



**YOTTA**  
FROM DATA TO DECISIONS

# Harnessing the Power of Data

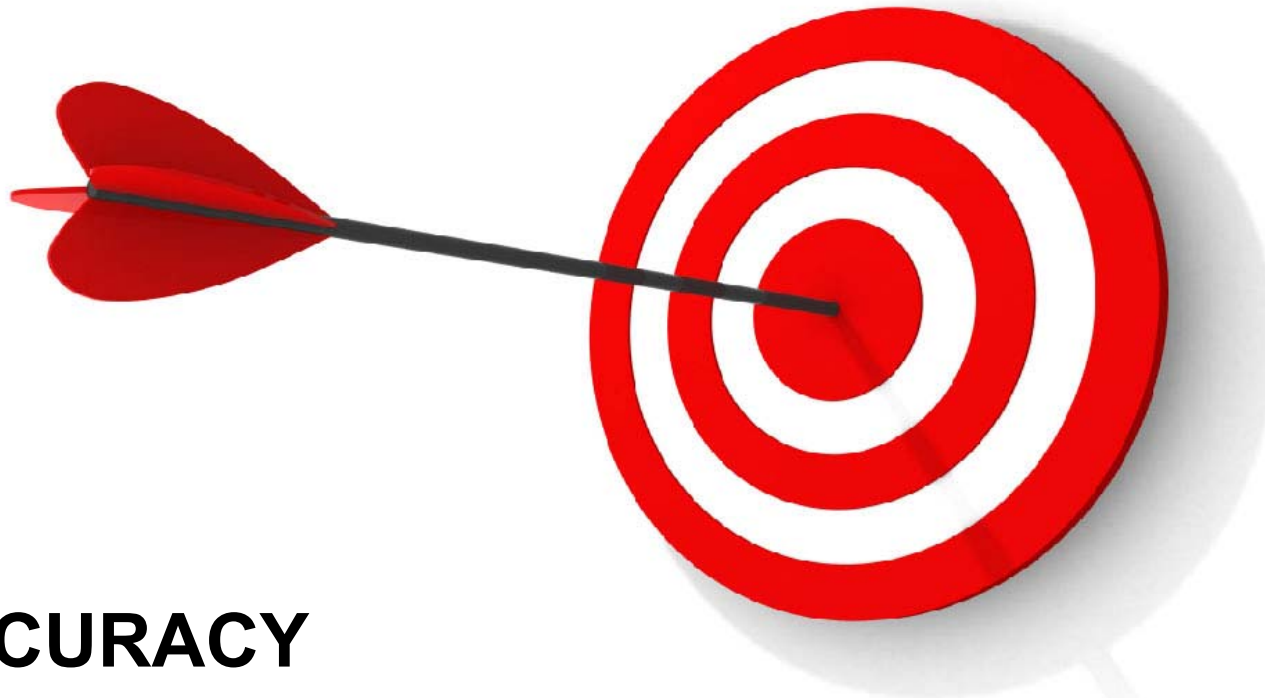
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Manager

Alex Croston – Senior Asset Management  
Advocate

Are you an engineer or a data manager?



# Guiding principles for operational data



**ACCURACY**

# Guiding principles for operational data

**TIMELINESS**

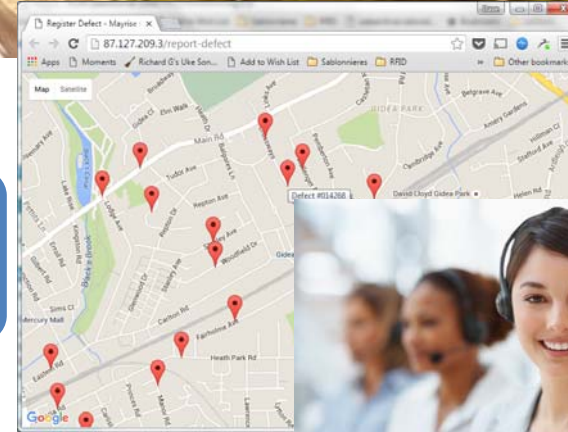
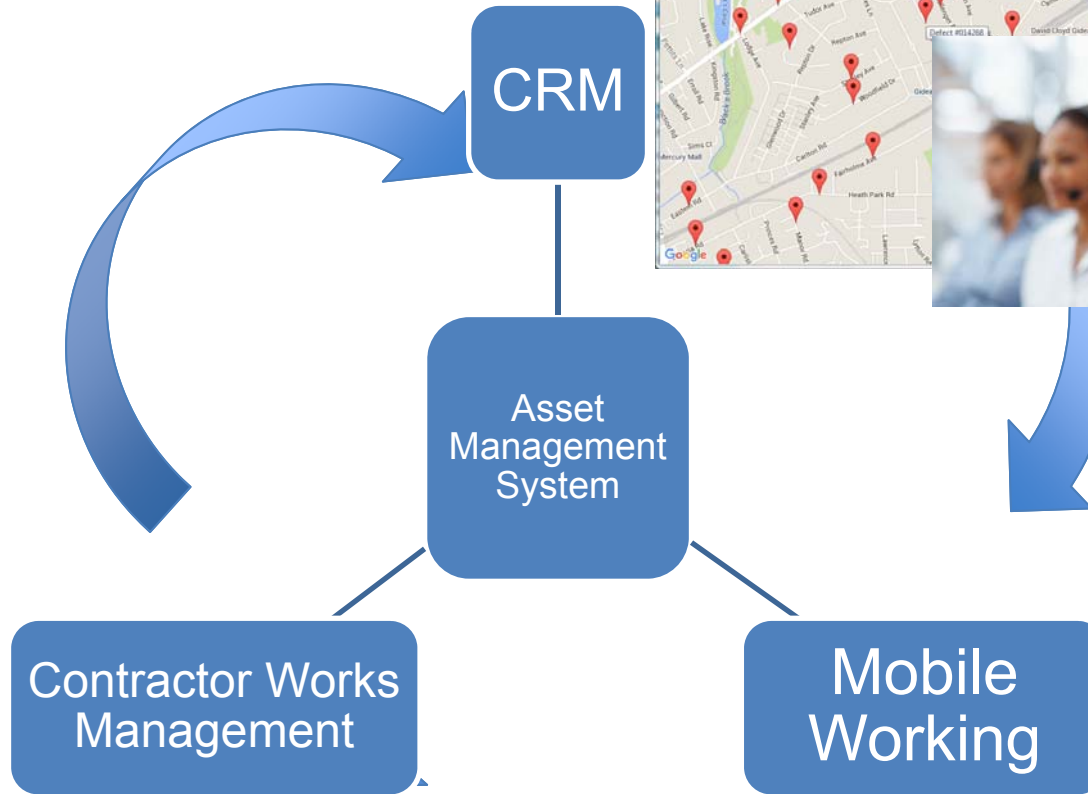


# Guiding principles for operational data

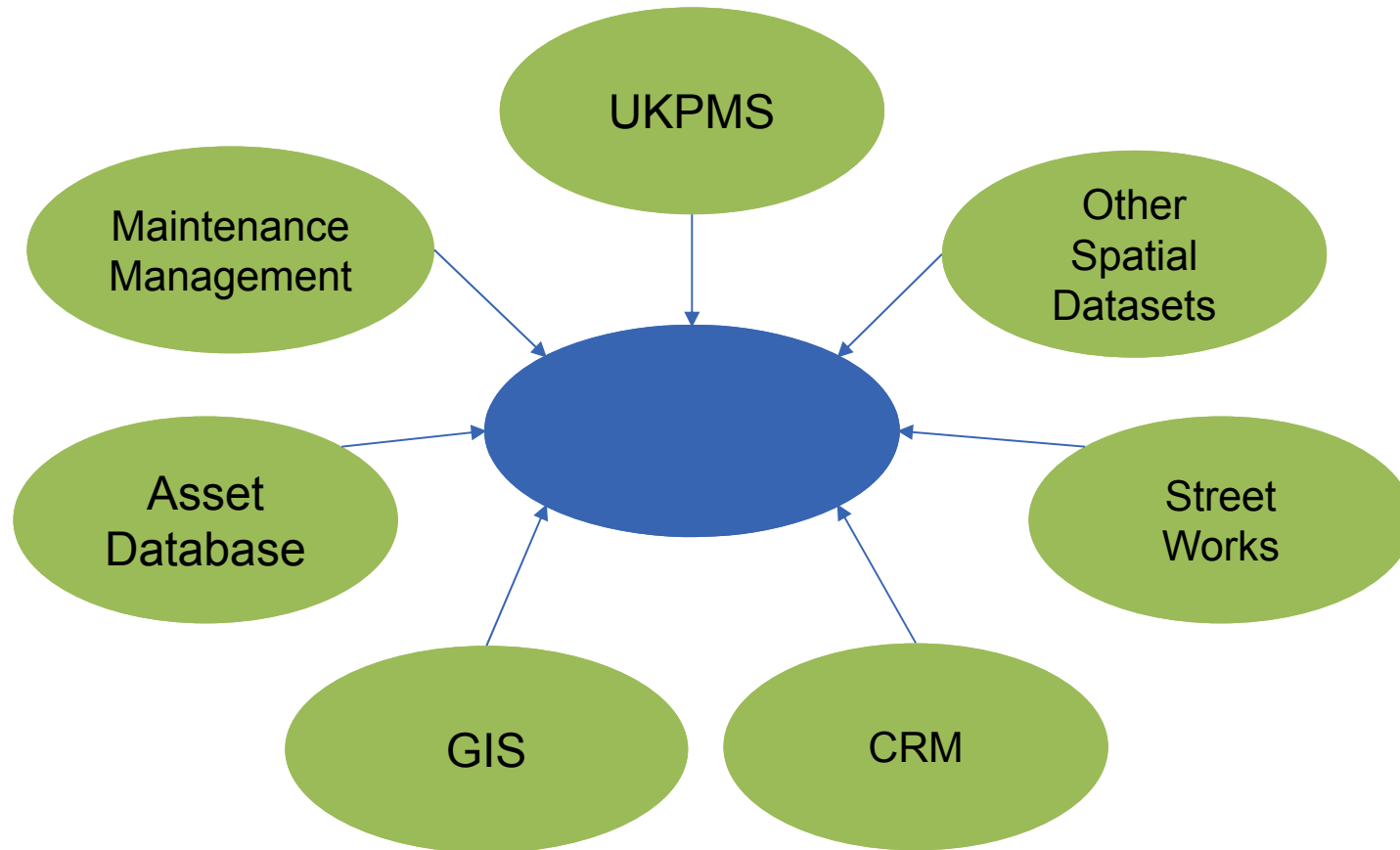


**TRANSPARENCY**

# How can these principles be achieved?



# Potential of Data



# Understanding Asset Performance

## Road Condition Index



- Generally Good
- Plan Investigation
- Plan Maintenance

## Accident Hotspots



- 1 Accident
- 2 Accidents
- 3+ Accidents

## Claims

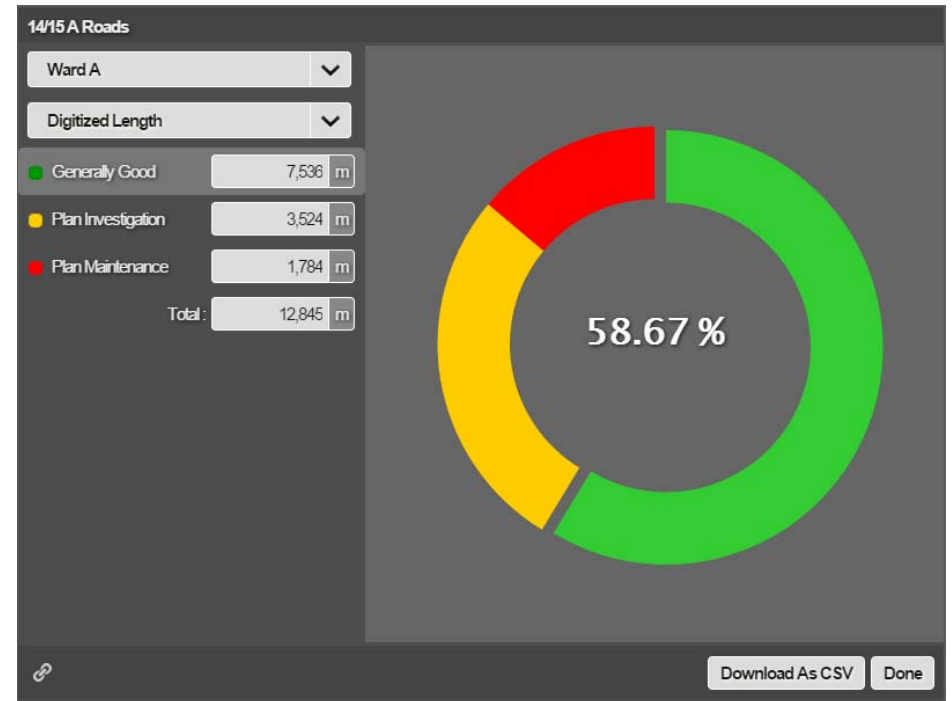
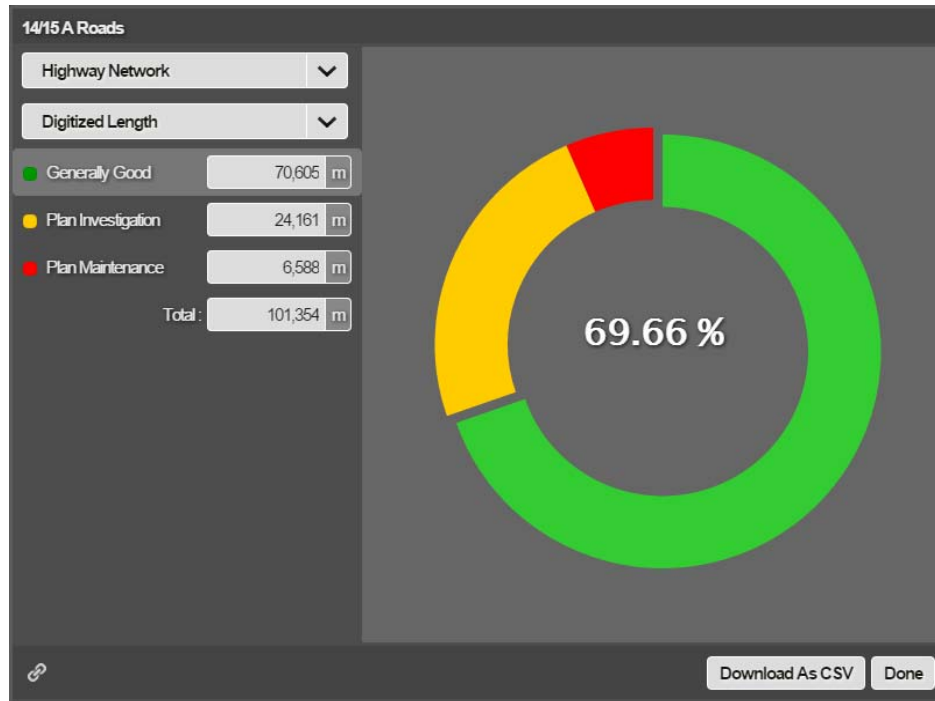


## Defects





# Understanding Asset Performance – Visualising data

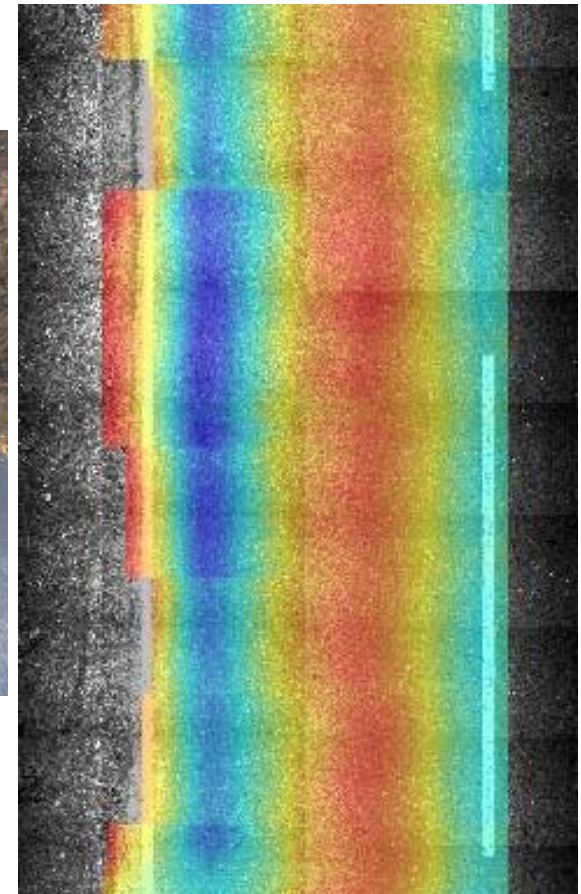


# Understanding Asset Performance – Visualising detailed data

- Texture
- Texture Variability
- Ride Quality
- Cracking
- Rutting



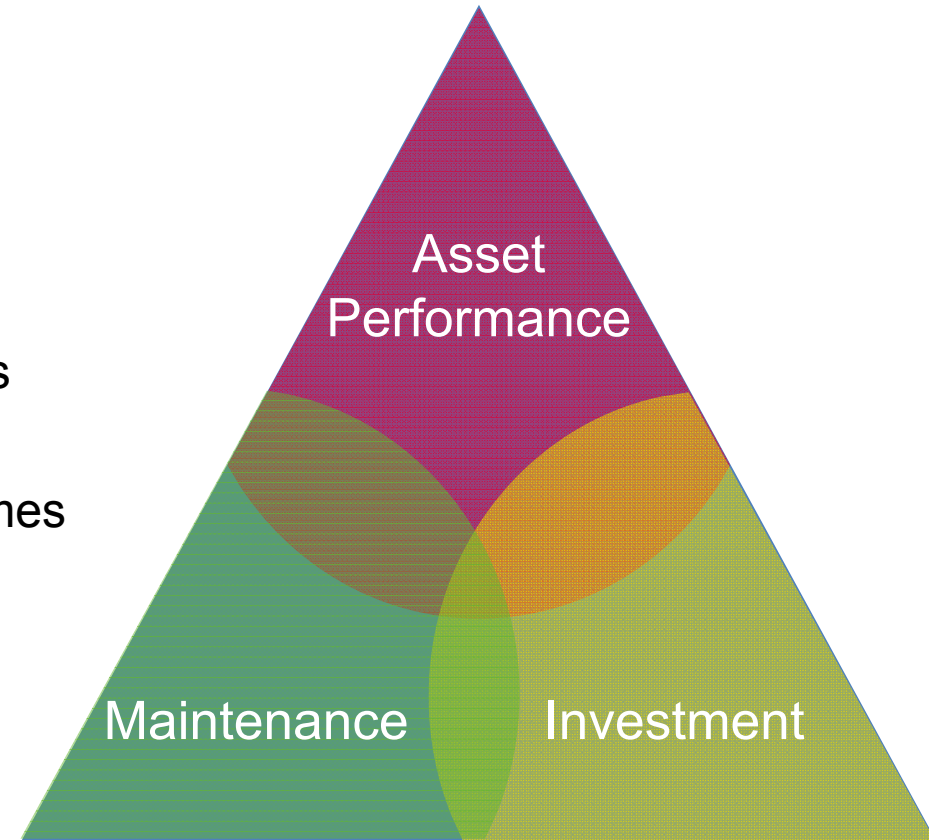
# Understanding Asset Performance – Visualising detailed data



# Strategic Asset Management Decisions

## Modelling

- Locally calibrated
- Evaluate a range of future scenarios
- Optimal Multi-year Works Programmes
- Consider Stakeholders
- Dynamic modelling



# Strategic Asset Management Decisions

## Basic Components of Modelling

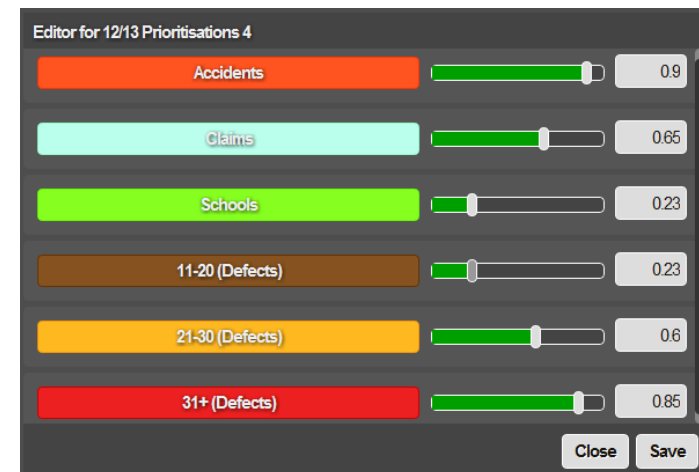
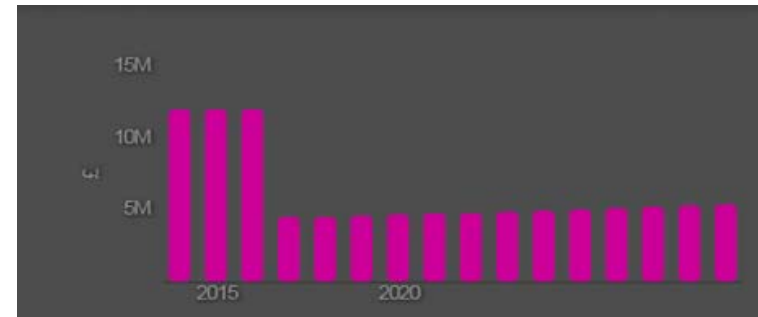
- Inventory and Condition
- Deterioration modelling
- Treatment Rules, Costs and Effects



# Strategic Asset Management Decisions

## Basic Components of Modelling

- Budgets & Targets
- Scheme priority weighting factors



# Benefit Cost Ratio (BCR) – Optimal scheme selection across the network



# Scenario Analysis

Asset Performance achieved for different levels of investment



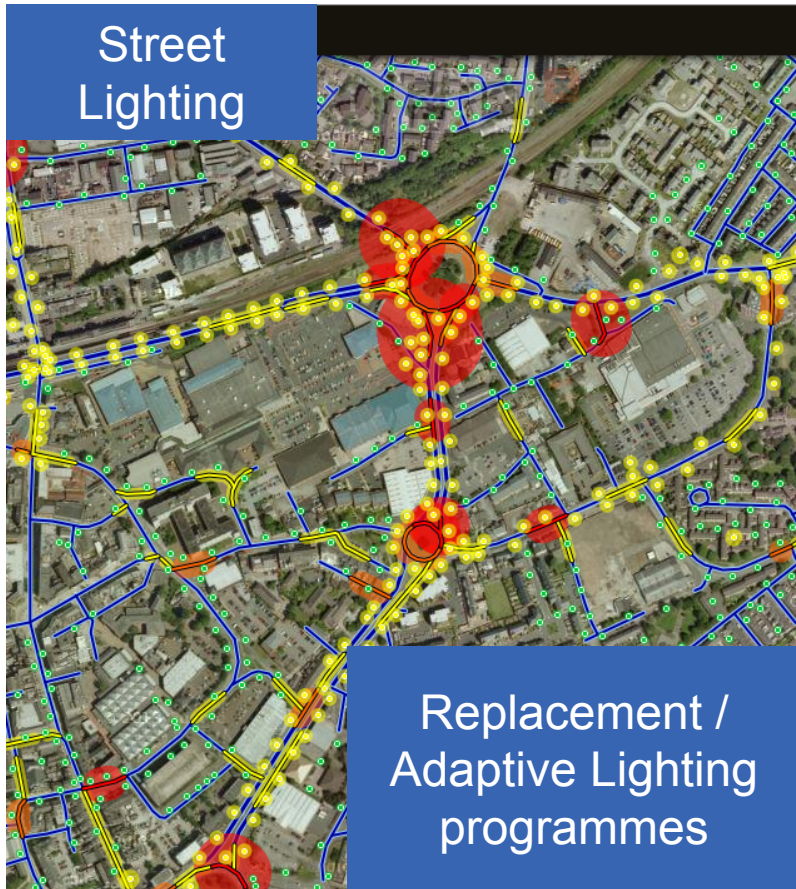
Investment required to achieve a performance target for different maintenance strategies





# Asset Management on all Assets

Street Lighting



Replacement / Adaptive Lighting programmes

Gullies



Repair / Emptying programmes

# Summary



- Data Management is key for sound asset management
- Data integration and visualisation leads to a better understanding of asset performance
- Base decisions on the wealth of data available to you