



# Planning, gas pipelines and community safety: What is the role for local planning authorities in managing risk in the neoliberal era?



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## ABSTRACT

Urban development of land in historically rural areas which contain high-pressure gas pipelines increases risks to public safety. Pipeline organisations identify local planning authorities as key stakeholders in planning to mitigate risks posed by land use changes. However, neoliberal reforms that have both privatised pipelines and centralised strategic planning decisions have reduced the decision-making power of planners at a local level. This places local planning authorities in an ambiguous position to consider and manage pipeline risk in their professional practice. The paper draws on findings from interviews with stakeholders involved with urban planning and high-pressure gas pipelines, including local planners, in two case study sites in Australia to highlight the impacts of neoliberal planning reforms on the professional practices of planners in managing risks to community safety from gas pipelines. Other researchers have argued that neoliberalism poses problems for the planning profession. Land use planning around high-pressure gas pipelines offers a valuable case study to demonstrate this. This research provides an important contribution to this existing body of research by exploring the effects of neoliberalism through investigation into the lived experiences of planners, showing that these developing trends impact representation of community interests in planning decisions and also public safety.

## 1. Planning, gas pipelines and risk to communities

Cities around the world are experiencing rapid densification and expansion due to global population growth. This growth has been reflected in typically low-density development in the established suburbs and greenfield areas of modern cities. This has resulted in development of new infrastructure, increased energy use, carbon emissions and the loss of natural open space and farmland (Blais, 2010; Pacione, 2013; Zhao, 2011). The 'dramatic transition in land use on the edges of metropolitan areas' (Sultana and Weber, 2014, p. 545) has led to the development of a large body of literature that articulates the impact of urban growth and sprawl on social and environmental outcomes (Laidley, 2015). A less researched but important consideration in the face of increased densification within greenfield areas is how planning decisions are made around existing buried infrastructure such as high-pressure natural gas pipelines<sup>1</sup>. These pipelines are essential infrastructure that carry natural gas from extraction points, to processing plants, then on to homes and businesses and are engineered based on the risks posed by, and to, existing surrounding land uses if a rupture were to occur. Increasing urban development and activity in historically

rural land on the urban fringes of major cities around Australia (Butt et al., 2016) poses a significant risk to communities from existing pipelines not designed for urban densities within these developing areas.

The consequences of pipeline failure can be significant. While pipeline standards and regulations require engineering to reduce risk of a pipeline to the public to a level that is as low as reasonably practicable (ALARP), ruptures do occur 'with a certain frequency' (Ramírez-Camacho et al., 2017, p. 41). For example, in 2004 in Belgium, a gas transmission pipeline was hit by excavation equipment and later exploded, causing fire and resulting in 24 deaths and 132 injuries (ARIA, 2009). In 2010 in San Bruno California, a gas pipeline exploded, causing a fire that engulfed nearby houses, killing eight people (Hayes, 2015). These accidents highlight the consequences to human life from a significant pipeline rupture or failure and also the risk posed to communities that are built adjacent to these pipelines. While natural gas may only be used in the medium term, the gas industry and governments along with researchers around the world are looking at ways to decarbonise the gas supply (COAG Energy Council, 2019; Iordache, 2017). This includes looking at alternative fuels such as hydrogen and biogas to be introduced into the mix of natural gas within transmission

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<sup>1</sup> High-pressure gas pipelines will be referred to from this point onwards as pipelines. However, in the context of this research and paper, the authors are referring to transmission pipelines where natural gas is transported under high pressure, as opposed to lower pressure gas distribution networks.

and distribution pipelines (GPA Engineering, 2019; Melaina et al., 2013). This is both for export and domestic use. While these fuel sources may reduce the carbon intensity of the energy industry in Australia, they do not reduce the risks associated with transmission pipelines. Given the transition to a low carbon economy will likely utilise the existing pipeline infrastructure, the potentially disastrous consequences to people and property when urban areas are allowed to encroach on existing pipelines remain (Hayes and Hopkins, 2014).

Currently, the risk presented by gas pipelines to the surrounding community is managed by pipeline operators through a risk-based approach to pipeline design. The approach requires engineering solutions to reflect surrounding land use as a direct consideration of pipeline design both in terms of the *activities that may damage a pipeline and the people who might be exposed* if a pipeline were to fail. Therefore, pipeline design varies according to the surrounding land use. Any unexpected change in land use presents increased risk with respect to public safety, unless engineering changes are made. As a result, the risk associated with pipelines and surrounding development is not solely controlled by the pipeline industry itself.

Land use planners, as regulators of land use and development (Productivity Commission, 2012), play a significant role in the type and location of development surrounding pipelines. Planning decisions may render pre-existing pipeline design choices invalid, and yet, research has shown that planners have little information about pipeline risks, particularly the land use assumptions embedded in the pipeline design (Spiire, 2016b). This has implications for community safety when planners, as regulators of land development and use, make land use and development decisions that fail to consider the safety risks associated with activity in the vicinity of a pipeline. This is of particular concern as third party damage is the most common cause of pipeline damage (Tuft and Cunha, 2013) as people from outside the pipeline sector build roads, install fences, repair water infrastructure and simply go about their daily lives. In Australia, specific cases of residential development too close to existing gas pipelines have increased both the probability and consequence of a pipeline rupture (SEAGas, 2010; Spiire, 2016b). Similar to land development in dam floodways, this issue is a form of 'hazard creep', which occurs when risks are both invisible and latent, and therefore not immediately apparent to decision makers and communities (Pisaniello and Tingey-Holyoak, 2017).

A key finding by work commissioned by Victoria's safety and technical regulator identified that the gas pipeline and planning professions are not congruent.

The current land use planning system provides little direction in relation to development around pipelines... The *Pipelines Act 2005* and [the pipeline design standard] similarly fail to recognise the planning system, using terminology that is not only inconsistent with the planning system but also contrary to it.

(Spiire, 2016b, p. 4)

Each industry fails to understand how the other operates, their professional responsibilities and understanding of risk and this is reflected in, and compounded by, existing policy and regulatory frameworks. In this context, the role of planning and its outcomes have resulted in situations where communities are at a greater risk of a pipeline strike because planning decisions have led to encroachment on pipelines not designed for such land uses. Underpinning this situation is the increased dominance of neoliberal ideology that has influenced the evolution of the form and function of the regulatory drivers, the associated decision-making tools and understanding of professional roles. Neoliberal planning reform has reshaped the role and responsibilities of planners as regulators of land use and development, acting on behalf of community interests, to facilitators of development. According to Allmendinger (2009, p. 120), the common principles and manifestations of neoliberalism in planning are a focus on:

- 'Rule of Law: System based on tribunals, covenants, third party insurance;

- Centralisation: Centrally directed approach with no local discretion; and
- Market Orientation: Minimal regulation and the provision of information to help the market make investment decisions'.

These principles have permeated the Australian planning profession and have influenced both strategic and statutory planning, and associated decisions within the vicinity of gas pipelines. This shift has implications for community safety when planners, whose role it is to regulate land development on behalf of community interests, are making decisions under market orientated regulation to incentivise development, without tools to adequately consider the safety risks associated with building in the vicinity of a pipeline. Given the limited research on the impacts of urban growth on buried infrastructure and the manifestations of neoliberalism in planning practice regarding high-pressure gas pipelines, there is a critical need to better understand what is happening in the professional practice of planners. This paper aims to better understand the lived experience of planners (along with other key stakeholders including pipeline regulators, operators and land developers), to explore planners' roles in managing risk to community safety from gas pipelines in a neoliberal era of planning. Given this context, this paper does not critique the level of safety associated with the Australian standards and risk assessment methodologies of the pipeline industry, and therefore a detailed interrogation of the safety methodologies is not undertaken nor required here.

This paper explores the impact of neoliberal planning reforms on managing risk to community safety from gas pipelines and the role of planning given this context, drawing on qualitative data from two Australian case studies (Victoria and South Australia). The paper firstly illustrates how pipelines are considered within the planning system and the disconnect between the planning and pipeline professions and associated governance mechanisms (or work as prescribed). Planners' perception of risk and their associated professional practices (or work as done) within this regulatory context are then explored. This includes how planners prioritise competing planning policy objectives when making land use decisions near high-pressure gas pipelines. Key implications of these findings from the two case studies are then explored, including the broader implications for planners' roles in managing invisible risks in neoliberal, market orientated regulatory environments.

Before exploring the regulation, perspectives and practices of planning and community safety around gas pipelines in the case studies, a well-established body of research on the influence of neoliberal ideology on planning and the pipeline sector will now be presented to provide the necessary context to explore the research findings.

## 2. Neoliberal reforms in planning and utilities

Strategic planning governs the use of land to achieve long-term sustainable social, environmental and economic outcomes and reduce conflicting uses of land (Berke et al., 2006). The role of the statutory land use planner is that of regulator of land use and development (Productivity Commission, 2012), informed by such strategic policy objectives. In practice, this role involves supporting informed decision-making, facilitating consensus between different stakeholders regarding land uses and realising a vision to guide future community development. To do this, Berke et al. (2006, pp. 3–4), somewhat idealistically maintain that, planners:

must be visionary thinkers who look beyond immediate concerns to the needs of future generations, and effective communicators of these visions of the future who inspire confidence in the reality of sustainable land use patterns.

Since the 1970s, Healey (1992) has argued that planning has evolved from a 'progressive force for economic and social development', to one that 'puts the needs of capital (through regional economic development and the implicit opportunities for land and property markets created by planning regimes) before citizens and the

environment' (Healey, 1992, p. 145). The utopian vision of the role of planners, as articulated by Berke et al. (2006), is therefore contested by Healey (1992) and other scholars given the competing, conflicting, political and value-laden nature of social, environmental and economic goals/objectives that planners must foster within their communities within the short, middle and long term. This reality has seen the development of a body of scholarly work over the last three decades (Forester, 1999; Howe, 1980; Steele, 2009; Thomas and Healey, 1991) that highlights the changed role of planners and, in particular, the conflicting role/s of land use planning, its place within society and the influence of political ideologies in planning roles and purpose.

In the current neoliberal system, the role of the state has become limited to the provision of a regulatory system that facilitates 'the rules of the economic and social game that the citizens of a free society play' (Friedman and Friedman, 1980, p. 30). Therefore, within this system, planning serves to facilitate these 'rules', and as a result, planners now 'necessarily serve as agents of neoliberal urbanism' (Tasan-Kok, 2012, p. 2). The process of applying neoliberal principles to governance systems has led to a 'hollowing out' of the state (Gleeson and Low, 2000), leaving local planning authorities as administrators of centralised planning controls, and as facilitators of development (Groves et al., 2013; Jackson, 2018), rather than 'visionary thinkers' and representatives or coordinators of local community interests. This fundamentally challenges planners' 'authority to shape urban development' (Jackson, 2018, p. 144).

Another manifestation of neoliberalism in planning has been the increasing dominance of private planning consultants. While the role of government has shifted from service provider to regulator, the regulatory responsibilities of government have also been externalised to 'regulatory intermediaries'; professional or industry bodies or private consultants that, in different circumstances, can influence, write and enforce regulation on behalf of a regulator (Abbott et al., 2017). Steele (2009) argues that the design and development of planning schemes, their associated amendments, sub-division and development proposal assessments are increasingly undertaken by planners working in the private sector. Private sector planners must also address the values of their employers as well as any planning objective embedded in legislation. Planning in this instance focusses on the economic imperative associated with development and the role of the private sector in achieving both planning and development outcomes. This can lead to what has been termed the 'revolving door' of regulatory capture 'which involves the tendencies of regulators to favour industry when they have an industry background or when they expect rewards in the form of future industry employment' (Dal Bo, 2006, p. 204). This view of regulation is in contrast to what has been termed the 'public interest' view of regulation, where regulators are motivated by what it deemed to be public, rather than private interest (Levine and Forrence, 1990). The emergence of the private sector planner demonstrates the extent to which markets shape the planning landscape and the 'hybrid' role (Steele, 2009) of urban planning, serving both public and private interests. This hybrid role shifts the function of planners as regulator to planners as consultants (Steele, 2009).

The dominant use of market led mechanisms to organise society, rather than government led 'controls' (Allmendinger, 2009), has also led to the privatisation of public assets and services. As with planning, neoliberal reforms have taken place within the public service and utility sector in Australia since the 1990s. Neoliberalism has had a profound influence on the provision of services and infrastructure including gas pipelines, which are now owned and operated by private companies in many countries (Groves et al., 2013), including Australia. Until 1992, pipelines in Australia were publicly owned by Australian state or Commonwealth governments; however, public pipelines have since been sold to private companies and new pipelines built by the private sector (Kimber, 1998). Consequently, Australia's gas pipelines are now entirely privately owned (Australian Energy Regulator, 2017).

Governing the operation of pipelines by the private sector is

regulation to ensure environmental, worker and public safety. State and Commonwealth government agencies and departments have been established to ensure companies comply with these regulations. In effect, neoliberal reforms have changed the role of government from service provider to regulator (Rhodes, 1996). Standards, regulation and penalties act to incentivise companies to 'internalise' public and environmental health and safety risks as part of their commercial practices; risks that might otherwise be ignored by private companies if they are only left accountable for financial costs and benefits. Regulation of private utility and pipeline markets ensures the existence of both marketplace competition and the adequate management of health and safety risk (Egan et al., 2007; Holden, 2000; Jones, 2001; Kimber, 1998).

In Australia, the protection of public safety from the pipeline itself is governed by the Australian Standard AS 2885 Pipelines – Gas and liquid hydrocarbon (AS 2885). AS 2885 articulates the obligations and requirements with respect to the safe design, construction, operation and maintenance of high-pressure gas pipelines. While the pipeline standard is not regulatory in function, the standard is embedded into pipeline legislation across Australian states to ensure industry compliance as part of licencing conditions. AS 2885 establishes technical requirements for pipeline integrity and safety as well as the *measurement length (or consequence zone)* for a pipeline, which is the area surrounding a pipeline in which people could be impacted if a full-bore pipeline rupture were to occur. Land uses within this area (which may be up to one kilometre wide) must be considered by the pipeline operator when pipeline design decisions are made. In urban areas, a pipeline easement (typically 25 m wide) may also be defined to physically limit activity near a pipeline and to provide access for maintenance. The measurement length is different from a planning easement as it is part of the pipeline safety standard, not planning legislation. Therefore, the measurement length does not trigger any planning consideration in the development process, unlike the much smaller easement area that may, or may not be, noted on a land title. A unique issue associated with the privatisation of public infrastructure specific to pipeline operators has been their status as referral authorities or statutory consultees within planning governance frameworks. As private entities, pipeline operators are not granted determining referral status, thus limiting or excluding their input into formal strategic or statutory decision-making processes.

In the past, Australian planning systems 'failed to satisfy a range of ecological needs and community aspirations' (Gleeson and Low, 2000, p. 25), however, these recent shifts away from localised planning to centralised planning controls and market orientation of these controls have not moved to address these concerns. Unlike community resistance to urban development of farm or bushland within local neighbourhoods on the urban fringes and greenfield areas (see Pacione, 2013), or community involvement in good practice major hazard facility siting (Wynne, 2016), pipelines receive less public attention due to their low profile and good safety record in Australia. As various authors have noted (Birkland, 1998; Osland, 2015; Pearce, 2003), stakeholder interest in proactive hazard mitigation planning is less likely to occur in communities that do not regularly experience disaster or without a 'high-impact disaster event' (Osland, 2015, p. 1063). Corburn (2003) argues that community needs, and local knowledge should be integrated into decision-making practices regarding environmental hazards and that this local knowledge is important for democratic participation, a loss of which, is a key ramification of neoliberal reforms. With this context, it is important to consider how these neoliberal planning reforms manifest in the management of gas pipeline risk to community safety. In particular, what is the lived experience of planners and what role do planners currently play in managing this risk to community safety?

### 3. Methods

The research presented in this paper is part of a larger study that investigated stakeholder perceptions and attitudes towards pipeline risk regarding land use planning and gas pipelines. Stakeholder views were sought in the interviews based on the understanding that a ‘multitude of actors and processes’ (van Asselt and Renn, 2011, p. 431) including ‘governmental institutions, economic forces, and civil society actors’ (van Asselt and Renn, 2011, p. 431) play a role in governing risk in modern societies. In addition, the research drew upon Hollnagel (2016) ‘varieties of human work’ theory that makes a distinction between work as prescribed (by regulations and policy, for example) and work as done (what actually happens in practice). The use of interviews in this project aimed to ascertain how risk from planning and development decisions around pipelines is both perceived by stakeholders and managed in practice. The information sought from the participants provides insight into understanding of the regulatory framework that governs and guides practice, conceptualisations of risk as it relates to professional objectives and personal experience, and how the governing frameworks formally and informally guide perceptions and associated actions. A desktop analysis of regulation and policy was used to understand ‘work as prescribed’ and how this contrasts with work as actually done. Combined, this data is explored in this paper as it relates to how neoliberal planning reforms manifest in the management of gas pipeline risk to community safety and the lived experience of planners in this context.

Two Australian case studies (Victoria and South Australia) employed the same methods including a desktop analysis of state regulation and policy (to collect data on work as prescribed), and semi-structured interviews with stakeholders including land use planners, developers, regulators, and the pipeline industry (to collect data on work as done). See Table 1.

The two case studies were chosen for the following reasons:

- Gas transmission pipelines in identified growth and subsequent development areas.
- Increased density and development due to land use planning decisions in proximity to gas transmission pipelines.
- Similar risk-based regulatory regimes regarding management of pipeline technical safety; and
- Convenience factors such as participant access.

Participants were recruited using a snowball method via existing networks as well as through purposive sampling (Walliman, 2006) based on an internet search of publicly available contact details of planning departments, consultants and developers within the vicinity of pipelines. The desktop analysis of governance frameworks involved a review of legislation, regulation and standards of relevant planning and pipeline legislation as well as the responsibilities, accountabilities and processes within the frameworks in each state. Semi-structured interviews, undertaken after research approval was obtained from the RMIT Human Research Ethics Committee, were chosen to capture ‘multiple

perspectives’ highlighting the specific differences and similarities between participants (Fontana and Frey, 2005). This method enables the participants to ‘demonstrate their unique way of looking at the world’ (Cohen et al., 2011, p. 205). Interviews were recorded and transcribed and analysed using thematic coding.

### 4. Results

#### 4.1. Work as prescribed

The data collected from a desktop analysis of planning governance frameworks has been used to map ‘work as prescribed’ in Victoria and South Australia. The overarching legislation and policy and how this triggers consideration of pipelines is highlighted, providing the structural backdrop for work as done in practice in the preceding section.

##### 4.1.1. Planning processes and pipelines in Victoria

Victorian planning is principally governed by the *Planning and Environment Act 1987*, the State strategic plan, Plan Melbourne (DELWP, 2017) and the Victorian Planning Scheme which is administered by local planning authorities. The Victorian Planning Scheme contains the State Planning Policy Framework (SPPF). The SPPF articulates the strategic planning directions and identified priorities and Victorian Planning Provisions (VPPs) – the clauses that govern the use of land. Some local content is added through the Municipal Strategic Statement (MSS), schedules to zones and discretionary application of overlays and provisions. The current planning system is a result of reforms which took place under the Liberal government in the 1990s (Buxton & Goodman, 2014), with the replacement of a regulatory based planning system with a performance-based model of planning. Consequently, the *Planning and Environment Act 1987* was amended to include a set of state-wide performance-based standards, the VPPs, including standard zones and uses. Further changes included the increased scope for ministerial intervention in planning issues. The new planning system was considered more flexible and discretionary, and it limited local content, power and participation in planning decisions and increased development (Buxton and Goodman, 2014). As such, Victoria’s planning system was centralised and standardised by the State Government and, as a result, can be defined as a top-down, technocratic planning system (Murray et al., 2009).

The system reflects the characteristics of a neoliberal paradigm, as described by Allmendinger (2009), and prioritises the delivery of residential development using market mechanisms with limited government intervention. In Victoria, this is achieved through the removal of much local discretionary power over planning matters with state or national governments holding the dominant power over planning in top-down models (Korngold, 2017). Victorian councils apply State Government planning policies and tools at the local level as relevant depending on the land and its use. Victorian councils provide local input into local planning policy; however, this is constrained to choosing between the planning tools (zones, overlays and provisions) made available by the State. The Planning Minister must approve the local council’s inclusion of the State’s planning tools before a local planning policy (Planning Scheme) can come into effect.

A central focus of the *Planning and Environment Act 1987* is the protection of Victoria’s environmental, social and economic feasibility in the development of community. Under the Act, land use and development are underpinned by multiple, and diverse, objectives that include a focus on the economic as well as the social welfare of communities. Core elements are to provide communities with diverse local housing and employment opportunities, facilities and services, sustainable transport options, a healthy environment, a high level of amenity and a strong local identity. Achieving these goals is a vital element of the long-term planning approach in Victoria and poor planning is considered as a risk to achieving these outcomes (Victorian Planning Authority, 2020). Included in The *Planning and Environment*

**Table 1**  
Research participants.

Participant/stakeholder groups	Number of participants	
	Victoria	South Australia
Pipeline industry representatives/pipeline operators	9	3
Council representatives	17	3
Technical pipeline regulators	1	2
Government planners (state)	1	1
Developers	4	2
Development consultants	4	1
Other stakeholders	1	0
Total	26	12

Act 1987 and the SPPF within the Victorian Planning Scheme is the recognition of public safety and potential environmental risks of pipelines. The Act specifically requires planners to ensure public safety and to protect public utilities:

(e) to protect public utilities and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community;

(g) to balance the present and future interests of all Victorians (adapted from *Planning and Environment Act 1987* s4.1, 10, emphasis added)

The planning legislation and regulations clearly articulate objectives which closely align to the interests of the pipeline industry and the minimisation of risk. However, State strategic planning policy fails to acknowledge the presence of pipelines within Melbourne's key growth corridors, corridors of land on the fringes of Melbourne marked for future residential development, resulting in planning and development decisions which have located new communities in areas abutting pipelines or worse – pipelines traversing new neighbourhoods (Spiire, 2016b).

In relation to strategic planning, the objectives of the Act specific to pipelines are addressed in Clause 19.03–6 of the SPPF which directs planners 'To plan for the development of pipelines infrastructure subject to the Pipelines Act 2005 to ensure that gas, oil and other substances are safely delivered to users and to and from port terminals at minimal risk to people, other critical infrastructure and the environment' (emphasis added).

The Victorian Planning Scheme requires planners to account for pipeline infrastructure to ensure the safe supply of gas with minimal risk to the public and other infrastructure (SPPF, Clause 19.03.06). The Scheme further mandates that planners must 'recognise existing transmission pressure gas pipelines in planning and protect from further encroachment by residential development or other sensitive land uses'. These directives among others are implemented through the Zone, Overlay and Particular provisions requirements in a Planning Scheme.

As will be shown in the interview data, despite the requirement in policy to address pipelines within planning practice and the standardised framework and application, the tangible activities associated with the implementation of policy are not so easily achieved and are open to different interpretations.

#### 4.1.2. Planning processes and pipelines in South Australia

Currently, land use planning in South Australia is administered at the local level through local *Development Plans*. These are developed by local planning authorities in line with the State's (now rescinded) *Development Act* and state level planning policy, the 30 Year Plan for Greater Adelaide, which sets broad strategic goals and planning vision. Like Melbourne, Adelaide's key strategic planning strategy, which identified land for future development, fails to recognise pipelines (SEAGas, 2010). This results in, as seen in Melbourne, pipelines abutting or traversing residential development and presents an increased risk to public safety. Local planning authorities in South Australia formulate their own local Development Plan which includes planning tools that are site specific. This means that local councils in South Australia develop and define their own zones, overlays and provisions in response to locally defined land use planning needs. While this critical aspect of the South Australian planning system indicates a decentralised and bottom-up approach to planning, Development Plans (and amendments to Development Plans) must follow the State's strategic planning objectives and be approved by the State Planning Minister, thus the State Government has ultimate control over local planning matters. Furthermore, the Minister can make amendments to a local Development Plan. An example of this in practice in the context of planning around pipelines are ministerial amendments to some Local Development Plans to include consideration of AS 2885.

Within the current planning system, The *Planning, Development and Infrastructure Act 2016* (*Development Act 1993*, repealed in 2016) focusses on the development of *delivery and management of infrastructure*

(which, by definition, includes gas pipelines being:

infrastructure, equipment, structures, works and other facilities used in or in connection with— (i) the generation of electricity or other forms of energy; or (ii) the distribution or supply of electricity, gas or other forms of energy (*Planning, Development and Infrastructure Act 2016*, s.1.3).

However, local Development Plans fail to focus on pipelines as they relate to planning decisions in practice as there are no referral requirements within the planning code that require planners to consult with pipeline operators with regard to the location and risk associated with proposed developments. While some Local Plans had been amended to include policy direction that required planners to give 'regard' to Australian pipeline legislation and standards such as AS 2885 this was on a case-by-case basis. Further, there existed no guidance to assist planners with respect to planning decisions around pipelines and the associated requirements under AS 2885.

Important to note, in South Australia, the planning system is in a state of transition from a locally driven system to a centralised State led approach to planning governed by the *Planning, Development and Infrastructure Act 2016*. This transition will be implemented in 2020 after the development of the new Planning and Design Code. The revision of the current system will see it transition from a governance model that is currently driven from the bottom-up (local municipality led) to top-down (state government led), and this will be facilitated by the development of policies that form the SPPF and the implementation of standardised Zones, Overlays and Particular Provisions. While the draft SPPF does not specifically mention pipeline infrastructure, in order to address the lack of focus on pipelines in the current planning framework, the planning system is required to protect and manage hazardous infrastructure from development as stated in SPPF Policy 16 – Emissions and Hazardous Activities. As in the case of Victoria, the need for efficiency and market led governance models are driving the development of the new planning codes with a key of objective to deliver more and faster development.

#### 4.2. 'Work as done': key issues according to local planning authorities

Given the regulatory structures, or work as prescribed, presented in the previous section, this section explores how neoliberal planning reforms manifest in the management of risk to community safety from gas pipelines, based on the lived experience (or work as done) of planners. From the interview data, three key themes emerged that were of importance for local planner's roles and responsibilities for managing risk from urban encroachment on pipelines in the context of neoliberal reforms. These are:

- 1 Market orientation of planning systems that remove power from local planning authorities and place this with the state, developers and/or pipeline industry;
- 2 Centralised planning systems with objectives that conflict with pipeline safety requirements; and
- 3 The role that local planning authorities have been placed in to manage this risk and mediate between state government and two commercial enterprises.

This section will now present data structured around these three themes.

##### 4.2.1. Market orientation of planning systems

This research identified that within the planning systems, specific private interests were prioritised over public/community interests in both case studies. In Victoria, this is illustrated in the Precinct Structure Planning (PSP) development process. A PSP is a plan of new urban areas in greenfield locations and is coordinated by the Metropolitan Planning Authority (MPA) of Victoria. A PSP may be developed solely by the MPA or in partnership with local councils, a developer or a consortium

of developers, landowners, a private planning consultancy on behalf of a landowner, developer or council, or a partnership between any of the listed stakeholders. The findings of this research revealed that, in some instances, the development of PSPs, and in turn the governance and development of infrastructure (public and private) on the urban fringes was financed and prepared by a range of private stakeholders including developers and their associated consultants. While the development of a PSP requires broad collaboration with a range of stakeholders, including local council, and alignment with the *Planning and Environment Act 1987*, Plan Melbourne, and the Victorian Planning Associations' Precinct Structure Planning Guidelines, commercial priorities were found to underpin this process and resultant associated development decisions with respect to community design.

Planners described council's input into the Planning Scheme and the PSPs as state and developer driven or '*a bit of a negotiation between the developers and then between what Council wants, what the State Government wants and then all of the different suppliers*' [COUNCO3VIC]. The role and interests of developers in this PSP process was also noted by another Victorian planner:

when structural plans are revised, developers will have interest in certain areas of land that they may already have banked... So, they'll be putting through forward cases as to why this area should be included in the settlement boundary for instance [COUNCO1&02VIC].

In Victoria, developers reported significant financial investment in the development of PSPs, availing the State of such costs as:

with the larger developments we actually fund the PSP. So, it would cost us about a million dollars to put a PSP together. That's offset against future development contributions payments that we would normally make. So, we cash flow it up front. Pay for a lot of reports to be done, manage the process and guide, oh, not guide, encourage the MPA to keep things moving, on a reasonable timeframe. There's usually a consortium of developers who contribute to make sure it's pushed through [DEV02VIC].

Complicating this picture, developers engage planners to guide them through the PSP process. As stated previously, not all planners are located within State or local government planning departments. Planners employed directly by developers or volume builders are faced with meeting a range of different objectives in their professional planning capacity. The relevance of this is that the different organisational locations of planners have implications for their tasks, and the motivations underpinning them, as well as their perceptions of the risk associated with development around high-pressure transmission pipelines and how that risk is appropriately managed. As well as being required to comply with the *Planning and Environment Act 1987*, planners working as employees of developers must also align their activities with the commercial objectives of their employer as explained by the following private sector planner:

... obviously as a consultant, obligations to do our best job possible for our clients, and the basis of what they're trying to achieve and what we think they can achieve ... as a consultant you're always managing every stakeholder in a project and that includes your clients ... [DCO2VIC].

This illustrates the complex nature of the development of a PSP and the different outcomes that may be achieved depending on who is developing the PSP.

The lack of reference and inclusion of pipelines and pipeline operators in the planning system has implications for the design and later development of PSPs. This has culminated in PSPs that fail to reference and consider the type of development within the measurement length of a pipeline. The impact of privatisation of planning and the hybrid planner (Steele, 2009) is well illustrated in this key mechanism for planning and development within greenfield areas. The lack of referral to pipeline operators in this planning phase has resulted in sensitive land uses such as schools, hospitals, high density residential and aged care within the area that could be significantly impacted in the event of a pipeline failure. Spiire (2016a) have identified PSPs within four

municipalities in Melbourne where planning has failed to locate sensitive uses at distances from pipelines as required by pipeline regulation and standards. Formal inclusion of pipeline operators into the PSP process occurs at the 'public exhibition' phase. This is the *final draft stage of the development of a PSP* and is many years into the process. This is significant as it is at the early stage of the PSP development, when draft plans are begun and the amenity and infrastructure of the area (housing density, schools, and roads, transport links identified in the GCPs) are considered, and the time that pipeline operators could provide vital input into land use decision-making. It is at this part of the planning process where risk to community could be reduced and where amenity verses risk to the pipeline from third party interference may be addressed. If the pipeline licensees are included in this informal consultation process, then a formal pipeline risk and safety study might be undertaken. As part of this exercise, discussions of measurement length and sensitive uses may be considered, and this may then inform part of the urban design process. However, as indicated by the following industry representative, the risk study undertaken late in the process often results in little change to the proposed plans:

But in terms of facilitating the [risk study], I've encouraged, and we've achieved that in most cases, is let's do the [risk study] on the version of the PSP that goes out for public exhibition. So we've done all the hard yards and then it's public and the developers have seen it as well ... so we encourage the [risk study] to occur just before it goes public because it's a high probability once it's public, it's not likely to change significantly ... So at that point in time, the developers have been made aware of and are coming along for the ride, in theory [IND39VIC].

For the pipeline sector, the risk and safety study process plays an important role in the long-term management of risk from changes to land use near pipelines. This comment also reveals that there is a lack of understanding by developers of the risks and obligations to manage that risk associated with pipelines which can create tensions between the pipeline industry and other stakeholders.

In South Australia, local Development Plans govern the long-term use of land and some local Development Plans have been amended by the State Government to address the conflict that has arisen between planning and pipeline legislation. The research identified that the South Australian State Planning Authority has embedded the private interests of pipeline organisations into some local municipal Development Plans. Specifically, a requirement for compliance with AS 2885 Standards have been inserted and become the local planner's responsibility to administer through the planning process. For example, the Development Plan for one South Australian council was amended to include the following considerations in open space and some residential zone requirements within their Development Plan:

A high-pressure gas transmission pipeline traverses the zone as shown on [the relevant zone map]. It is required that development within the zone comply with AS 2885 (Pipeline Gas and Liquid Petroleum) to ensure minimum pipeline safety requirements have been met (DPTI, 2018, p. 147).

This same Development Plan also includes a high-pressure gas pipeline in one residential zone category to inform statutory planning decisions:

It is required that development within gas pipeline measurement length of 640 m as shown on [the relevant map], complies with AS 2885 (pipeline gas and liquid petroleum) to ensure pipeline safety requirements have been met (DPTI, 2018, p. 187).

Inclusion of this requirement may be interpreted by a planner as transferring responsibility for engineering design and operations aspects of complex industrial infrastructure to a developer – areas in which they have no financial interest and no expertise – as directed by the planning scheme. The unstated subtext is that the pipeline owner / operator wishes to maintain control over their own assets but have no mechanism whereby they can make a developer pay for any engineering changes that are required as a result of the new development.

Further, the provisions within the planning system fail to illustrate to planners how to achieve such requirements. One development planner in South Australia commented:

so where the issue lies at the moment is the fact that in the Development Plans...[there is] basically one statement that essentially says, "There is a pipeline here, things need to comply with AS 2885,"... so it doesn't really tell you how to comply with the standard, it doesn't tell you that you need to engage in any kind of negotiations with pipeline operators, it doesn't set any of that out, it's just a high level clause [PLAN03SA].

The point raised by this planner illustrates that there is minimal direction provided by planning policy to guide decisions that incorporate risk as understood by other responsible professions, specifically pipeline operators and the requirements of their industry safety standards (AS 2885). Further, reactive attempts to embed professional responsibilities into planning legalisation simply result in confusion and solutions that conflate the risk rather than reduce it adequately for either profession.

This market-based interference in the regulation of development is a result of the lack of referral status in the decision-making process, as described by a South Australian pipeline operator: *'we're not government, I suspect some of these issues might have stemmed from privatisation of people owning infrastructure'* [IND01SA]. Pipeline operators are not given the formal opportunity, in the early stages of the planning process, to comment on development proposals around their pipelines, or have any of their feedback necessarily considered as part of the planning decision-making process. This lack of referral and determining status is a consequence of the privatisation of pipelines and perceived conflict of interest. Consequently, as the land use planning system currently stands, this research confirms that there is 'little direction in relation to development around pipelines, and there is no requirement for planning authorities to either consult with or refer applications to relevant licensees' (Spiire, 2016b, p. 4).

However, the regulator, given their role, *'are a referral – they're sort of a referral agency but there's – that's just the broad catch-all section in the current Development Act that allows the Planning Department to kind of refer to anyone they want. So it's a voluntary referral and that's basically up to government'* [IND01SA]. The resultant amendment seeks to transfer the risk, both in terms of safety and financial obligations, from the pipeline operator to the associated developer, one private organisation to another, with the local council responsible for transferring this risk. This raises a question about the role of the local government and professional capability, given the contested nature of planning and its associated objectives as identified earlier in this paper.

The PSP process and the state-based amendments to local Development Plans illustrate the ineffectiveness of local councils' ability to manage risk from pipelines and ensure effective outcomes for all stakeholders involved and the influence of private sector interests in high level planning policy. As the following section will demonstrate, this position was compounded by a lack of effective state policy to empower them to deal with planning issues and place the needs of community ahead of the needs of the State, developer or pipeline industry.

#### 4.2.2. Centralised and conflicting regulatory systems

The research identified that across the case studies the respective state government holds the ultimate power over council land use planning at a local level. This has resulted in state strategic planning objectives embedded into centralised planning controls with local planning authorities left simply to administer. The rationale for such a process is aligned with narratives of efficiency, minimising costs associated with "red tape" and increased productivity with respect to development outcomes (Buxton and Goodman, 2014; Gleeson and Low, 2000).

Centralised planning schemes in Victoria have reduced the ability of local planners to control the use of their land and meet the specific

needs of their community. This lack of influence is also implicit in the ability of local government planners to minimise the risk presented by high-pressure gas pipelines. This is illustrated in the following quote:

So we can't tailor, we can't change zones to change the types of uses available. We only have overlays that can manage buildings and works only. So we basically have said well really, the only way planning can look at this while it's in private ownership is buildings and works [COUNCIL7VIC].

This planner suggests that the predefined nature of land zones and their associated use prohibits planners from rejecting residential development within the measurement of a pipeline because it is zoned residential with no overlays constraining use. While the pipeline operators might deem this land as sensitive and not appropriate for residential development, if the planning zone permits residential use then planners cannot reject the development proposal. Complicating this picture further, Victoria's Strategic Plan contradicts the pipeline operators' desire to relocate development considered (by the pipeline industry) as sensitive use outside the measurement length. As the following pipeline industry representative and a council planner pointed out:

... I see this coming right from the top ...you've got one Minister saying, "Stop, stop, stop," which is the Minister for Energy. You've got the Minister for Planning saying, "Build, build, build" ... then at our level, under my remit, the [pipeline regulator] is saying, "stop it, stop it, stop it." So I'm going, "stop, stop, stop" ... and [the pipeline regulator] pushing on us to have that relationship with councils to influence them to stop it. The council's saying "Well, our Minister's saying, 'build, build, build, build, build.'" So until the two Ministers have a chat and say, "Well, what do we really want to do here?" ... we're constantly going to butt heads, because they're saying, "We've got to build," and we're saying, "Well, we're not letting you" [IND40VIC].

These comments illustrate the difficulties for the pipeline industry, planners and developers in managing risk to meet legislated and policy initiatives, exacerbated by the political context in which they are situated. For strategic planners, one key objective of Plan Melbourne is to increase the densification of housing within Melbourne's urban growth boundary. This limits their ability to make decisions that consider specific land constraints that sit outside of the planning framework. One strategic planner interviewed reported that:

... it's a balance between minimising the risk from the pipeline and also delivering a structure plan that functions and works as well so. It's a bit of a, it's not a kind of completely eliminating the risk. It's minimising the risk and balancing all the other aspects of the planning process as well so [PLAN05VIC].

It was identified that existing policies and planning frameworks left planners challenged to balance complex objectives of which the risk associated with pipelines constitute only one aspect. Furthermore, given the legislative context, pipelines were perceived to be outside of a planners' responsibility in South Australia:

I don't think it's the planning profession's responsibility. I think it's the framework that we work in that needs to be changed. So that comes to the State Government putting in an appropriate either legislation or framework to ensure that pipeline safety and public safety is maintained [PLAN01SA].

In the case of South Australia, ad hoc State Government intervention to address the needs of industry within specific locations raised concerns with respect to planners' professional capabilities to address these new legislative requirements, as one local planner in South Australia noted:

I've got a professional responsibility working within the framework that the State Government set up... And at the moment we're thrown into it with no real guidance... Yes, they're [pipelines] recognised in Development Plans. Yes there's a couple of sentences there. *The rest is kind of thrown to local government stakeholders, pipeline authority, developers to sort the rest out* [PLAN01SA, emphasis added].

The same planner further questioned the legitimacy of the directives

the profession was being asked to undertake, as reflected in the following statement:

the council communicates [conditions related to AS 2885 compliance] simply because we're asked to put it on the approval, and I'll be quite honest with you, I'm not confident with the conditions that we put on their approval to enter into a [risk study] workshop, and that those investigations or whatever the outcome is, is implemented [PLAN01SA].

From a planning perspective, these amendments to planning schemes seek to address the needs of one industry potentially at the expense of good community design.

The risk to community benefit associated with good community design was identified by local planners as a real risk presented by the private interests of pipeline organisations. This statutory council planner recognised the complexity of balancing community needs against the risks associated with a pipeline in the following way:

... our first preference in terms of the residents there will have the best access to employment, to public transport, to services, which is planning 101. Then how do you manage the risk of being near the pipeline? [COUNC17VIC].

This balance is compromised if pipeline operators preferred use of land, along a measurement length, is to minimise all development. This conservative approach to development along a measurement length and its consequence was identified by one planner working for a development consultant:

And it's very, the easiest thing is to step back and say, "We'll just give you the buffer." But then you're stuck with a piece of land that's pretty heavily encumbered [DEV02VIC].

Compounding the problems with considering pipelines in existing planning regulation and meeting community needs was a general lack of awareness of pipelines due to their location on private land as well as being a privatised asset with a low visual profile.

#### 4.2.3. Mediating in commercial disputes

A third finding identified in both case study states was that local council planners had often been placed in a position of mediator between developers and the pipeline industry. The role of mediation often focussed on the resolution of competing commercial interests, that is, who should pay for engineering modifications to ensure that public safety is maintained as required by the new land use. This was highly problematic for local planning authorities, in both Victoria and South Australia, as they have no mandate to require developers to comply with AS 2885 outside of a pipeline easement, despite industry being of the view that planners have a 'duty of care' to ensure developer compliance and developers indicating that planners play a central role in the process.

The industry focus on local planning authorities beyond mediation is to ensure, through the rejection of/or conditions on development permits, that development does not trigger significant expenditure by pipeline operators to maintain pipeline compliance with AS 2885. If changes in land use occur in the vicinity of a pipeline, and therefore additional work to the pipeline is required to maintain compliance with the standard, developers should be held financially accountable through the planning permit system. This was reflected in this statement from an industry representative in South Australia:

we go to the council and say, "Look, to maintain public safety, if you want to approve this land division, exercise your *duty of care*, maintain public safety, pipeline needs to be slabbed. It should be a condition of your land division approval," and that's our position [IND01SA, emphasis added].

From a developer's perspective, at a statutory level, it is the council's responsibility to be informed about pipeline location and to put the need for specific risk management activities on the planning permit conditions:

a development application for development within a certain area would be put forward. *It would rely on the council to be aware that the*

*pipeline is proximate to that site of proposed development.* A condition would be imposed to say that a safety management workshop needs to be undertaken... or whatever, that would be a condition of the approval. And that the applicant would need to go through that process [DEV02SA, emphasis added].

The data shows that councils are under pressure from both developers and the pipeline industry to place conditions that put financial responsibility for engineering upgrades onto the other party. As explained by this developer in South Australia, a ministerial amendment was made to this planners' local Development Plan to ensure that developers must meet AS 2885, however, the council then amended this further:

Council have now sought to amend that Development Plan... they have proposed wording in that as in relation to the gas pipeline... Knowing the Act as we did, which was a hell of a lot better than local council... it had completely empowered the pipeline operator, to determine what was safe and what wasn't, which would therefore mean they could stop all development. *Council took a bit of convincing or understanding to get their heads around that, and they've gone and amended that now* [DEV01SA, emphasis added].

This issue was also described by a local planner involved in this particular case:

I think it's also unfair on local government authorities and planners like myself to really try to sort it out and, you know, we're told to put on conditions by a state authority which they're not lawful... They're putting a lot on council to say, "Well you should be putting those conditions on." We have been but they're not valid and now look where we are... [PLAN01SA].

Another planner in South Australia felt that it was not the council's role to act as mediator:

[The council] shouldn't act as a mediator, almost becomes a mediator in some instances. It depends on the developer, and some developers are very easy to deal with. Inclusive, they actually do liaise with the public well in their own right, you know, without having to and others don't. It just depends [PLAN02SA].

The interviews identified that in the absence of policy alignment between planners and developers with respect to the management of risk, planners are left in an ambiguous role, mediating between two private stakeholders with conflicting uses of land. Despite planners' professional responsibility to make decisions about land use and their use of risk management principles to inform this, pipeline operators believe that it is the poor decision-making skills of the local planner that results in inappropriate development along pipeline easements. The centralised planning tools embedded with State government legislation driven by industry and the increased use of the professionals located in private practice, has further diluted the ability of planners to make decisions to minimise risk with respect to location and specific land constraints.

## 5. Discussion

From the case study data, the role of planners in both South Australia and Victoria in managing risk involves balancing the competing needs of stakeholders and working to build cooperation to resolve conflicting private land uses which can impact public safety (Spiire, 2016a, 2016b). While conflicting land uses are 'widely accepted as the most common and visible problem of urban planning' (Minnery, 1985, p. 77) and may appear simple, 'when viewing a proposal in the light of community benefit' (Minnery, 1985, p. 77), competing stakeholder values and perceptions of benefit make this conflict a challenge to resolve. Given that in Australia, 'recent changes to state planning systems seek to reduce the strength of land use planning regulations, lessen the contributions of local communities, objectors and local councils to planning decisions and empower development companies' (Buxton and Goodman, 2014, p. 139), the challenge for planners in the case studies in representing and regulating for community interest is



increased due to the limited strategic power local planning authorities hold in land use decisions.

Of concern to this research is how government based centralised planning policy and tools have influenced how local government planners work with reduced discretionary power using standardised regulatory tools (Allmendinger, 2009) as this relates to decisions around land use and gas pipelines (private assets) within the communities where they practice. The consequences of a technocratic approach to planning means that nuanced responses to the presence of a pipeline to guide setback distances and uses such as residential development are lost to a standardised, non-specific approach. Within such a centralised planning policy framework, a land use planner can only use the system to inform their decision-making. There is no flexibility or freedom for targeted, contextualised policy development. Therefore, local planners take on the role of bureaucrats 'rationally' applying set planning rules. This is of a concern with respect to public safety, as the Australian planning systems are limited in their reference to pipelines and planning systems that fail to recognise the risks of potential development around pipelines (Spiere, 2016a) in both strategic and statutory planning.

We see from these examples that the use of state government based standardised zones and policy acts to reduce the power of local planning authorities to make decisions to manage risk from urban encroachment on pipelines (Allmendinger, 2009). Within America, the term state planning mandate is used to refer to the system whereby local councils apply state based planning policy in order to progress state, rather than, local planning reforms (Deyle and Smith, 1998). It is argued that state planning mandates achieve better outcomes for management of particular issues such as environmental protection, natural hazards and social housing (Berke and French, 1994). Given pipelines represent a complex risk – spanning across municipalities, land titles, land uses and private and public stakeholders – a co-ordinated planning approach to ensure continuity across legislative frameworks and provide clear roles and responsibilities for managing risk would appear useful in this situation. However, the ability of state driven agendas to achieve better outcomes in environmental protection and equity in a neoliberal era of planning is debatable (for example, see Drazkiewicz et al., 2015). The findings from this research demonstrate this in the context of achieving better outcomes for public safety. Currently, the sentiment amongst planners interviewed, as well as other stakeholders, is that their expertise and awareness of pipelines and associated risk is limited, and earlier engagement and consideration of pipelines is needed at a strategic stage of planning. This would then give local planners the tools to include pipelines and associated measurement lengths in their decision-making frameworks. As one planner noted, they are already overloaded with considerations when it comes to making planning decisions. The research indicates that what is desired by planners and industry is a coordinated and consistent approach to the recognition of pipelines in strategic planning, however, this is something that has not been achieved with market driven planning and development, combined with absent or ad hoc recognition of pipeline risk in planning frameworks informing decisions.

Compounding the limited scope for strategic planning input at a local level by the centralised planning systems is the market influence over planning controls, particularly in Victoria. Industry noted that planners have a 'duty of care' to manage risks from pipelines. Yet, from a statutory planning perspective, they in fact exercise limited control over such matters. These are, as Allmendinger (2009, p. 120) argues, some of the 'manifestations of neoliberalism in planning'. The involvement of developers in high level planning decisions within Victoria is another important point that further reduces the power local councils have over land use planning around pipelines. Within the growth areas of Victoria, developers have designed much of the strategic layout of an area for development. In this instance, developers are designing communities and therefore acting as 'planners'. These plans are then adopted into the planning scheme through the formal

amendment process with little to no involvement of local planners or pipeline operators. The planners in Victoria noted the demand for land by developers and associated land banking played a key role in land rezoning for residential development. Based on the interview data, in practice, planners held responsibilities to planning legislation primarily, and also felt pressure from both developers, in particular in Victoria, and the pipeline industry, in particular in South Australia. These stakeholders are both commercial enterprises pressuring state and local governments to ensure their own commercial benefit. As found by Pacione (2013, p. 62), the relative importance of different stakeholders 'in the production of the built environment is primarily a function of the socio-political structure of the state'. In both case study sites, private interests have power to influence government planning policy. In Victoria, this leans towards developers (as seen in the PSP process) and in South Australia, this leans towards the gas industry (as seen in the inclusion of gas pipeline standards in local planning policies).

Along with developing land in dam floodways (Pisaniello and Tingey-Holyoak, 2017), the invisible and latent risk characteristics share similarities with risks associated with climate change and biodiversity loss. The responsibility to regulate for the benefit and interests of the community is the stated objective of legislation governing planning in both case studies (Productivity Commission, 2012). This is critical in a capitalist paradigm where markets and people may only respond to risk when it has reached an adequate level of social amplification or begins to impact on the market itself. In a simplistic sense, regulatory bodies exist as the 'necessary exercise of collective power through government in order to cure "market failures," to protect the public from such evils as monopoly behavior, "destructive" competition, the abuse of private economic power, or the effects of externalities' (Levine and Forrence, 1990, p. 168). Planning is a regulatory tool to steer private property markets and land development and use in the interests of communities, however, this role is compromised if the policy is designed by and for private stakeholders. This research clearly demonstrates the issue of regulatory capture, which occurs when 'regulators and industry share a cooperative relationship' (King and Hayes, 2017) that reduces their capacity to act in the public interest. In fact, in addition to community interest, planning policy objectives also align with that of the development industry, for example, the aim of the State Planning Policy Framework of the Victorian Government is to support 'jobs and growth, while building on Melbourne's legacy of distinctiveness, liveability and sustainability' (DELWP, 2016). This policy aim exemplifies the conflict between planning as facilitator of growth and planners as regulators to ensure liveability and sustainability. It is important to note that all stakeholder groups emphasised the importance of public safety as a priority, however, management of safety within this context has been influenced by the discourse of profit-making strategies with the debate at the end of the day becoming a case of which parties must pay for safety. This is an example of the 'new process of governing' (Rhodes, 1996, p. 652) that is influenced and directed by the interests and objectives of multiple private stakeholders. Planning, as the regulatory control of the development and use of land (Productivity Commission, 2012), is compromised in the ability to perform the role as regulator due to the influence of market needs and private stakeholders over strategic planning tools. While the Australian pipeline industry does not operate in the complete absence of regulatory capture (King and Hayes, 2017), this research has demonstrated that planning, as it currently stands, is compromised in its position to regulate for the interests of community due to the influence of private interests in strategic and statutory regulatory tools.

Central to the dominance of neoliberalism and centralised planning systems, in the context of this research, is how different professions manage their responsibilities, behave and understand their accountability, as it is related to the development of land around high-pressure gas pipelines and associated risk and safety. A key question to consider is, regardless of ownership, under what conditions will professionals be

more likely to act in the 'public interest'. This is important to consider given privatisation involves the displacement of one set of professionals entrusted by citizens, with another set of managers who answer to a different set of market driven shareholders. Additionally, in the context of planners, this is an important consideration as local government planning schemes and development proposals are now written and assessed by private sector planning consultants who may also represent and advocate for the interests of private clients (Steele, 2009). This decentralisation means that planners are 'now concerned in large measure with directly facilitating development through rapprochement with the private sector' (Freestone, 2007, p. 86). Further, within the pipeline sector the private nature of the companies has ramifications for their ability to manage risk associated with development. As discussed earlier, the planning system referral notification allows for authorities or organisations to provide advice and comment on pending development decisions. Despite the requirements for pipeline licences to classify land around pipelines and manage them accordingly, their referral status is limited by the fact they are private organisations and advice around development applications is viewed as a commercial conflict of interest.

The unseen risks of pipelines and good safety record of the industry in Australia thus far, further diminish motivation for planners as regulators to act in the 'public interest'. Unlike community resistance to urban development of bushland or major hazard facilities, the low profile and good safety record of pipelines in Australia results in less community concern of increased risk posed by land use changes around pipelines. While this study highlighted issues noted by planners regarding competing legislative objectives, centralisation of planning controls and market orientation, a stakeholder absent from this study was local community. Based on the absence of local community needs in stakeholder discourse, an underlying issue highlighted by the data was the limited role of local community in decisions about residential development adjacent to pipelines. While public safety is ensured through the pipeline regulations and safety standards regardless of land use (as necessary pipeline upgrades must be made to meet licensing requirements if land use changes), developers have an interest in building community on purchased land and planners' current role is to facilitate this development. The case studies show that neoliberal reforms leave planners as facilitators of state led planning visions and objectives rather than 'visionary thinkers' and are conflicted when considering the needs of their local community. Furthermore, community needs are defined, not from the bottom up through local engagement with community, but in top-down developer driven planning mechanisms with pre-defined notions of what makes community (Walters and Rosenblatt, 2008). The implications for public safety and loss of local democracy seen in this example of planning and pipelines, demonstrate the effects of this less publicised social, economic and environmental issue associated with neoliberal reforms on planning and urban development of the urban fringe greenfield areas around cities.

## 6. Conclusion: implications for community safety

This study provides qualitative insight into the lived experiences of land use planners in managing conflict of land uses on the urban fringes, in a neoliberal planning era. In the case studies, neoliberal planning reforms manifest in the management of risk to community safety in three key ways. Firstly, the market orientation of planning systems remove power from local planning authorities and place this with the state, developers and/or pipeline industry. Secondly, these centralised planning systems hold objectives which prioritise land development and community outcomes that conflict with pipeline safety requirements. And lastly, planners, as a result, become mediators in commercial disputes between developers and pipeline enterprises, rather than regulators of land use and development for community interests.

Planners in both case studies, however, more so in Victoria, have

been placed into roles that are far from being visionary thinkers and representatives of local community interests. Due to centralised planning mandates influenced by private interests, such as developers or the pipeline industry, planners in this study are left in an administrative role that facilitates and responds to market needs for land uses. In both case study sites, private interests have power to influence government planning policy. The centralisation of planning in this context has benefited private business by giving them power to influence 'the rules of the game' and reduced the discretionary role of the local planning authority and community in land use decisions. As private companies take on the role of government at state or local levels in designing communities, their motivations and values drive both the process and outcomes. Private organisations, unlike public departments and agencies, have financial responsibilities that compete with public interest and this is significant given the involvement of private interests in shaping strategic planning policies in both states and thus future planning outcomes. This research has shown that the lived experience of planners in this example reflects the arguments made by planning theory and the small body of empirical research that supports these shifting roles for local planning authorities in a neoliberal planning and development landscape.

Like climate change or development in dam floodways, these risks are invisible and difficult to respond to because neither the market, nor community are necessarily aware of the consequences. The hidden risks reduce public pressure on regulators, and therefore private stakeholders dominate the policy debate. This leaves community interest obscured from discussions about the best ways to ensure pipeline safety and who is responsible. Including community in this debate would involve this key stakeholder and subsequently put pressure on the role of planners as regulators on behalf of community interests. However, without a disaster event as seen in other countries, such as the United Kingdom, to spur more collaborative and proactive risk management regimes (Sirrs, 2016), the debate remains a commercial dispute, rather than one primarily about public safety.

Recent shifts away from localised planning to centralised planning controls have not moved to address concerns of representation of community needs and interest in planning. In fact, this study has demonstrated through empirical evidence that private interests drive land use planning in a top-down manner. This study also demonstrates that neoliberal reforms have failed to achieve a stated goal of cost and time efficiency in regard to planning around pipelines, resulting in unsatisfactory outcomes for all stakeholders including community, pipeline companies, builders, planners and the environment. A lack of government intervention and increased dominance of market mechanisms has resulted in the dilution of a multidisciplinary collaborative approach to land development in growth zones and an increased risk to the community. In Australia, the legal responsibility for pipeline safety lies with the pipeline licensee, despite their lack of control over development. This leads to industry views that planners also hold some responsibility for public safety. While some planners might recognise this responsibility, the centralised planning amendment process and tools fail to adequately notify planners and allow for their presence and the advice from pipeline operators to be included in planning decisions in the areas of land considered sensitive to increased densification as defined by pipeline safety standards. The lack of consultation is a direct consequence of privatised utilities not having statutory referral status, rather than disregard by statutory planners. Combined, the market orientated and privatised context limits the role of local government to regulate land use and development in the interests of their local community's safety.

## CRedit authorship contribution statement

**Sarah Holdsworth:** Conceptualization, Methodology, Investigation, Formal analysis, Writing - original draft, Writing - review & editing. **Orana Sandri:** Investigation, Formal analysis, Writing -

original draft, Writing - review & editing. **Jan Hayes:** Conceptualization, Validation, Writing - review & editing, Supervision, Funding acquisition.

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