

ASEAN AUSTRALIA SMART CITIES TRUST FUND Asian Development Bank

### Understanding the Impact of COVID-19: New Data Sources, New Insights

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#### **Data Solutions**

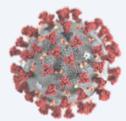


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Leveraging the information content of new data sources To provide insights about the impact of COVID-19 And building 'big data' capability for statistical production

- Acquisition
- Integration



• Analysis

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# **Policy problems** ustralia Bureau c Statistic Trade Performance Household Expenditure **Education and Skills Business Activity Critical Infrastructure** Employment, Jobs and Income Service Delivery **Population Movement**

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## **Big data sources**











- Merchandise trade transactions from Customs systems
- Retail transactions from retail point-of-sale (POS) scanners
- Payroll data from the Single Touch Payroll (STP) system
- Financial transactions from banking and accounting systems
- Smart meter measurements from energy retailers
- Spatial positioning data from applications on mobile devices
- Spatial positioning data from vehicle telematics systems
- Internet infrastructure and service usage data from ISPs
- Land coverage and utilisation data from satellite imagery
- Job advertisements from online employment portals





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# A new analytical paradigm



A System-Centric Perspective

**Computable Semantics** 

**Dynamically Integrated Data** 

Adaptive Analytical Pathways

- Join up interrelated concept and data spaces
- Connect individuals and groups in multiple ways
- 'Meaning' of concepts is machine-interpretable
- Consistent interpretation across disparate sources
- Automated processing and discovery through AI
- Heterogeneous and multisource
- Structured and unstructured
- Cross-sectional and longitudinal linkages
- Exploration (pattern sensing)
- Explanation (model building)
- Extrapolation (system simulation)

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