

Resilience-Focused Journalism: The Motivations, Tactics, and Impact of the *Los Angeles Times* Coverage of Earthquake Risk¹²

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Resilience-Focused Journalism: The Motivations, Tactics, and Impact of the *Los Angeles Times* Coverage of Earthquake Risk

As disasters and climate change threaten more and more people around the world, it is increasingly important for communities to adopt resilience policies. However, despite considerable benefits and the high probability of a return on investment, resilience policies are often neglected. In this article, we examine the agenda setting campaign by the *Los Angeles Times* that helped create the conditions for mandatory retrofitting ordinances to succeed where previous attempts failed. Through in-depth interviews with journalists and editors at the *Times*, and policymakers involved in the debate, we illustrate the motivations, tactics, and impact of their coverage of earthquake risk in Southern California. The article contributes to the understanding of agenda setting, risk communication, and local news production by demonstrating why and how journalists can effectively communicate risks and enable policy change, which could apply to a range of environmental threats.

Keywords: resilience, agenda setting, risk communication, localization, data journalism, visual communication, interviews, journalism, earthquakes

Introduction

As disasters and climate change threaten more and more people around the world, it is increasingly important for communities to adopt resilience policies. However, despite the considerable benefits and the high probability of a return on investment in these public policies, they are often neglected at all levels of government.

In this article, we examine the production, content, and impact of news media coverage to understand how resilience-focused journalism can be effective in setting the agenda for policy change to mitigate against environmental hazards (Hansen, 2011; Olausson & Berglez, 2014). We examine the city ordinances in earthquake-prone Los Angeles, where sustained coverage by the *Los Angeles Times* helped create the conditions for mandatory retrofitting ordinances to succeed where previous attempts failed. Although the risks and public discourse about climate change and earthquakes

are considerably different, there are important lessons for resilience-focused journalism from the coverage of earthquake risk in the *Los Angeles Times*.ⁱ

The article makes several theoretical contributions to the understanding of environmental communication by focusing on the motivations and tactics of journalists. In-depth interviews with key journalists provide insights into the decision-making processes behind their coverage of earthquake risk that would not be possible by simply reading the copy. As such, it builds on the understanding of media logic by demonstrating journalists' ability to acknowledge their organization culture, but consciously operate outside these professional norms (Berglez, 2011).

First, we identify how the *Los Angeles Times* was influential in setting the agenda for earthquake resilience. Second, in contrast to previous research, we show that journalists committed to best practices to effectively communicate risk. Third, the article supplements existing research to demonstrate how the local news outlets interpreted distant events to make them relevant for their audience. Finally, the tactics employed by the *Los Angeles Times* supplements existing research on the efficacy of sustained coverage, data journalism, and visual communication to enable policy change.

Empirically, we describe the motivations and tactics behind the *Los Angeles Times* coverage of earthquake risk from 2013 to 2015. We use interviews with journalists to capture why the *Los Angeles Times* pursued their public interest campaign, and the tactics they used to highlight earthquake risk leading up to the 2015 ordinances. We conclude with a discussion the impact of this coverage on resilience policies.

Literature Review

Previous research has developed an understanding about the factors that influence the production of news. However, important gaps in the knowledge of news production require further examination. It is critical to address these missing elements in the understanding of risk communication, news values, agenda setting, and local news production.

Risk Communication

Previous research sheds light on how news outlets cover risks persuasively. For information to successfully draw attention to the risks of environmental hazards, it is important to understand the mental models of individuals (Morgan et al., 2002; Sterman 2008). People vary in their ability to make sense of risk in a complex world, but news outlets can tailor their coverage to make it most effective at communicating risk (Lundren & McMakin, 2018). For example, the CAUSE model demonstrates how to communicate risk through common goals such as creating confidence, raising awareness, enhancing understanding, gaining satisfaction, and motivating enactment (Ledford & Anderson, 2013; Rowan et al., 2003; VanDyke & King, 2017); while the extended parallel process model (EPPM) can prompt behavioural change if messages emphasize preventive actions more than fear about risk (McMahan et al., 1998; Witte, 1992; 1994). Collectively, this research has built a thorough understanding of what makes risk communication effective.

However, in practice, do journalists report risks to make them most effective at generating a response? Wakefield and Elliot (2003: 225) found journalists considered their “primary mandate is to report the news as they define it, not to accurately communicate risk,” providing grounds for pessimism about how risk communication

matches journalistic incentives. Yet, if commercial imperatives and the public interest converges, journalists might become more likely to adopt effective risk communication.

Newsworthiness and News Values

As the ‘gatekeepers’ selecting which stories get covered, it is vital to understand the decision-making processes of journalists when selecting what to include and exclude from news bulletins (Shoemaker & Reese, 1996; Tuchman, 1978; White, 1950). Prior research demonstrates the importance of news values and newsworthiness in selecting which stories to cover (Bennett 2006; Galtung & Ruge, 1965; Harcup & O’Neill, 2001; Harcup & O’Neill, 2017).

However, much of this work suffers from selection bias, where values are implied from what is ultimately reported, and not from the entire news selection and production process. The coverage of foreign disasters can address that limitation to some extent (Van Belle 2000). However, it remains an open question whether journalists’ efforts converge or diverge with existing research on news values and newsworthiness. Interviews with journalists and editors provide an opportunity to better understand newsworthiness and news values without relying on the printed page. We also contribute by demonstrating how journalists considered newsworthiness in the absence of an actual event.

Agenda Setting

Previous research on agenda setting indicates that the news media can attract attention to a given issue, putting in place the conditions for policy debates (Jones, 2001; Jones & Baumgartner, 2005). Myriad studies demonstrate that the news media influence the salience of issues and the public’s understanding of them (Cohen, 1963; Hart et al., 2015; McCombs, 2004; McCombs & Shaw, 1972; Scheafer, 2007; Sevenans et al, 2016; Wanta, 1997; Weaver et al., 1981). A related branch of scholarship in

mediatization demonstrates the power of the media to influence culture, society, and politics through a long-term iterative process (Couldry & Hepp, 2013; Hjarvard, 2013; Mazzolini & Schulz, 1999; Schulz, 2004; Strömbäck, 2006; Van Aelst et al., 2014). Collectively, this research has helped develop a sophisticated understanding of the effect of news coverage on the public and political agenda.

However, again there remain gaps for better understanding of agenda setting. In particular, uncertainty remains about why and how journalists deliberately shape their coverage to set the agenda for policy debates. Furthermore, while scholars demonstrate that the frequency of news coverage can set the agenda, less is known about how the *nature* of news coverage affects news organizations' ability to influence policy debates.

We explore this process further in the case of the *Los Angeles Times*' coverage of earthquake risk in Southern California.

Local News Production

Finally, prior research demonstrates how news organizations cover distant events. Globalization scholars argue that the proliferation of news agencies, technological improvements, media convergence, universal professional norms, and smaller newsrooms has contributed to convergence in coverage of events around the world (Berglez, 2008; 2013; Brüggemann & Kleinen-von Königslöw, 2013; Clausen, 2004; Curran et al., 2017; Gurevitch et al., 1991).

However, domestication scholars have found that even if the same events are covered, interpretations of those events vary at the national level (Alasuutari et al., 2013; Archetti, 2008; Balmas & Sheaffer, 2013; Olausson, 2014). Additionally, localization occurs where local news interprets distant events to make them relevant to their own community (Berger, 2009; Brown et al. 2010; Jamieson & Van Belle 2018;

2019; Rolston & McLaughlin, 2004). This research shows that news coverage can vary according to the level of identification between communities.

Yet, less is known about why this occurs. Where prior research finds correlations between development, vulnerabilities, and identification between communities, this research relies on observations of news coverage to explore these relationships. In this article, we explore why and how *Times* journalists covered distant events in Christchurch to set the agenda for discussions of resilience policies in their city.

Case Selection

Earthquake Resilience in Los Angeles

California has a well-publicized history of earthquakes, but much like with climate change, public policy has not kept pace with the state of knowledge about earthquake risk and vulnerability.

A prominent example is the risk presented by soft-story wooden buildings built prior to 1978 and non-ductile concrete buildings built prior to 1977.ⁱⁱ Despite widespread knowledge about the risks presented by these two types of buildings, property owners were not required to strengthen vulnerable buildings, and there were no enforced deadlines for restorative work until 2015.ⁱⁱⁱ

Previous attempts at ordinances by Councilmembers Hal Bernson and Greig Smith were unsuccessful in the face of pressure from interest groups likely to be affected by the new ordinances such as the California Apartment Association, and the Building Owners and Managers Association. From 2013 onwards, the *Los Angeles Times* played a particularly prominent role in creating the conditions where similar efforts could finally prove successful.

Los Angeles Times Coverage of Earthquake Risk

On 12 October 2013, a front-page headline claimed, “Many Older L.A. Buildings Could Collapse in an Earthquake” (Lin et al. 2013a). The next day, the Sunday edition led with an article that stated, “The city has rejected calls to make a list of concrete buildings at risk of collapsing in a major quake, but a *Times* analysis finds there could be more than 1,000 — many of them homes and offices” (Lin et al. 2013b).

Figure 1 presents an indicative snapshot of the stories demonstrating risks to concrete buildings in Los Angeles. It is important to note the prominent position of the story on page one, the visual representations of risk, and the use of the 2011 Christchurch earthquake to demonstrate their own city’s vulnerability to temblors.

Figure 1. Coverage of Earthquake Risk in the *Los Angeles Times*, 13 October 2013.



The newspaper sustained pressure with an article entitled “Thousands of Lives at Risk and L.A.’s Quake Retrofit Law Isn’t Helping” two days later (Smith et al. 2013). On the 17th of October, newly-elected Mayor Eric Garcetti announced he was considering appointing U.S. Geological Survey Geologist Lucy Jones as an ‘Earthquake Czar,’ a new position within his administration to oversee attempts at improving resilience in the event of an earthquake (Finnegan et al. 2013). Within the space of a

week, the *Times* had begun a conversation that led to “the most sweeping seismic review of concrete buildings ever attempted, far surpassing anything achieved in California” (Lin & Xia 2013).

The “special report” evolved into a sustained campaign that raised awareness about earthquake risk in Los Angeles, and the particular vulnerabilities of the city’s building stock to large earthquakes. From January 2013 to December 2015, the *Times* ran over 170 individual stories relating to earthquake risk in the local area, the dangers presented by existing and proposed buildings, and local political legislation to address these vulnerabilities.

Materials and Methods

To understand the motivations, tactics, and impact of the *Los Angeles Times*’ coverage of earthquake risk, interviews were conducted with key protagonists in the debate about the ordinances, to present their perspectives in their own words. This approach let the journalists describe *why* and *how* they covered earthquake risk, and for all participants to reflect on the impact of this coverage.

Research Questions

The study was guided by three research questions:

- 1) What were the motivations behind the *Los Angeles Times*’ coverage of earthquake risk?
- 2) What tactics were employed by the *Los Angeles Times* to communicate earthquake risk?
- 3) What was the impact of the *Los Angeles Times*’ coverage of earthquake risk?

Sample

Participants were selected because they were: a) journalists reporting on earthquake risk at the *Los Angeles Times*; or b) they were intimately involved in the debates and subsequent legislation that requires property owners to retrofit vulnerable buildings in Los Angeles. Participants were contacted via email, and they were also asked to identify possible participants through the snowball sampling method. Ten participants completed interviews: six in person, two on the phone, and two through email. The eight live conversations ranged from 18.45 minutes to 76.22 minutes in duration, and the mean interview length was 48.39 minutes.

Rong-Gong Lin II, Rosanna Xia, and Doug Smith are journalists who covered earthquakes and earthquake risk for the *Los Angeles Times* under the supervision of their editor, Shelby Grad. Interviews with this team form the basis for our findings related to the motivations and tactics of the journalists at the *Times*.

To assess the impact of the *Times* coverage of earthquake risk, we also interviewed people involved in the policy debate about mandatory retrofitting ordinances in Los Angeles.

Greig Smith and Mitchell Englander pursued disaster risk reduction policies over several years as elected officials in the Los Angeles City Council. Smith represented District 12 in the City Council from 2003-2011, and Englander succeeded him in 2011 after having served as Smith's Chief of Staff from 2003-2009.

Dr. Thomas Heaton and Dr. Brad Aagaard were involved in policy debates about building standards and earthquake risk in Southern California. Heaton is Professor of Geophysics, Professor of Civil Engineering, and Director of the Earthquake Engineering Research Laboratory at the California Institute of Technology. Aagaard is a research scientist at the US Geological Survey Earthquake Science Center.

Beverly Kenworthy and Martha Cox-Nitikman participated as representatives of interest groups. Kenworthy is Vice President of Public Affairs at the California Apartment Association. Cox-Nitikman is Vice President for Public Policy for the Greater Los Angeles chapter of the Building Owners and Managers Association.

Methods

Focal questions were compiled from previous academic research on policy learning, and the interaction between distant events and the news media.^{iv} Interviews were conducted for an ongoing research project that examines the news coverage of distant earthquakes, and its implications for policy learning in observing communities.

We came to the interviews with a theoretical model introduced in previous research (Van Belle, 2015; Jamieson and Van Belle, 2018). In short, this model describes a set of necessary conditions for disaster risk reduction (DRR) policies to be successful in observing communities: 1) that DRR is on the policy agenda; 2) the public is willing to act in pursuit of DRR; 3) that political leaders are willing and able to pursue DRR; and 4) that resources are available. The model describes the news media as critical for developing the public will to act, where local news media localize distant events to put DRR on the public agenda and create the conditions for policy learning.

Of course, while this model cannot be ‘tested’ in a single case study, the interviews served as a means to evaluate the plausibility of our theory in the case of Los Angeles.^v We collected empirical evidence that could be evaluated against our theoretical expectations to assess the plausibility of our model, which could lead to the development of testable hypotheses and empirical tests in future research.

The interviews were conversational and semi-structured. We wanted to avoid interviewer effects, so we held everything as constant between interviews as possible, using our focal questions as the primary line of questioning. However, follow-up

questions were asked where appropriate where additional elaboration or explanation was considered appropriate.

We also wanted to avoid the possibility of response bias, so we deliberately avoided asking leading questions, and we avoided disclosure of our theoretical expectations. The semi-structured nature of the interviews gave participants enough scope to provide details without prompting.

An important benefit of this method was that additional evidence inductively emerged from this process. While our primary focus was on the implications of news coverage, the interviews also uncovered rich, theoretically interesting data about *how* and *why* the *Los Angeles Times* covered earthquake risk.

It is important to note some scholars are skeptical about the use of interview research to ‘test’ social scientific theories in a positivist fashion. For instance, Kvale (2008: 21) wrote that “a strict positivist philosophy is hardly compatible with knowledge production in qualitative interviews” (see also Kvale 1994). However, even semi-structured interviews can be used to inductively build theory (as presented in ‘Motivations’ and ‘Tactics’ sections), and/or provide evidence that supports or refutes theoretical expectations (as presented in the ‘Impact’ section) (Mosley 2013).

The eight live conversations were audio-recorded with participants’ consent and transcribed afterwards. We adopted Babbie’s (2010) “memoing” technique to identify themes and organize the data. Notes were taken during and immediately following the interviews, which outlined initial themes that emerged from the discussions. Once compiled, links were drawn between different concepts and themes, culminating in the grouping of topics by motivations, tactics, and impact.

In the following sections, we present findings through abridged and direct quotations to show responses in context. Participants talked about a wide range of issues, but they frequently referred to news coverage as critical for policy change.

Motivations of the *Los Angeles Times* Coverage of Earthquake Risk

News Values

One motivation for the *Times*' coverage of earthquake risk was that this vulnerability is inherently newsworthy, and that stories could attract a large local audience. Grad described how earthquakes are "something that we know people are very interested in...For all the denial there's a lot of fear and anxiety about earthquakes, so stories we do about earthquakes get a huge number of readers."

Grad provided the example of a story that drew comparisons between the Mexico City earthquake in September 2017 to what could occur in Los Angeles. Grad said that article "had more than two million unique views, readers, in that one month – it's clear a huge number of people are very interested in that subject matter." Furthermore, Grad described how the New Yorker piece highlighting the seismic risk of the Pacific Northwest "was one of their most viewed stories of history." Given the subject matter is newsworthy and these stories attract a large audience, the *Times* was motivated to report earthquake risk to their local audience.

Agenda Setting

Second, the journalists explicitly wanted to set the agenda for policy change. They deliberately highlighted fundamental vulnerabilities of the city to earthquakes, which had not yet been addressed by the City Council. Grad said, "It's become a real priority for us the last few years. There are a variety of reasons for it, but I think it's something that I think people will think is important."

Instead of responding to events, the coverage was proactive. Smith said, “When you start out a story saying, ‘We’re going to tell this story because somebody ought to do something,’ you’re setting a very high standard for yourself.”

Committing to a public service story is difficult, especially in the absence of focusing event (Birkland, 1997). As Xia said, “no reporter wants a story that they really said was an important issue and have it gone unacted on, but ... it’s really hard to write an article for an audience when nothing bad has happened yet.” Xia explained:

We didn’t know how to open the story. How do you open a story about a catastrophe that hasn’t happened yet? When you don’t have the scene of the people emerging from the ruins and the rubble, like that’s the natural lead to a story...It’s really hard to do that when you’re thinking ahead and doing a story that’s basically about preventing a catastrophe from happening.

Xia explained how the newspaper committed to the story: “I think it really was, in our newsroom at least, coming together with a lot of people who are really invested in pursuing this because ... the amount of time that we invested in this and the amount of resources that the *Times* put into this is not un-noteworthy.” Xia said they “really made a point where you can’t sit on this information without doing something about it but trying to do it in a thoughtful way that didn’t alarm people.” Instead, they tried to focus on “why it’s possible right now and why it’s important to not wait any longer than we have already.”

Grad said, “It was also a big public policy issue...because of the fact that there hadn’t been an earthquake in a long time, you were getting a whole generation of people who just didn’t really grasp what could happen in an earthquake.”

Risk Communication

A third motivation was the desire to effectively communicate earthquake risk. Again, the *Times* made a conscious effort to ensure their coverage was persuasive and

effective, demonstrating that journalistic incentives and best practices of risk communication can align.

For instance, Lin explained:

If the whole hazard is in a single word that doesn't communicate anything to the normal person, then that's a big problem... One person said, "You know, we ought to call them brittle concrete buildings." That's what they are. They're brittle. And just that one word changes the whole dynamic. If you're talking about that L.A. has more than a thousand brittle concrete buildings and that are potentially at risk of collapsing in an earthquake, that's going to get a lot more attention than non-ductile concrete buildings.

Similarly, Lin said they wanted to communicate earthquake risk by bridging the gap between the scientific community and the public: "Scientists love to talk about what they don't know... By focusing on the things that you don't know, that makes it more difficult to really do anything"

Xia explained that, "With earthquakes it's so hard," because people feel like "the big one is so inevitable and such a concept that it's really hard to think about." Xia described their role as journalists:

We're not structural engineers, we're not seismic experts, but we are going to gather information that already exists and translate it and present it in a way that allows the people who can make the decisions to do something about it, to bring all the people together... Scientists don't even talk to each other and policymakers don't even talk to each other and I think that finding that bridge is really, really important, and getting the public to care.

Grad elaborated:

I think there's a lot of denial. I think part of what the hardest part of writing about earthquakes is getting past the denial part, the part that people just don't

want to really know about... There's a whole generation of people for whom that fear of an earthquake and the appreciation of it has not been there.

Ultimately, this was a significant motivation for the *Times*, to communicate risk to people who did not necessarily want to listen. As Grad explained:

That's human nature, right? To sort of put aside anxiety or to use denial to get away from things you can't do anything about. That's one of the things is telling people you can do something about it. It's not like you can prevent an earthquake, but there are things you can do to be safer.

Collectively, these motivations drove the resilience-focused journalism of earthquake risk in the *Los Angeles Times* – to match best practices of risk communication with their work to ensure their message was as effective as possible. The next section illustrates *how* they communicated earthquake risk to the public.

Tactics of the *Los Angeles Times* Coverage of Earthquake Risk

Learning from Distant Events

First, the journalists used distant events to bring attention to similar vulnerabilities in Los Angeles. This ‘localization’ is further evidence in support of arguments local news organizations interpret distant events for local audiences (Berger, 2009; Brown et al. 2010; Rolston & McLaughlin, 2004). This is especially important because this type of news coverage can create the conditions for policy learning in observing communities as the result of local news production of (Jamieson & Van Belle 2018; 2019).

Lin said, “After the Christchurch earthquake happened in 2011, two of the buildings that caused the most death were brittle concrete buildings. It was something that I wrote about, and I wanted to find out... what California could learn from the New

Zealand earthquake.” These distant events provided evidence of the vulnerability of similar buildings in Los Angeles that would not have been otherwise available.

Smith said, “New Zealand created a living example of a concrete building failing.” Smith elaborated why the New Zealand example was important:

The thing about New Zealand is that it was so obvious what it has to do with me.

This was like, ‘This could happen in Los Angeles.’ New Zealand did us a great favor, did the people of Los Angeles a great favor.

The catastrophic failure of two buildings in Christchurch drew attention to similar buildings in California. After talking to structural engineering experts in Los Angeles, Xia discovered that:

The International Building Code that is the same building code that Los Angeles follows, we have so many buildings in Los Angeles exactly like that: Pre-1980, following all codes that the International Building Standards followed, and New Zealand is a developed country...More than 1,000 buildings in Los Angeles could be at risk of something that devastated Christchurch.

Xia said, “We put together a huge project package, with the database and the story and we ran the New Zealand story as a sidebar next to the actual story about the L.A. issue” (see Figure 1). The lessons were clear for the local audience – “our day one story...the one that introduced the issue in October, had the database, had the sidebar with New Zealand and what we could learn from New Zealand.”

As Grad explained, the earthquake in Christchurch “had been a major earthquake in a first world country...people saw that it could happen in a place like L.A...that was a warning sign to see that an earthquake could pretty much destroy a whole city.” The explicit references to the similarities between Christchurch and Los Angeles localized risk, demonstrating the seismic vulnerabilities of Southern California through the localization of the New Zealand earthquake.

Sustained Coverage

The *Times* also maintained a consistent focus on earthquake risk in Southern California, which was encouraged by senior staff. Critics sometimes criticize the media's short issue-attention cycle as an impediment to effective scientific communication, especially regarding risks and hazards (Boykoff & Boykoff, 2007; Smith, 2005). However, the journalists were empowered by the editors to continue their campaign as part of broader efforts to improve their journalistic culture. Doug Smith recalled:

Our metro editor, Shelby Grad, he had identified a problem in our culture, that we tend to do stories that are important and then just say, 'Okay, we've done our job,' and drop it. He said, 'We want to develop our culture to the point where when we do important stories, when we do stories that identify a public need, we should stay on the story and stay on the story until somebody responds'... We made it clear that we were going to keep pressure up until something happened.

Grad said, "I definitely think we made it a big kind of crusade issue, as newspapers sometimes do, I think that probably played a big role in it.... it just kept this constant drumbeat that there is this big danger of earthquakes."

After the *Times* coverage, Councilmembers Englander and LaBonge introduced motions, but there was a risk the issue would fade away. Rather than let it slide, the journalists actively followed up on the issue with elected officials. Xia said:

There was an understanding that we had to check in, even if it was just an email or a call to the press officer or the councilman just being like, 'Hey, what's the status of this?' They have to answer with a status update, and they want to make sure it's not the same answer that they gave you 60 days ago, so I think that was really important too...

Shelby and Mark and our editors were willing to invest in having two reporters working on earthquake issues full-time... It was just a constant drumbeat of news

stories. And I do think you need to catch someone's attention at first though, and then really keep it in the news in some ways.

Collectively, the team at the *Times* identified an internal culture of publishing stories and then moving on. To address this problem, they consciously kept up the pressure with councilmembers and in the newspaper to maintain the story on the public agenda.

Data about Local Vulnerabilities

The *Times* also presented data to demonstrate local vulnerability in Los Angeles. As such, the coverage demonstrates the promise of data journalism (Flew et al, 2012; Young et al. 2018). The journalists used both existing (but private) data and collected their own, but they were committed to publishing data so the public could use this information.

Doug Smith discussed how Lin worked towards the publication of a dataset of at-risk buildings in Los Angeles: “Ron started doing work on seismic issues and came up to me one day with a list of buildings...I said, ‘Ron, if you publish this list, you will save lives.’”

After developing their own datasets, the *Times* discovered that researchers at the University of California, Berkeley had compiled a list of buildings. Lin recalled:

The scientists declined our request to provide the information and later on, they explained that they didn’t want to get sued... From what the experts are telling us, there is a substantial risk of 50 concrete buildings falling in Los Angeles. [But] the general public doesn’t know anything about it. That’s a problem. We need to rectify that and at least let people know that this risk exists.

As Smith explained, their tactics changed:

We identified six areas where we knew there were going to be a lot of them. We just took individual blocks and did a survey where we could invest the time to run each building to ground and determine, ‘Yes, it’s a concrete building.’ That

allowed us to put our online app, which had a lot of detailed information that we felt highly confident in... We overlaid that over the Berkeley map, which was just points that we anonymized... We had the individual picture with the backdrop of the overall picture, very effective.

Legal liabilities were a problem, but eventually the Mayor's office requested the data, providing legal cover for the *Times*. As Xia said, with California's Open Records Law, "the minute the city asks for the list... the list becomes a public document, and we are protected by just publishing the data as-is."

Xia explained how the data demonstrated the citywide vulnerability to earthquakes: "There was Millionaire's Row in Westwood, where all these really fantastic concrete buildings were beautiful condos, but they were also at risk, but also the sewing factories in downtown, and how this really impacted everyone."

Lin said, "We wanted to explain to every person in Los Angeles, and especially the people who live and work in these buildings, that, 'Hey, this is a building risk,' that here are some areas of the city in which there are really old buildings that don't have a history of a retrofit." As Lin described, this was effective "because we explained the risk and the reasons for the risk and to clear a way that caused the public to say, 'Hey, I want to know more information about this,' which causes more attention to be paid on it."

In short, data journalism was critical to the earthquake risk project at the *Times*, where the journalists combined existing data with their own research to communicate risk to the public through coverage and a purpose-built app.

Visual Representation of Risk

Finally, the *Times* illustrated earthquake risk through images. The *Times* collaborated with engineers to create persuasive infographics – an example of effective visual communication (Lee & Kim, 2016; Schill, 2012; Trumbo, 1999; Weber & Rall 2016). Visualizations were a deliberate tactic to persuasively communicate earthquake risk.

Instead of being tacked onto existing articles, images were developed simultaneously. Lin recalled:

The graphics were very important to the story to explain what the risk is. To me, if I can't visualize what the problem is, it's not real... John Wallace at UCLA was really important in this in terms of being able to visualize what is the design flaw in this... To me, those graphics were very essential in communicating this risk.

These infographics are so effective that engineers have even adopted them to communicate with clients. Lin said:

There was at least one structural engineer who told me that that's what they show their potential client. 'Do you want a column that looks like this or do you want a column that looks like that?' That makes it entirely understandable to the general public... Scientists often like to focus on communicating with each other, but it's so important to be able to hone in on how you communicate with the public.

This deliberate use of images to communicate risk was a key tactic employed by the *Times* in their coverage which helped effectively communicate technical information to the mass public.

Impact of *Los Angeles Times* Coverage of Earthquake Risk

Critically, participants in the policy process argued the ordinances would not have been possible without the coverage of earthquake risk in the *Los Angeles Times*. Lin summarized their contribution:

We did some more research about past earthquakes and did a better job than we have before about explaining that in the 1971 earthquake, more than 50 people died from the collapse of a brittle concrete building, something that wasn't

clearly explained in the past before. And that seemed to do the trick, that when the story came out, people got it...

We asked the Mayor, 'Hey, don't you think you should do something about this?' And so, the story led for the conditions for a new Mayor at the start of this term to think carefully about the issue and think about the risks and the hazards.

Several people corroborated the fact that the *Times* set the agenda, creating the conditions for the ordinance to successfully pass. When asked if the *Times* coverage was a necessary condition for the ordinance to pass, Beverly Kenworthy said, "Oh I think the *LA Times* drove the story, definitely, definitely." Professor Heaton at Caltech agreed, "Of course Ron Lin played a big part in this whole thing. I don't think any of this would have come back up again except for Ron's articles."

Only after the 'page one' story did political action occur. Garcetti responded to the coverage by appointing an experienced team of experts to examine the costs and benefits of the ordinance. Xia explained:

I really think in this case information was so important, and just getting the information to the right people. After Mayor Garcetti decided that this was an issue he was going to look into, he created a task force that reported to him within his office rather than Building and Safety or whatever, it was led by Lucy Jones... That's information you can't just sit on and not do anything about. But I think getting everyone to the same table is really the hardest part, but once the ball starts rolling it's like, these are all issues now, you can't not address once you know about it.

Former Councilmember Greig Smith discussed the leadership of Mayor Garcetti and the prominent role of Lucy Jones as a policy entrepreneur prior to the mandatory retrofitting ordinances:

The Mayor's action to bring Dr. Jones on board for 6 months to author the risk assessment report was brilliant. I think the ordinance probably would have passed without that, as long as media support remained strong. If the news media had not been active and Dr. Jones report was not written, the ordinance would have been in trouble and may not have passed.

Councilmember Englander explained how there were a series of necessary conditions that made the ordinance possible in 2015:

The infrastructure's getting much older. We're seeing that there was a major push by the US Geological Survey and Dr. Lucy Jones to try to make sure that we're more safe. The technology and the conversation had become more of a focal point in the media...When that conversation began, it was, 'Well, what can we do?'... The compromises finally came through that were never in existence. There was no political will for compromise. That compromise being the ability to pass through some of those costs...There finally became an opportunity of will, where it wasn't after a disaster that we finally got that done, but that's an anomaly.

Cox-Nitikman recalled:

I think this is one of the better processes that I've participated in... where you weren't reacting to an immediate death, or deaths, you had time to think it through, you had reasonable people coming together, and the Mayor's office wanted to have outreach. That doesn't always happen.

In sum, according to some of the key people involved in the debate, the coverage of earthquake risk at the *Los Angeles Times* helped create the conditions for the ordinances to pass.

Discussion

Collectively, this article demonstrates the motivations, tactics, and impact of the *Los Angeles Times* coverage of earthquake risk leading to the 2013 mandatory retrofitting

ordinances. The findings indicate that journalists at the *Times* were motivated to set the agenda for policy change, and to effectively communicate earthquake risk to their audience. The article illustrates how the *Times* tailored their coverage in pursuit of these aims – including the use of tactics such as drawing lessons from distant events, sustained coverage, presentation of data about local vulnerabilities, and visual representation of risk. Finally, data from interviews highlight the impact of the *Times* coverage on local debates about public policy, with several participants suggesting the ordinances would not have passed but for the efforts of the journalists.

There are several broader implications of this case study of the *Los Angeles Times* coverage of earthquake risk. First, if journalists are motivated to pursue policy change in the pursuit of resilience, the example set by the *Los Angeles Times* could be replicated in coverage of other environmental risks, including climate change. Similar tactics could be employed by journalists to translate scientific knowledge and risk to the public, creating the conditions for policies aimed at resilience as the effects of climate change pose increasing threats to communities around the world.

Generalizing from this example, journalists committed to setting the agenda for resilience policies in could adopt similar tactics as those used by the *Times*. By drawing lessons from distant events, journalists could continue the discussion of environmental vulnerability in their locality. Journalists could also maintain consistent coverage of environmental risk by adopting a proactive approach, discussing risk even in the absence of events as a “constant drumbeat.” Journalists could also use data on local vulnerabilities to present risk to their local audience, helping to reinforce the importance of resilience policies. Finally, infographics could also help people understand local vulnerabilities.

Notably, the *Times* set the agenda despite contemporary concern about the declining power of traditional media in a fragmented media landscape. Future research could further explore the relative agenda setting power of local news media in this new media market.

This article focuses on the *Times*' coverage as a normatively positive example for resilience-focused journalism, but there could be concerns about journalists having such power to set the agenda. As people rely on information beyond their lived experience to make sense of environmental risks and hazards, journalists have a lot of power to distil and present scientific information for the mass public. This is an important point, and future research could examine cases where the news media coverage of risks has discouraged resilience to environmental hazards.

While significant burdens to implementing resilience policies remain, the example of the *Los Angeles Times*' impact on earthquake resilience in Southern California presents some reasons for optimism. The *Times*' campaign was critical to the development of the 2015 ordinances, succeeding where similar legislation had failed in the 1990s and 2000s. If resilience-focused journalism can set the agenda for earthquake resilience, similar efforts could address other critical environmental threats.

Appendix A. Focal Questions of the Interviews

1. What does your job involve?
2. How were you involved in the process leading to the signing of the mandatory building retrofitting ordinance?
3. Why do you think that the ordinance was passed?
4. Why do you think previous attempts at similar local legislation were unsuccessful?
Why do you think it proved successful in 2015?
5. Do you support the ordinance? Why or why not?
6. In your opinion, what was the role of distant events in creating the conditions for the ordinance to pass?
7. In your opinion, what was the role of the news media in creating the conditions for the ordinance to pass?
8. In your opinion, what was the role of policy entrepreneurs in creating the conditions for the ordinance to pass?
9. In your opinion, what was the role of politicians in creating the conditions for the ordinance to pass?
10. In your opinion, what was the role of experts in creating the conditions for the ordinance to pass?
11. Out of these groups, who do you consider to be the most influential in creating the conditions for the ordinance to pass? In your opinion, would the ordinance have passed without their involvement?
12. If an earthquake occurred today, how do you think Los Angeles would cope?
13. In your opinion, what are the biggest priorities for Los Angeles to become better prepared for earthquakes?
14. Any other thoughts?

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Endnotes

ⁱ Earthquake risk communication is arguably even more difficult to pursue than climate change. First, there are fewer catastrophic earthquakes compared to climate-related events which reporters can attribute to climate change. Second, people have more daily indicators of climate change risk than earthquake risk, which could make resilience-focused journalism about earthquakes more difficult.

ⁱⁱ Soft-story buildings are constructed with ground floors that are weaker than the rest of the building. During an earthquake, the ground floor might collapse under the weight of the other floors. Non-ductile concrete buildings are at risk from collapsing when under stress from lateral movement, where the load bearing beams, columns, and joints are unable to hold.

ⁱⁱⁱ Previously, the Los Angeles Department of Building and Safety inspected buildings to ensure they are safe, and inspectors labelled buildings according to their risk during

earthquakes. However, any recommendations for property owners to retrofit buildings were voluntary.

^{iv} Focal questions for the interviews are provided in the Appendix. Full transcripts of the interviews are available from the authors upon request.

^v This data is reported in a book manuscript.