



OPEN CITIES

Local Infrastructure and Services Alliance

GREATER SYDNEY COMMISSION DRAFT REGIONAL & DISTRICT PLANS

RESPONSE

December 2017

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ABOUT OPEN CITIES

Open Cities is a peak association representing infrastructure and service providers, and urban design advocates who are working together to transition Australian communities to a more sustainable, resilient and affordable energy, water, digital and mobility future. We are working with government and industry to modernise and rethink policy, legislation, regulation and price settings to enable next generation local utility and mobility services and solutions. Our purpose is to accelerate the take-up of sustainable utility and mobility innovation and services by:

- promoting and enabling evidence-based policy and regulation
- highlighting best practice projects driving economic growth and social benefit
- driving greater awareness of the rights of prosumers

This submission is made by Open Cities. It represents collective viewpoints for consideration. Specific recommendations or positions do not necessarily represent the views of each respective organization.

Make the transition now to sustainable, more resilient and affordable communities giving people more choice, less cost and greater sustainability.

EXECUTIVE SUMMARY

Open Cities welcomes the opportunity to respond to the Greater Sydney Commission (GSC) *Draft Regional Plan* and *Draft District Plans* and commends the Commission on its strategy to ensure Sydney's three cities will be more productive, liveable and sustainable into 2056.

The GSC Plans are visionary and take a next generation view of infrastructure delivery and services. Open Cities welcomes this rethinking and modernising of NSW Planning policy to promote local energy, recycled water, waste reuse and low carbon zones in the Plans. The recommendation for potential regulatory levers to establish low carbon/high efficiency zones, and set targets to monitor compliance, will be a critical enabler to generating more liveable, sustainable communities.

The *Protection of the Environment Policy* (PEP) low-carbon, high efficiency targets can drive increased energy efficiency, water recycling and waste avoidance/ reuse and importantly the opportunity to future-proof homes, businesses and communities and provide a greater choice of utility services. A PEP approach is aligned with Open Cities policy outcomes to implement evidence-based policy and regulation to promote a transition to next generation sustainable utility and mobility solutions and services.

By supporting low carbon, energy, water and waste efficient precincts that reduce heat island effect and compliment the GSC's Green and Blue Grids (*Objectives 33-38*) – the GSC has demonstrated leadership that will drive both economic growth and social benefit.

Open Cities also welcomes the GSC's support for a strong framework to deliver more resilient homes and work places for future generations with an acknowledgement of the need for next generation infrastructure and services outlined in *Objectives 3 & 6*. The uptake of low-carbon, high efficiency strategies to reduce emissions at a precinct scale along with emphasis on circular economy infrastructure and services will set the framework for a new market of utility and mobility innovation – urgently needed to transition NSW to a 21st century water, energy, mobility and digital leader.

Sydney cannot grow sustainably taking the same approach to infrastructure and services it has taken for the past 75 years. Transitioning to 21st century infrastructure solutions and services is essential. Next generation utility and mobility businesses and services are available to the market now. Their take-up relies on Government leadership in enabling new markets and removing barriers.

Consideration also needs to be given to both shared mobility as a planning (and transport) priority and the need for open data networks beyond the NBN, including the IoT – which are absent from the Plans. In planning for connected communities into 2056, shared mobility alternatives and affordable open data networks are essential.

Along with electric and autonomous vehicles, shared mobility is a critical pillar addressing an excess of privately-owned vehicles congesting infrastructure. Shared mobility and digital networks also support the circular economy and the rise of prosumers. While the term energy prosumer is a new but familiar description of people who produce their own energy and consume it, the prosumer tag is beginning to apply to customers in the mobility, digital, and water markets. Planning for new self-sufficient communities into 2056, will need to enable and reflect these next generation customer services and business models. An 'open city' planning lens will ensure homes and businesses are future-proofed and put downward pressure on utility and mobility pricing.

While the GSC Plans set out the vision, achieving this will be challenging. Open Cities would like to work with the GSC, NSW Planning, Councils and agencies to deliver the following Actions:

- *Investigating potential regulatory mechanisms such as a Protection of the Environment Policy (PEP) setting low-carbon, high efficiency*
- *Establishing low carbon precincts to achieve net-zero emissions by 2050*
- *Precinct based initiatives to increase renewable energy and water/ energy efficiency*
- *Protecting existing, and identify new, locations for waste recycling and management.*
- *Supporting innovative solutions to reduce waste and waste transport requirements.*
- *Encouraging the preparation of low-carbon, high efficiency strategies*

Open Cities is proposing an industry and government collaboration to establish the processes and frameworks required to implement the Plans, including the possibility of statutory levers.

This submission spells out key considerations to assist in the delivery of the Plans and the uptake of next generation mobility and utility infrastructure and services across Sydney. By tackling barriers to competitive markets, updating policy and enabling localised utility and mobility providers a seat at the Planning table it will be possible to realise the vision.

Open Cities looks forward to an ongoing engagement collaboration with the GSC, to deliver the GSC objectives by providing advice and also offering to assist in the development of a Council *How To Guide* providing steps to procure low carbon and sustainable water, waste, energy, digital and mobility solutions and services.

SHARED MOBILITY

Open Cities supports the GSC's potential pathways towards net-zero emissions through new public transport infrastructure, electric vehicles and autonomous vehicles to connect residents to their nearest strategic centre or metropolitan centre within 30 minutes.

The emphasis on electric vehicles and autonomous vehicles is welcomed, however we encourage the GSC to view Shared Mobility as a further critical component of our transportation future. This is imperative to achieve the most positive outcome from the transition to an electric and autonomous future. We must place Shared Mobility on an equal level with these technologies, one leg of a three-legged stool as it were. To develop Electric Vehicles and Autonomous Vehicles without such a commitment to Shared Mobility will result in a significantly poorer outcome overall, an uneven and unsatisfactory future, because the chief problem of the past, namely an excess of privately-owned vehicles congesting infrastructure, will be repeated if a societal shift toward sharing these types of assets is not begun now and built into such technological transition.

We believe that strong targets for modal shift should be adopted by the GSC as a core component to achieving our emissions targets, and included in this should be targets related to the adoption of shared transport across Sydney as Shared Mobility adoption has been shown to increase modal shift towards public and active transport, and reduce overall vehicle kilometers travelled.

Such targets are a natural fit within the GSC's plan for Sydney as Shared Mobility, despite being a transport mode, is, in fact, more closely related to the land use and urban design of cities than a city's transport network alone. Effective land use patterns that add density, improve walkability, increase local amenity and livability are critical to the success of Shared Mobility and work hand-in-hand to achieve the stated goals of the GSC.

As we move towards a future of Mobility-as-a-Service, such reliance on 'city building' will only grow greater, and thus we believe it is important that as we look to the long-term future of Sydney that we adopt a position around Shared Mobility in our city planning today that places this mode as a key tool set for the future of our cities.

While the current draft plan does not make mention of shared transport, we trust that given the rapid growth in adoption that has seen almost 20% of the City of Sydney become users of carshare alone, as well as the growing awareness among key constituents of Shared Mobility's importance, that this will be reflected in the plan.

IOT

The GSC Plans seem to be silent on next generation open data networks, the Internet of Things (IoT) and the world post NBN. In planning for connected communities into 2056, affordable open data networks will be essential.

Open Cities supports solutions that enable communities to get the data they need to make informed decisions about energy and water use and environments they live in. Public access IoT networks are driving innovation and collaboration in the cities and built environment. For example, the [TULIP](https://www.tulipnetwork.org)¹ case study proves anyone within the Sydney community can access data on air quality at the hyper local scale. These types of networks are the future, as technological advances make data accessible, available and a 'two-way street' where people can share and contribute their own collected data through local IoT networks.

Open Cities is supporting new business models that are changing the relationships and market dynamics in the sharing and provision of energy, water and transport. NSW can learn from international examples where IoT networks are even allowing the local trading of renewably generated energy. *The LO3 initiative in Brooklyn (NY)*² is signing up residents and businesses to a virtual trading platform that will allow solar-energy prosumers to sell excess-electricity credits from their systems to buyers in the group, who may live as close as next door. And Dubai have created the *Blockchain Council* to examine ways Blockchain can improve city services, specifically digital health records, tourism, small business registration, energy and water use.

A competitive market beyond the NBN needs to be established. This means unfair levies such as the RBS need to be removed and affordable open services for people and businesses that rely on fast open data networks be secured. It is essential NSW planners enable low cost open data networks that support local next gen water, energy, telco and mobility services.

PROSUMERS

The rise of the prosumer (consumer and producer) is being enabled through smart apps and the IoT. While the term energy prosumer is a familiar one used to describe those producing their own energy and consuming it, the prosumer tag is starting to apply to customers in the digital, mobility and water markets. The rise of prosumers highlights an exciting trend in utility /mobility convergence. These emerging technologies can help drive economic development, protect the environment and put downward pressure on pricing while providing more choice in the market. Prosumers will also catalyse greater competition in these markets.

¹ <https://www.tulipnetwork.org>

² <https://www.nytimes.com/2017/03/13/business/energy-environment/brooklyn-solar-grid-energy-trading.html>

IMPLEMENTING THE PLANS

Implementing new approaches to utility and mobility infrastructure requires strong engagement and problem solving, along with the modernising of outdated policies, legislation, regulation and tariffs. The GSC's Plans will need to be understood and applied across council and regional jurisdictions with strong input from next generation utility and mobility providers.

Open Cities makes the following observations relating to some challenges to be faced in implementing the GSC Plans. Current centralised utility and mobility business models such as water, energy and telco are now more than 75 years old. These centralised network approaches are not as well positioned to deliver the most sustainable, efficient, and cost effective solutions for the community. As a result, we are seeing upward pressure on utility bills, locking taxpayers into more cost for less service.

While market frameworks are beginning to be established to enable new approaches, for example water innovation, local roof-top solar, car sharing and electric vehicles, and the Internet of Things (IoT), barriers to investment for next generation service providers remain and can be removed. NSW's utility and mobility markets *not* ready to take advantage of these opportunities. Current policy, legislative, regulatory and tariff structures entrench BAU at the expense of new business models and services and need to be changed to enable the implementation of the GSC Plans. The following policy, legislative, regulatory and tariff changes will assist in the implementation of the GSC Plans as it transitions Sydney communities into the 21st century.

01 PLANNING FOR OPEN CITIES

At the moment, only centralised infrastructure providers contribute to utility and mobility planning for new communities. Local solutions such as a recycled water, renewable energy generation, open data networks, Shared Mobility and EV solutions are shut out of the planning process.

Only registered '*Public Authorities*' are entitled to participate in planning gateway processes with developers and NSW Planning. While private companies are listed under the '*Public Authorities*' schedule, licensed local utilities & mobility providers are not. This means alternative water, energy, telco and mobility providers along with their solutions are shut out, entrenching BAU utility choices and blocking faster, cheaper and more innovative ways to release land.

The following should be considered:

- 1.1 Enabling next generation local utility and mobility providers to have a seat at the State and local policy and planning tables in the development of new communities
 - 1.1.1 Changing current out of date gateway procedures to enable alternative utilities to be recognised under sec 4 & 56(2)(d) NSW EP&A Act and equivalent State legislation. Licensed decentralized (local) utilities need to be defined as public authorities so they wear the same responsibilities, have the same powers and the same input to development planning as public utilities.
- 1.2 Authorising next gen local water, energy, telco and mobility providers to contribute to planning gateway processes
- 1.3 Government collaborating with industry to investigate the opportunity for more use of local sustainable utility and mobility services

02 REMOVING BARRIERS

Current policy, legislation and regulation promotes centralised BAU utility and mobility infrastructure and services at the exclusion of more efficient and sustainable solutions and services. Anti-competitive barriers to new more compelling and sustainable services and infrastructure need to be removed across the telco, mobility, water and energy markets, with consideration to:

- 2.1 Removing outdated policy, legislation, regulation creating barriers to new local utility and mobility infrastructure and services
- 2.2 Removing anti-competitive tariffs / levies that prohibit the viability of local water and energy generation, and shared telco and mobility

03 COMPETITIVE MARKETS

Competition is essential for the delivery of more efficient and sustainable next generation local water, energy, telco and mobility infrastructure and services. Australia needs to establish more competitive frameworks for the procurement and delivery of local utility & mobility infrastructure and services to new and existing communities.

Currently there are no procurement processes for alternative sustainable local water, energy, telco and mobility infrastructure and service solutions. This makes it harder for councils to progress towards more sustainable alternatives to BAU utility and mobility services. 'How To' procurement guides should assist councils in choosing smarter more sustainable solutions. The following should be considered:

- 3.1 Working with industry to develop guidelines and a best practice data base on *'How to Procure an Open City'*
- 3.2 Facilitating a collaborative approach between government and industry to investigate alternative water, energy infrastructure solutions and then chose a solution that most achieves the following outcomes:
 - Affordability
 - Sustainability
 - Community benefit
 - Future-proofed communities
 - Innovation
 - Liveable communities
- 3.3 Lead by example by actively procuring next generation utility mobility solutions

04 WATER

Centralised public utilities' obligation to serve new growth areas, is preventing new more innovative and sustainable Integrated Water Cycle Management (IWCM) approaches from being implemented and entrenching last century approaches. IWCM must be mandated and funded through appropriate developer contributions.

By removing outdated laws restricting the use of recycled water in communities – for example as environmental flows or for water features – IWCM can be used to green public amenities all year round improving liveability and resilience.

The benefits to the economy and the environment of IWCM must be reflected in water tariffs. The following areas need to be considered in implementing the GSC plans.

- 4.1 Establishing transparent pricing for IWCM that is cost-reflective
- 4.2 Removing out dated planning, environmental and building policy, regulatory and legislative barriers restricting the use of recycled water and stormwater
- 4.3 Prioritising and fast tracking IWCM water licensing within three months
- 4.4 Change NSW water management from centralised to local IWCM
- 4.5 Setting targets to deliver no sewage ocean outfall
- 4.6 Changing hierarchy of water to better value recycled water
- 4.7 Establishing concessions for all private water utility customers

05 ENERGY

Australia needs to transition to a renewable future from the ground up. Technologies are enabling new services and lower costs for local renewable energy generation, enabling homeowners, businesses and industrial sites to embrace and lead the low carbon market.

Open Cities believes the low carbon energy revolution will be here in the next few years despite an historical lack of stable energy policy: businesses are leading this transition from the ground up. Consideration needs to be given to the following:

- 5.1 Implementing Finkle recommendation to secure an affordable, reliable and low emissions future
- 5.2 Prioritising and fast-tracking grid connections within two months for local renewable energy with storage that increases grid stability
- 5.3 Enabling microgrids by 2021 with the provision of energy and water data gateway metres for new communities
- 5.4 Establishing transparent pricing that values the broader benefits of local renewable energy and storage
- 5.5 Updating building codes to improve roof designs for increased solar load
- 5.6 Introducing new classifications of retailers to facilitate peer to peer trading of smaller more frequent transactions

06 MOBILITY

Australia needs regulatory and policy settings that increase the personalisation of transport choices for customers, rewarding people and communities seeking shared or autonomous mobility solutions. Despite the proven benefits of carshare, there exists very little consideration among government planners and infrastructure agencies about the growing importance of alternative transport including shared mobility in reducing the overall car dependency and ownership rates in Australia. The following need to be considered when implementing the GSC Plans.

- 6.1 Increasing the personalisation of transport choices for the customer that can be chosen and paid for through simple gateways
- 6.2 Making the growth of alternative transport, including carshare, a key performance metric for State transport agencies
- 6.3 Providing new developments with a significant reduction in required parking and issue credits for shared mobility as a replacement
- 6.4 Making the growth of alternative transport, including carshare, a key performance metric for State transport agencies
- 6.5 Providing new developments with a significant reduction in required parking and issue credits for shared mobility as a replacement
- 6.6 Setting targets for 50% of all City trips to be other than the private car

07 DIGITAL

Accelerating an understanding and the adoption of key digital principles and practices will underpin a vibrant digital economy and support smart cities and regions. Consideration should be given to:

- 7.1 Understanding and adoption of key digital principles including enabling:
 - managed widespread and consistent data sharing
 - new emerging digital technologies, including artificial Intelligence, augmented reality, and Blockchain
 - layers of connectivity for both fixed and wireless, for people and things, including fixed, broadband, mobile cellular and Low Power Long Range to support IoT
- 7.2 Begin the transition to a competitive market beyond the NBN

OPEN CITIES & GSC ACTIONS

Open Cities would like to work with government to implement the following actions:

- *Support initiatives that contribute to the aspirational objective of achieving net-zero emissions by 2050, especially through the establishment of low-carbon precincts in Priority Growth Areas, Priority Precincts, Collaboration Areas, State Significant Precincts and Urban Transformation projects. Councils, other planning authorities, State agencies and State-owned corporations*
- *Support precinct-based initiatives to increase renewable energy, and energy and water efficiency, especially in Priority Growth Areas, Priority Precincts, Collaboration Areas, State Significant Precincts and Urban Transformation projects. Councils, other planning authorities State agencies and State-owned corporations*
- *Protect existing, and identify new, locations for waste recycling and management.*
- *Support innovative solutions to reduce the volume of waste and reduce waste transport requirements. Councils, other planning authorities and State agencies*
- *Encourage the preparation of low-carbon, high efficiency strategies to reduce emissions, optimise the use of water, reduce waste and optimise car parking provision where an increase in total floor area greater than 100,000 square metres is proposed in any contiguous area of 10 or more hectares. Councils, other planning authorities, State agencies and State-owned corporations*
- *Investigate potential regulatory mechanisms such as a Protection of the Environment Policy (PEP) that sets low-carbon, high efficiency targets to be met through increased energy efficiency, water recycling and waste avoidance, reduction or reuse. This could include a framework for the monitoring and verification of performance for precincts in Priority Growth Areas, Priority Precincts, Collaboration Areas, urban renewal precincts and housing growth areas that are planned to have an increase in total floor area greater than 100,000 square metres.*

Open Cities proposes an ongoing engagement collaboration with the GSC, to promote and enable evidence-based policy and best practice to accelerate the take-up of sustainable utility & mobility innovation and services. Open Cities would like to:

1. Provide advice to the GSC, NSW Planning, Councils and government on:
 - 1.1 the establishment of low-carbon precincts to achieve net-zero emissions by 2050.
 - 1.2 precinct-based initiatives to increase renewable energy, and energy and water efficiency.
 - 1.3 innovative solutions to reduce the volume of waste and reduce waste transport requirements.
 - 1.4 preparation of low-carbon, high efficiency strategies
 - 1.5 low-carbon, high efficiency targets such as Protection of the Environment Policy (PEP).
 - 1.6 regulatory mechanisms such as a Protection of the Environment Policy (PEP) to set low-carbon, high efficiency targets.
2. Develop a *How To Guide* for Councils on how to procure and achieve the above zero-emissions precincts, strategies, initiatives and regulatory mechanisms.

CONCLUSION

The GSC Plans provide a critical foundation for the sustainable low carbon growth of Sydney, generating greater productivity and resilience into the future. Delivering these plans remains the challenge for government and industry. Open Cities would welcome the opportunity to provide feedback to the implementation processes to help identify solutions to market barriers to the uptake of next generation utility and mobility infrastructure and services.

Open Cities is excited by the future spelt out in the GSC Regional and District Plans, and looks forward to the opportunity to work with the GSC, NSW Planning, Councils and government agencies to deliver the vision.



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OPEN CITIES

Open Cities is a growing alliance setting a new framework for governments to enable next generation utilities and mobility solutions to help realise a more resilient, affordable and sustainable future. Founding members include:

