

# **Leveraging Social Media for Public Service: An Ethical Imperative for Engineers**

Katherine Keeling, Portland State University

## **Introduction**

There is hardly a sector of industry that has not seen the leverage of social media in wielding tremendous influence on policy decisions. This reality presents great risk and reward for civil engineers. Civil projects are far from exempt from public scrutiny; the utilization of natural resources for built environments practically guarantees controversy. As individuals and/or interest groups post, comment, and link to rally for public support, it is time for engineers to embrace social media participation as a relevant professional responsibility. The ASCE Code of Ethics not only provides boundaries for participating in social media, but also the imperative to participate in the first place.

## **Professional v. Personal Use**

Though social media initially gained usership as a personal leisure activity, the rise of professional blogs and news feeds has blurred distinctions of personal and professional use (Westerman 2014). In reality, a Heisenberg-esque uncertainty emerges when attempting to pinpoint an absolute distinction. With social media, one's profession brings context to personal content, and one's personal content can produce/reduce professional opportunities. For example, inflammatory content on a personal social media account can damage an engineer's employability. Conversely, an engineer may inspire future engineers by posting content that celebrates a civil project completion. Moreover, layman individuals with personal interest may look to the social media pages of professional engineering groups in search of accessible information. Social media is the platform in which professional and personal boundaries are least distinguishable. Similarly, the ASCE Code of Ethics also sits in a blurred professional-personal paradigm: while it is indeed a professional code, it is lifeless outside a constituent's personal commitment. Consequently, the canons of the CoE are invaluable guides for an engineer's discernment in social media participation, especially for engineers contributing to professional accounts.

## **Technical Knowledge**

In 2017, 81% of Americans had a social media account (Edison 2017), and forward-thinking engineers can seize the opportunity to fulfill their professional, ethical responsibilities. Canon 1 speaks to the collective and individual duty of civil engineers to uphold public welfare and to support sustainable development. Public welfare and sustainable development cannot be cultivated in an engineering bubble; their progress is contingent on many other professions, disciplines, and communities. Social media has broadened possibilities and expectations of communication with such stakeholders. If the technical voice of engineers is absent from influential conversations, the platform of public discussion is missing a support. A deficit of technical knowledge will hinder the realization of any solutions for 21<sup>st</sup> century needs.

### **Case Study: Dakota Access Pipe Line**

Consider one of the most high-profile, controversial engineering projects: the Dakota Access Pipeline (DAPL). Its completion was contingent on approval by the U.S. Army Corp of Engineers (USACE), as well as coordinated contributions from other stakeholders. DAPL proponents held paramount the project's economic benefit and alleviation of reliance on foreign oil. DAPL critics argued that the pipeline endangered water safety, undermined sustainable development, and discriminated against the Sioux tribe. Economic benefit, water safety, sustainability, and fair treatment of all peoples are all valid ethical concerns that the USACE presumably evaluated in their approval of the design. Though all these project concerns have precedent, what is perhaps unprecedented is the hand of social media in stirring public opinion. DAPL controversy quickly became a top story across Facebook, Twitter, and other platforms. When millions are debating an engineering project on social media, is it obvious that social media is the appropriate venue in which to extend engineering knowledge. In the case of DAPL, the US Army Corp of Engineers issued a formal public statement on their website (<http://www.usace.army.mil>), but their Facebook page, as of October 2017, lacked any reference to that public statement.

## **Appropriate Media Choices**

The ASCE CoE, Canon 3 states that “engineers shall issue public statements only in an objective and truthful manner.” One might perceive this canon as restrictive, forbidding public statements that are not defensibly objective and truthful. That is certainly valid. But the restrictive language holds in tandem with the prescriptive language of point 3(a): “Engineers *should* endeavor to extend the public knowledge of engineering and sustainable development.” In the case of DAPL, the public was keenly interested in the pipeline’s safety and sustainability. However, is it reasonable to expect public knowledge to spread through the USACE’s release of a 1,261 page environmental assessment (Dakota Access, LLC and USACE 2015)? USACE’s engineering knowledge—made available in digestible form—could have been relevant social media content that fulfilled the goals of Canon 3.

## **Professional, Regardless**

Granted, a challenge of social media is the ubiquity of unprofessional and antagonistic dialogue. Whether it’s trolling, cyberbullying, or “throwing shade”, many social media threads are analogous to hockey game fights. They’re bad sportsmanship, but people do enjoy them. Should the finite energies of engineers be siphoned off to engage the hockey fights of social media? Clearly, the CoE would prohibit snappy, hot-tempered online arguments, as they would be derogatory to the “integrity, honor, and dignity of the profession.” But when should an engineer weather the challenge of conscientious content in a laissez-faire internet culture?

## **Scope of Engagement**

Point (e) of Canon 3 suggests a scope for social media engagement: a dignified and modest explanation of the merit of his/her services. In the case of DAPL, public concerns were broad and multifaceted: police treatment of protestors, US and Native American relations, pork politics favoring Big Oil, and more. Though the ethics of complicity are complex, the USACE does not hold primary responsibility for all these concerns, and is arguably relieved of the responsibility to answer to every

DAPL controversy. However, the USACE is certainly qualified to address public concern of pipeline failure. Yes, anyone can post content on social media exalting the importance of clean water, and this stated value is congruent with the values of civil engineers. We all want clean water! In line with point (e), engineers should be able to explain their environmental assessment and justify their stamps of approval. Again, a traditional official environmental assessment will be lengthy and non-digestible by the general public. The translation of technical knowledge into layman-friendly social media content is a challenge, but video animations and infographics allow authors to present complex content in an easily-processed format (Dunlap and Lowenthal 2016). Clearly, not every tweet challenging an engineering approval is going to merit a crafted infographic, but a professional engineering group wanting to address public outcry may find a picture worth a thousand words.

### **Stay in Bounds**

The dignified and modest parameters of Canon 3 are echoed in the scope outlined by Canon 2, bidding engineers to only perform services in their areas of competence. Though Canon 2 generally refers to technical merit, engineers should also refrain from publishing opinions outside their area of expertise. For example, consider a aeronautic engineer, pressed online for a DAPL opinion from someone seeking his/her opinion *as an engineer*. He/she may have strong opinions about DAPL, but Canon 2 suggests he/she should acknowledge the limits of his/her expertise. Theoretically, he/she could respond a link to the social media post from the USACE regarding the project! This deference would acknowledge the limits of his/her personal expertise while remaining committed to the advancement of engineering knowledge.

Another example: a geotechnical engineer working in the Dakotas feels strong opposition to the DAPL project. While he/she may have extremely relevant expertise from which to voice concerns, Canon 5, point (g) would forbid him/her from utilizing social media to publically criticize the project. In this case, social media confers too great a risk in violating the Code of Ethics. He/She would do better to direct any safety concerns to the USACE's traditional comment lines (which offer confidentiality).

## **Non-Technical Statements**

Though there is an abundance of technical discussions on civil projects in scholarly journals and professional publications, the *non-technical* aspects of a project are more likely to be of interest on social media. DAPL critics were suspicious of the sway of big investors on the project's design and USACE's approval. Since Canon 6 mandates that engineers shall have zero-tolerance for corruption, engineers should be able to refute accusations of unfair bribery, fraud, and corruption affecting their judgment. Though engineers generally have a trustworthy reputation, the public may need assurance that engineers are committed to a professional code of ethics. Contemporary American culture values transparency; silence on social media platforms can only exacerbate public suspicion.

## **Client Fidelity**

Any time an engineer considers posting content pertaining to a particular project, he/she must consider Canon 4, which mandates client fidelity. Engineers may look to the medical community for real-life, exemplary practices for social media. In "Why Can't We Be Friends?" Parsi, PhD and Elster, MPH provide a case-based analysis of ethical issues with social media in health care. They rule against the use of patient pictures without written consent, and also warn against online fraternization with patients to the extent that it could hinder unbiased judgement. Similarly engineers should be mindful of the use of project photos and fraternization with third parties. Certainly engineers can glean wisdom from the authors' recommendations regarding social media: "first, do no harm" and "be prepared to make changes to stay current."

## **A Change Is Gonna Come**

In fact, Code 7 mandates that engineers continue their professional development for the length of their careers. Engineers can anticipate the social media policies of their employers, clients, and professional organizations to change, and leaders will do well to learn communicate these changes with the engineers under their supervision. Not only will companies implement internal policy changes, but the

etiquette and effective strategies of social media at large are still evolving. As engineers create excellent content and share the outstanding content of others, social media can be a fantastic supplement to technical papers, as well as an easy way to stay informed of professional society meetings.

### **Accessibility**

Participating in social media can also satisfy Canon 8's mandate to treat all persons fairly and encourage equitable participation. Not only can engineers share information easily, but it is reasonably easy for most people connect with any participating individual/group they seek. Thus there is a robust opportunity to hear many diverse perspectives. When engineers participate on social media, they open a wide door to the community who will be affected by their projects.

### **Conclusion**

Thus the Code of Ethics, Canons 1, 2, 3, 4, 5, 6, 7, and 8, provide an framework that translates ethical responsibility to social response-ability. Like all powerful tools, there is danger in its misuse, but great opportunity in its skillful application. In Michael Davis's paper, "Ain't No One Here But Us Social Forces," he delineates two senses of responsibility: backward-looking and forward-looking. Social media would be tedious drudgery if only utilized for backwards responsibility, i.e. doling out obligatory responses to public concerns. But forward responsibility, the onus to make something happen, is the hallmark of a visionary civil engineer. Engaging the dynamic possibilities of social media does pose uncertainty, and it does demand an understanding of technological nuance— but such hurdles are hardly unlike the challenges that engineers embrace by choice! If engineers can resist dodging social engagement in favor of embracing accessible communication, the reward is twofold: engineering knowledge will influence civil discourse, and engineers will uphold the integrity, honor, and dignity of the profession.

Dakota Access, LLC, and United States Army Corps of Engineers (USACE), Omaha District. (2016).

“Environmental assessment: Dakota Access Pipeline Project, crossings of flowage easements and federal lands.” Omaha District, Public Affairs Office, North Dakota.

Davis, Michael (2010). “‘Ain’t No One Here But Us Social Forces’: Constructing the Professional Responsibility of Engineers.” *Sci. Eng. Ethics*, 10.1007/s11948-010-9225-3.

Dunlap, J. and Lowenthal, P. (2016). “Getting graphic about infographics: design lessons learned from popular infographics.” *J Visual Literacy*. 35(1), 42-59.

Edison Research. (2017). “Percentage of U.S. population with a social media profile from 2008 to 2017.” <https://www.statista.com/statistics/273476/percentage-of-us-population-with-a-social-network-profile/> (October 30, 2017).

Parsi, K. J., PhD, and Elseter, N., JD, MPH. (2015). “Why Can’t We Be Friends? A Case-Based Analysis of Ethical Issues with Social Media in Health Care.” *AMA Journal of Ethics*. 17(11), 1009-1018.

Westerman, D., Spence, P. R., and Van Der Heide, B. (2014). “Social Media as Information Source: Recency of Updates and Credibility of Information.” *J Comput-Mediat Comm*, 19: 171–183.