# Al to manage safer, inclusive and active roads?

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#### **AI Road Management Solutions**



### Agenda

- > Who are VivaCity?
- > The Challenges Cities Face
- > How does it work?
- **>** Case Studies
- > Direct measurement of safety



## The Challenges Cities Face





#### **Vision Zero: The Ultimate Challenge**



#### Data Toolset to Understand the Problem: The Sensor

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### Gather data on how roads are used!





3,500 Sensors deployed globally

Over 100 UK Local & Regional Authorities

& 4 in Australia



Over 16bn vehicles detected, classified and data stored in the cloud since 2018







### **Case Study: 20mph is Plenty!**

#### Ave Traffic Speeds vs Pedestrian Counts, Whitstable Road, June 22



Is the new 20mph speed limit working?





### **Change Road Layout to Protect Cyclists**



Path data: Segregating the cycle lane – does it work? Speed data: Narrower road reduces average vehicle speed



#### How Do You Assess Hazard?





### Can our Standard Al Help?





#### 2D Detection: Vehicle position in road not well understood

### **Can 3D AI solve the problem?**





**3D Detection: Vehicle position and width well defined!** 

#### How do you convert 3D Detections into Measure of Hazard?



VIVA

**Proximal: Speed is important!** 

#### How do you convert 3D Detections into Measure of Hazard?



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**Post Encroachment Time: Right of Way impacts Hazard** 

### How do you convert 3D Detections into Measure of Hazard?



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**Time to Collision** 

### **Example Data Output: Hazards to Cyclists per Class**







### **Route Cause Analysis – Path Inspection**





**Data Privacy By Design Maintained** 

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