Scottish Federation of Housing Associations

House of the Future
The impact of New technology on how we Plan and Build

David Sime - Oncor Reality & Google
Graham Hill - Arcadis Scotland & ADS
Predicting the Future
Predicting the Future

PESTEL ANALYSIS

POLITICAL

ECONOMIC

SOCIAL

TECHNICAL

ENVIRONMENTAL

LEGAL
Key points of this presentation:

1. What does AI and Robotics mean for the world of work?
2. How do houses and spaces need to change?
3. What will be the impact of the shift towards electric vehicles?
What does the AI & Robotics mean for the world of work?
Jobs at Risk from AI and Automation

Automated for the people
Automation risk by job type, %

- Food preparation
- Construction
- Cleaning
- Driving
- Agricultural labour
- Garment manufacturing
- Personal service
- Sales
- Customer service
- Business administration
- Information technology
- Science & engineering
- Healthcare
- Hospitality & retail management
- Upper management & politics
- Teaching

Source: OECD

Economist.com
Job Families in Decline and On the Rise

How This Could Affect Housing

Need for more flexible transport options / destinations

Changes in daytime property usage patterns

Increased need for connectivity / Study Spaces

Potential Increase in Working/Learning From Home

Potential increase in local commutes – Cycling, Walking and Ride Hailing
How Can this be Achieved?

1. Increased Collaboration – With Residents
Instruction and Notification

2. Increased Collaboration – With Residents and Tradespeople
Repair And Maintenance

3. Increased Collaboration – With Residents and Tradespeople
Repair And Maintenance

3. Increased Collaboration – With Residents and Tradespeople
Transport and Neighbourhood Planning
Increased Collaboration – With Local Authorities and Civils
Reduced Energy Consumption
Infra Red Heat Loss Assessment
Affordable Power and Vehicle Charging

Renewable Charging

A new Tesla Model S has a 100 Kilowatt Hour Battery

This can require up to 75 solar panels to charge

This can also take up to 7 hours (at 220 volts)
Affordable Power and Vehicle Charging

Renewable Charging

With proper planning, angle and orientation of panels, The same can be achieved with as few as 12 panels,

…and in as little as 1.75 hours (440 Volts)

Adequate planning can also facilitate community micro-grids
Affordable Power and Vehicle Charging

High Volume Neighbourhood Solar Modelling
Affordable Power and Vehicle Charging
High Volume Neighbourhood Solar Modelling
Thank You!