

Transport x 2



Dean Economou
Liftango
Plus8

Transport x 2

Our cities are the wrong shape

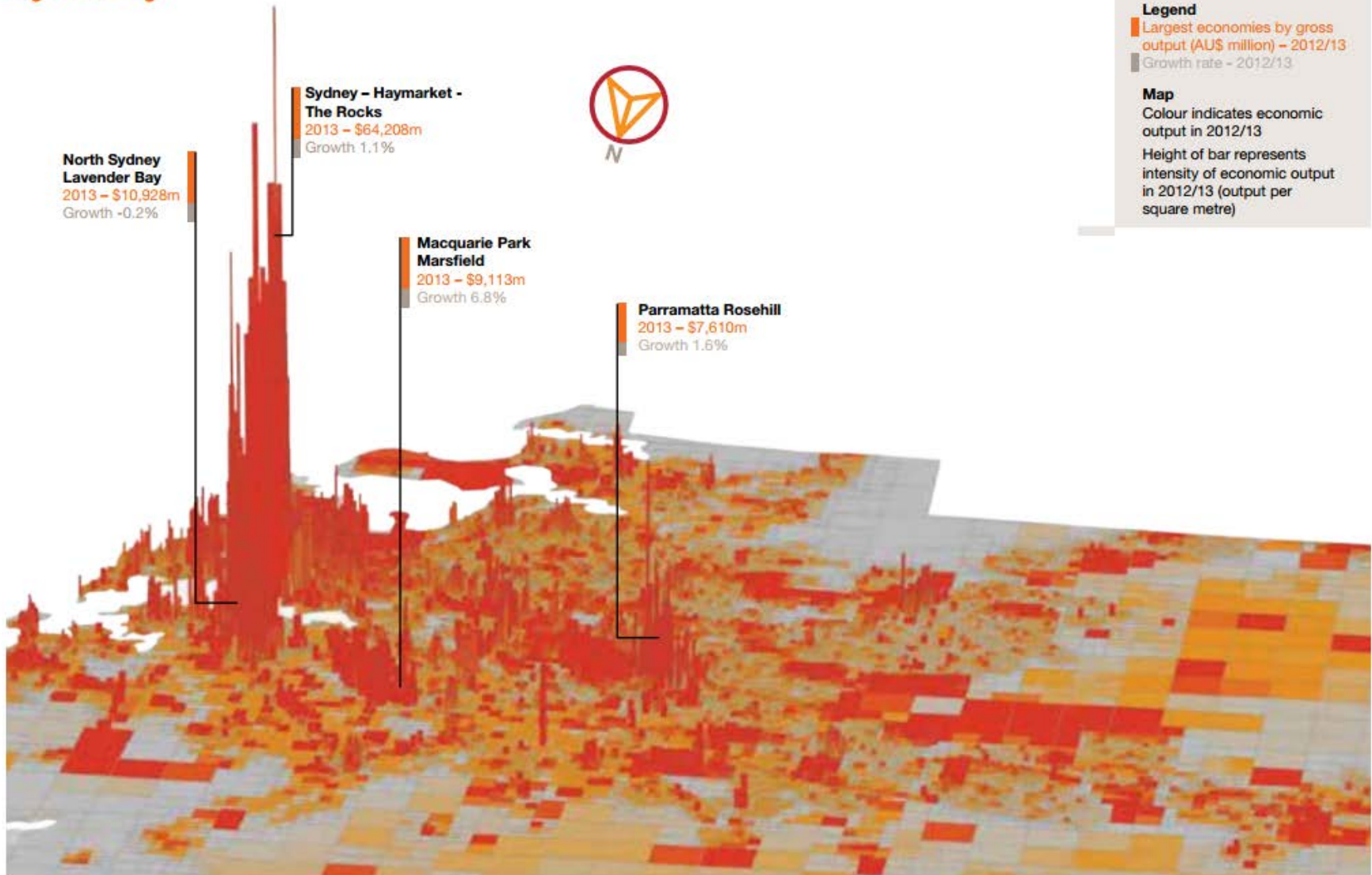
Roads are full of cars not people

Electrify to make use of renewable sources of energy

AVs will offer ways to rethink and mix public and private transport

Our cities are the wrong shape

Sydney



Roads are full of cars not people

roadsreport.rms.nsw.gov.au/#/chart?location=53&dateStart=2014-09-01&dateEnd=2014-11-30&peak=AM&type=aggregate-day-plot

Roads & Maritime
RMS Roads Report

Military Road - Spit Road - Manly Road

Sep-Nov 2014 Quarter

AM Peak Period

Military Road - Spit Road - Manly Road

Balgowlah to Cammeray

1 September 2014 - 30 November 2014 | Weekday | AM Peak Period | Inbound to city

Daily Profile

Show Historical Trend

Speed (km/h) vs Time of Day

Average Speed, Speed Range, Average Throughput

Summary Table

Show More Data

Location	Time Period	Distance (km)	Average Speed (km/h)	Percentage of Speed Limit (%)	Average Travel Time (min)
Military Road - Spit Road - Manly Road Balgowlah to Cammeray	06:15 - 09:00	6.5	16.8	31%	20.3

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Dean Economou 2016

AVs – a chance to rethink

A world of driverless cars

Fully autonomous vehicles are developing faster than anyone would have thought a few years ago, with many experts predicting that they will become widely available in the next 5–10 years. Many questions remain, but it is already possible to imagine how this new world of driverless cars will work.

PERCEPTION

Vehicles use radar to detect obstacles, a laser ranging system to map the surroundings in three dimensions, and video cameras to identify objects such as traffic lights, construction signs, pedestrians and other vehicles.

DECISION AND ACTION

To make the appropriate responses to rare events — such as a ball bouncing in from a playground, or a plastic bag blowing down the roadway — the cars rely on algorithms refined through millions of kilometres of test drives.

ADAPTIVE TRAFFIC FLOW

Smart infrastructure integrates information from the moving cars to optimize traffic-light timing and the flow of traffic in each direction on the basis of real-time load. The result is a smoother flow of traffic, less travel time and less energy consumption in traffic jams.

ROUTE PLANNING

An on-board computer uses sensor data to plot a route that gets the car where it needs to go, while avoiding people, potholes and other vehicles.

COMMUNICATION

Vehicle-to-vehicle (V2V) radios send signals between cars, trucks and infrastructure items such as traffic lights.

LOCATION

Mapping software uses Global Positioning System data to tell the car where it is in relation to roads, traffic signals, and other landmarks.

2020s

The decade when driverless cars are predicted to become widespread.

10%

Fuel savings for cars that travel in formation.

ROAD TRAINS

Vehicles can take advantage of aerodynamics and save fuel by following one another almost bumper to bumper. They are protected from catastrophic pile-ups by their V2V radios, which allow all the cars in line to hit their brakes at the same time.

CITIES TRANSFORMED

MASS TRANSPORT People increasingly give up owning cars in favour of calling companies to pick them up wherever they are and drop them off wherever they need to go — a driverless version of a ride-sharing service.

LAND USE Urban centres begin to undo the many accommodations they have made for personal vehicles — starting with the vast quantities of real estate devoted to parking, which could be adapted to more productive uses.

800 million

One estimate of the number of US parking spaces. Many could be used for other purposes if people ride-share.