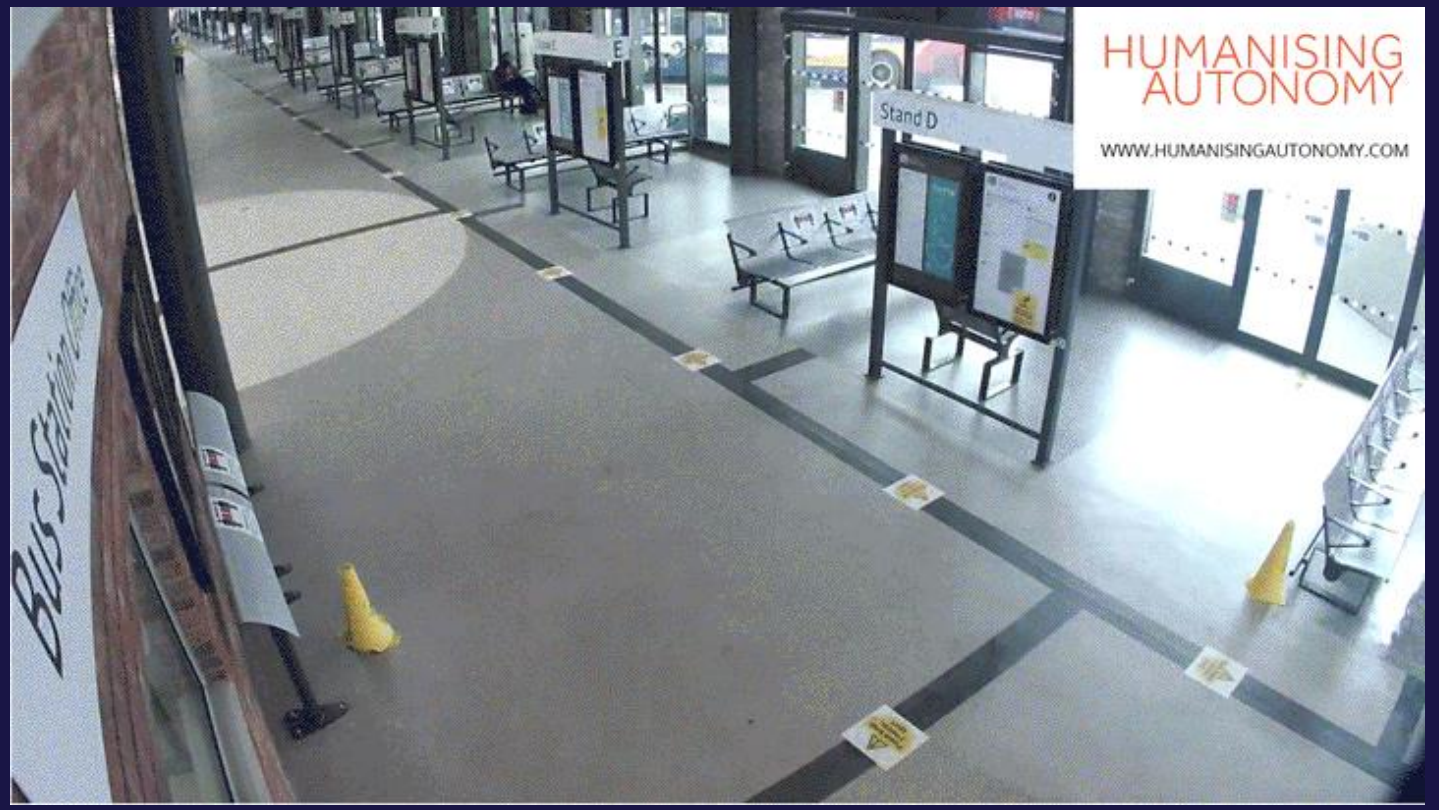
BUSINESS-LED INNOVATION IN RESPONSE TO GLOBAL DISRUPTION

PROJECT START: 1 JUNE 2020

DURATION: 6 MONTHS

Challenge: Keeping the public safe by encouraging social distancing of 1m+ in public spaces. How can this be measured? Not enough staff at transport hubs to deal with this.

Solution: Video analytics software developed by Humanising Autonomy to provide insight on use of transport hubs and support TfGM keep the public safe.



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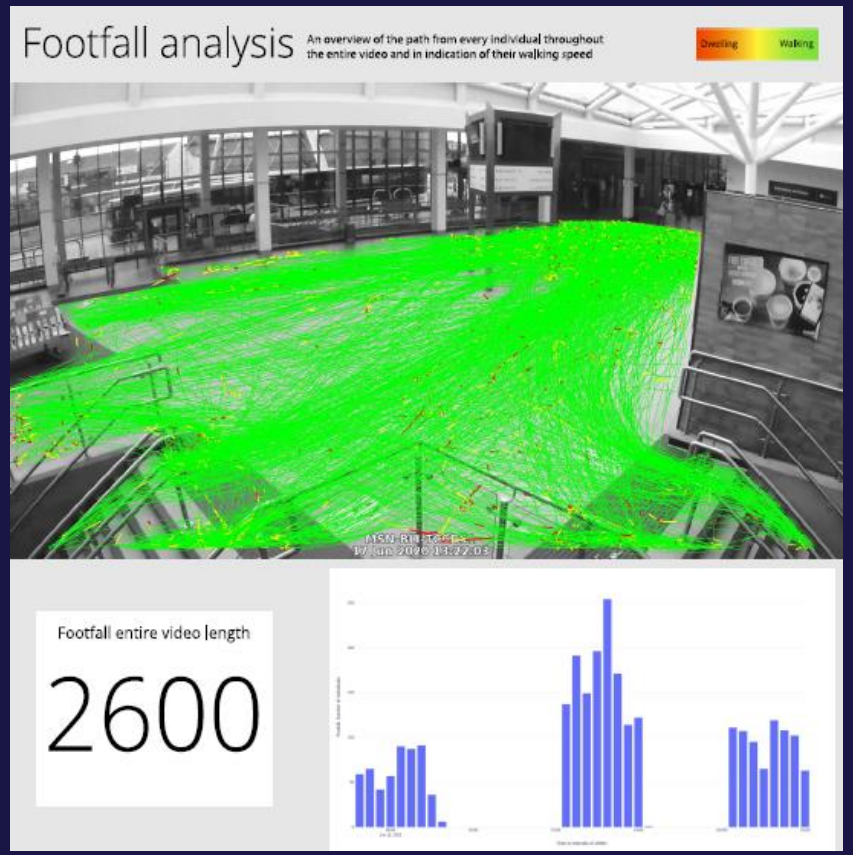
Comparing Movement Paths

Monday 15th June



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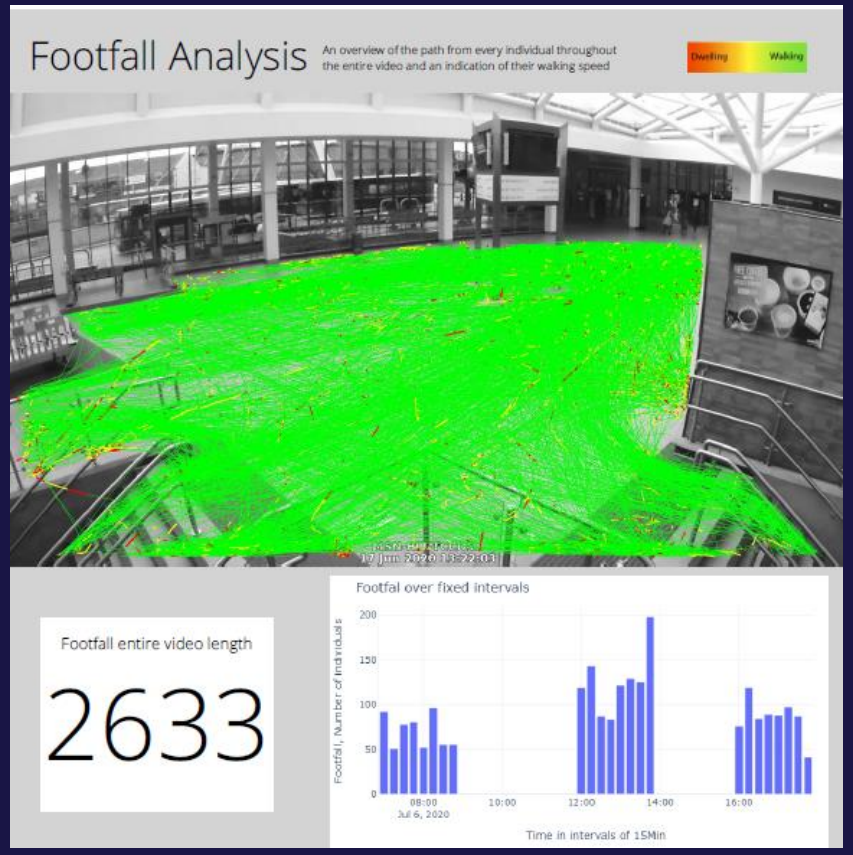
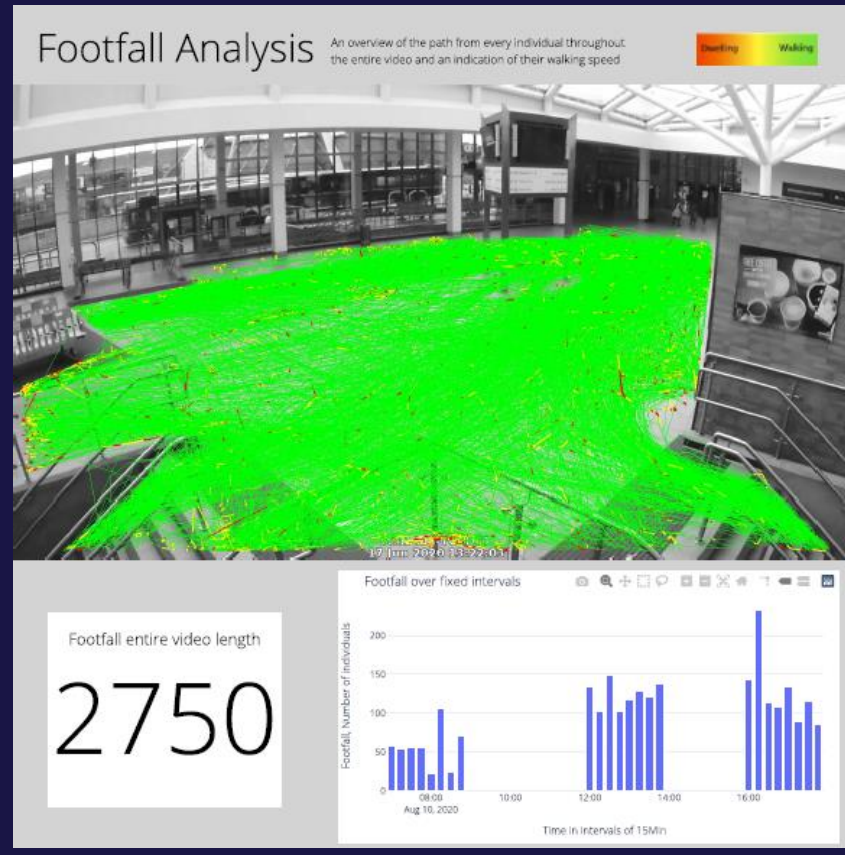


Monday 10th August



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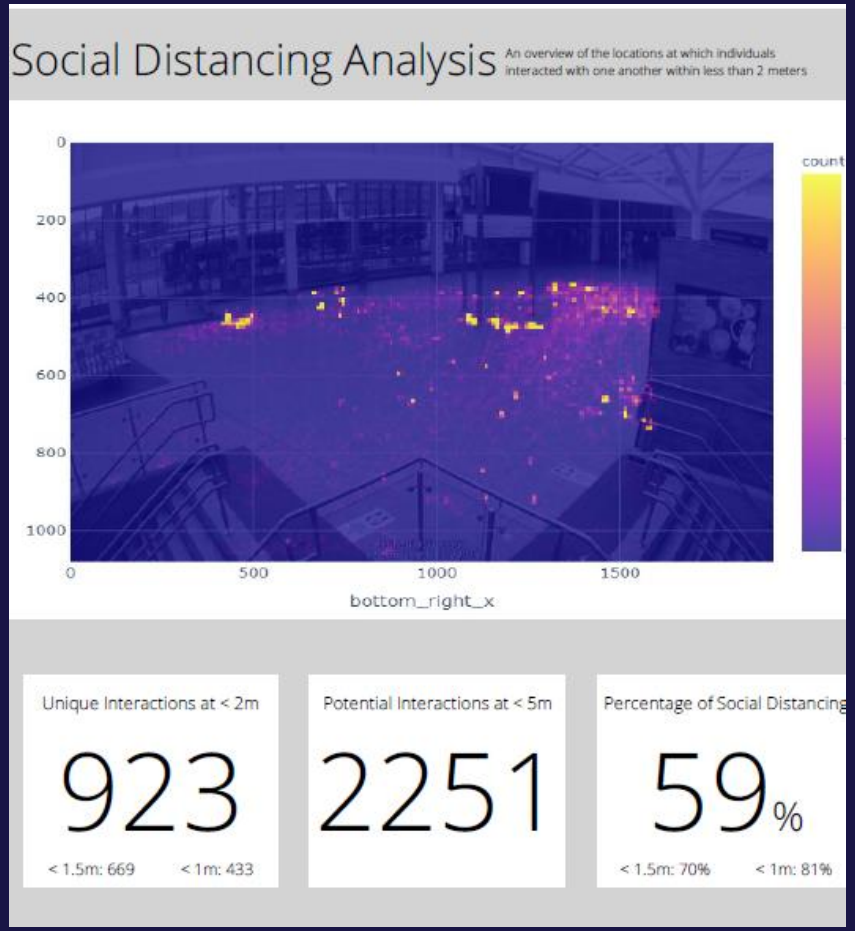
Comparing Clustering

Monday 15th June

Monday 6th July



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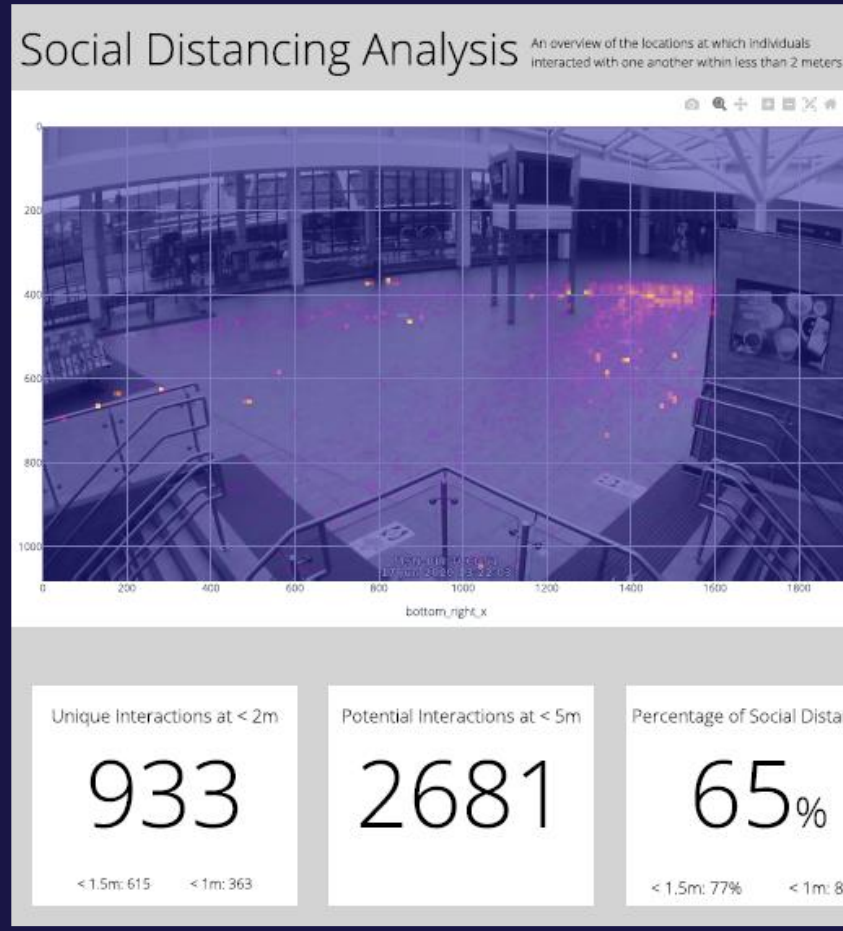


Putting the learnings in practice

Commercial	Design	Safety
Amazon Click + Collect	Evaluating and updating design specifications	Near-misses
Pop-up cafes and vending machines	Accessibility Analysis for various disabilities	Incident Prediction
Targeted Advertisement		

Scope Expansion

Locations (2,000+ CCTV cameras in place)

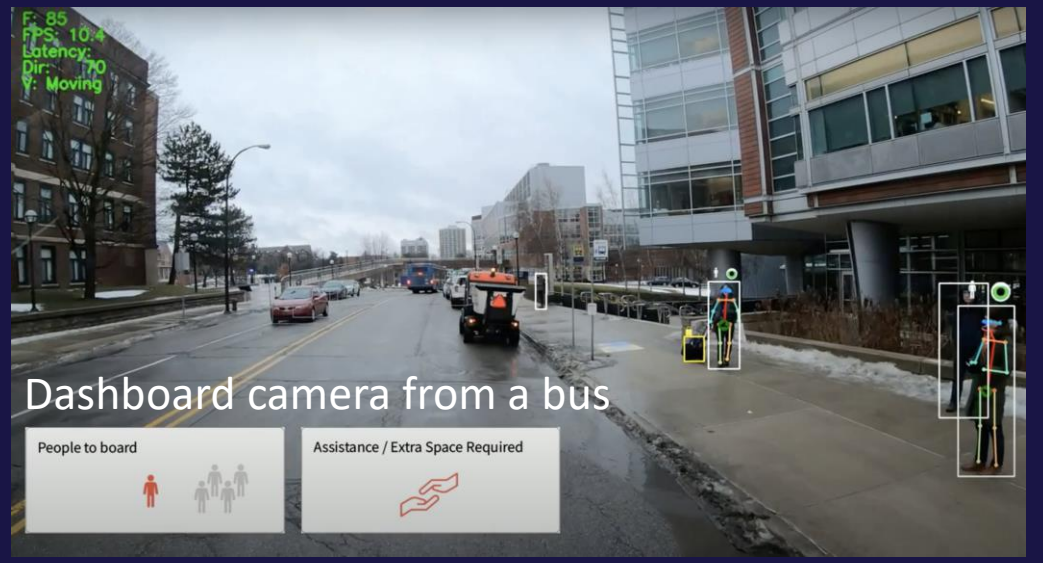
- Metrolink Stops
- Pedestrianised Public Spaces
- Temporary Cycling & Walking Measures
- **Junctions/Streets**

Insights

- Software also detects parked vehicles - could be relevant to track delivery at the curb (or other parking at the curb).
- Dashboard camera analysis from a bus/metro - Determine issues with stop/along the route.

...and many more possible in areas where CCTV is already in place, therefore **no new cameras would need to be installed. The only on-site work would be calibration.*

CCTV sample from SMLL



Dashboard camera from a bus

Scope Expansion – Awaiting Funding

Predictive AI to support the safe implementation of active travel measures (temporary & permanent) at high risk junctions by detecting and understanding the following:

- Near-miss and accident hotspots
- Road user behaviours
- Movement paths
- Counts
- Congestion
- Traffic light situations

By integrating AI-based analytics software with existing infrastructure, the public sector can access and leverage unprecedented mobility monitoring insights to achieve and measure net zero progress and adapt to impacts of COVID-19 in innovative ways.

Thank you for your active participation!

To find out more or discuss other innovation actions please contact:
innovation@tfgm.com