The Rhetoric of Redesign in Bureaucratic Settings

Karen Schriver

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Attached is the English version. Original Spanish version available upon request.

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communication
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legible
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appropriate
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typography
forms
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maps
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safety

Information design as principled action

Making information accessible, relevant, understandable, and usable

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Design Principles & Practices

CHAPTER 11
The rhetoric of redesign in bureaucratic settings

Karen Schriver, PhD

Abstract
Although information designers are typically skilled in imagining innovative solutions to problems of poor communications, they may underestimate the importance of making their rhetorical work visible and valued within organizations. This "before" and "after" case shows there is much more to information design than re-envisioning visual and verbal content. It demonstrates how redesign projects can be derailed and even rejected when information designers have not sufficiently understood the relative power held by various stakeholders within the organization—power that determines how decisions get made and what activities are deemed of value.

Background and goals

This project got its start when the mayor of New York City signed an executive order requiring all city agencies to improve customer service by providing better access to their public documents. The mayor wanted better access not only for English speakers, but also for speakers of six other languages spoken frequently in New York: Spanish, Chinese, Russian, Korean, Italian, and French Creole (Bloomberg, 2008, July 22). According to city records, nearly one-half of all New Yorkers speak a language other than English at home, and 25% of City residents do not speak English as their primary language. City officials recognized that many government services require comprehending complex texts and graphics, filling-in forms, interpreting procedures, or understanding rules, regulations, and laws.

Officials found that many of the city's essential public documents were not well written in English, making them difficult and costly to translate. The motive for the executive order was to provide people who experienced difficulty with speaking, reading, or writing English with interpretation services so they would have better access to city government information. City government offices were charged with offering onsite help with translating or interpreting public documents and were directed to make their written documents more accessible. But before essential documents could be translated into the six target languages, the text and graphics needed to be clear in English first.

Many public documents from agencies across New York City were targeted for revision. The case presented here was initiated by the Department of Transportation, with the goal of clarifying documents that had been found to be confusing for native English speakers. The department requested a revision of a set of documents based on best practices in plain language and on research in information design. Due to space constraints, this case study focuses on one document that sheds light on some of the issues discussed earlier in this book.

Purposes for the original document

The original document (Figure 1) is an application for a permit to install "temporary festival lighting" on the streets of New York City. Suppose, for example, that a non-profit group wanted to raise awareness for their cause by hosting a "street party," requiring several New York City streets to be blocked off. To make the atmosphere more festive, the group might want to string colorful party lights all along the streets. And in fact, any New York City resident or group may get permission to install temporary festival lighting on the streets, but to do so, they must apply for a permit from the city government. The original document was a hardcopy text that had three purposes:

- To instruct applicants about how to get a permit for installing temporary lighting;
- To provide a form to be filled in, which then had to be approved by the city government;
- To detail the legal rules and regulations that must be followed when installing the lighting.

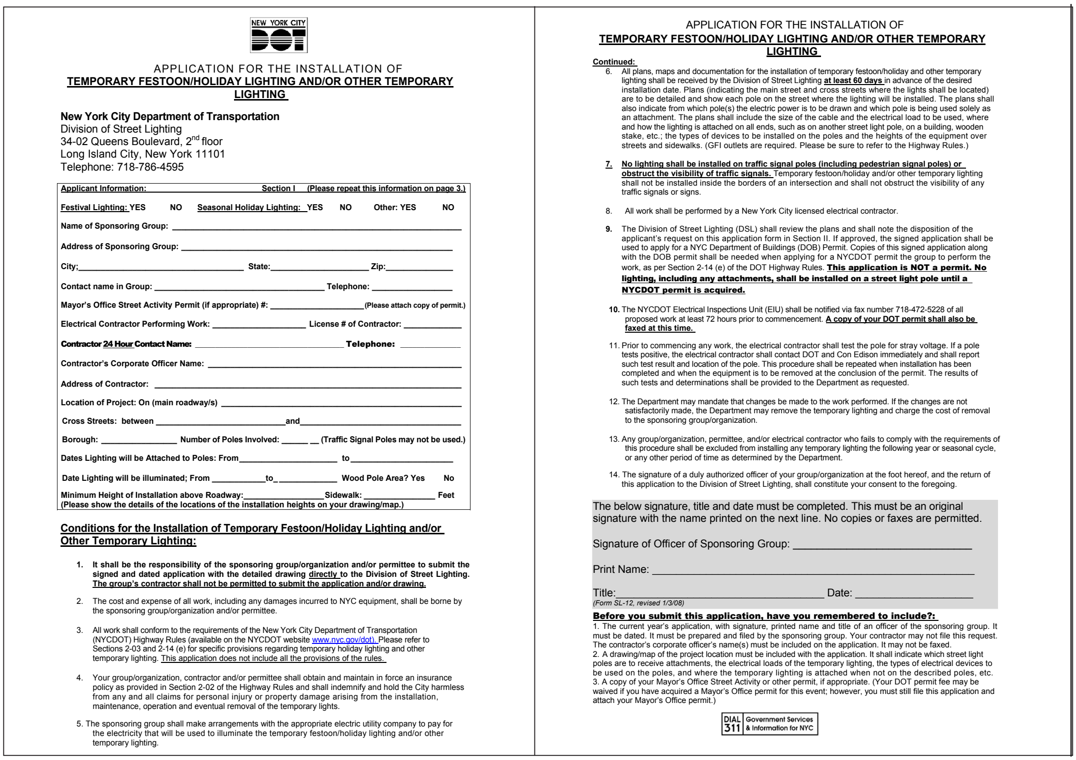
Acquiring a permit is a staged process, which takes about three months and involves approvals from several city government offices. The city's primary concern was that applicants prove their ability to install the lighting safely and within the city's regulations for electrical wiring. Above all, the city was concerned with avoiding fires caused by overloaded electrical circuits due to careless or incompetent installation of high-wattage lighting.

How the project began: Stakeholder analysis

The project began with a stakeholder analysis of the content. We considered two groups of stakeholders for the document:

(1) Internal stakeholders: Government employees (who worked at the Department of Transportation) who were decision makers and gatekeepers. These stakeholders were adamant about three issues: (1) that applicants follow city regulations in applying for the permit, (2) that the language of the forms preserve the legal intent of the law in order to protect the city from lawsuits, and (3) that the forms could be updated from hardcopy documents to online documents.

(2) External stakeholders: Individuals and groups who needed to comply with the New York City regulations for obtaining a permit for installing temporary lighting, including: (1) fillingin the application form, and (2) designing



NEW YORK CITY DOT

APPLICATION FOR THE INSTALLATION OF
TEMPORARY FESTOON/HOLIDAY LIGHTING AND/OR OTHER TEMPORARY LIGHTING

New York City Department of Transportation
Division of Street Lighting
34-02 Queens Boulevard, 2nd floor
Long Island City, New York 11101
Telephone: 718-786-4595

Applicant Information: **Section I** **(Please repeat this information on page 3.)**

Festival Lighting: YES NO Seasonal Holiday Lighting: YES NO Other: YES NO

Name of Sponsoring Group: ____________

Address of Sponsoring Group: ____________

City;____________ **State:**____________ **Zip:**____________

Contact name in Group: ____________ **Telephone:** ____________

Mayor's Office Street Activity Permit (if appropriate) #: ____________**(Please attach copy of permit.)**

Electrical Contractor Performing Work: ____________ **License # of Contractor:** ____________

Contractor 24 Hour Contact Name: ____________ **Telephone:** ____________

Contractor's Corporate Officer Name: ____________

Address of Contractor: ____________

Location of Project: On (main roadway/s) ____________

Cross Streets: between ____________**and**____________

Borough: ____________ **Number of Poles Involved:** ______ __ **(Traffic Signal Poles may not be used.)**

Dates Lighting will be Attached to Poles: From____________ **to**____________

Date Lighting will be illuminated; From ____________**to**_ ____________ **Wood Pole Area? Yes No**

Minimum Height of Installation above Roadway:____________**Sidewalk:** ____________ **Feet**
(Please show the details of the locations of the installation heights on your drawing/map.)

Conditions for the Installation of Temporary Festoon/Holiday Lighting and/or Other Temporary Lighting:

1. **It shall be the responsibility of the sponsoring group/organization and/or permittee to submit the signed and dated application with the detailed drawing directly to the Division of Street Lighting. The group's contractor shall not be permitted to submit the application and/or drawing.**
2. The cost and expense of all work, including any damages incurred to NYC equipment, shall be borne by the sponsoring group/organization and/or permittee.
3. All work shall conform to the requirements of the New York City Department of Transportation (NYCDOT) Highway Rules (available on the NYCDOT website www.nyc.gov/dot). Please refer to Sections 2-03 and 2-14 (e) for specific provisions regarding temporary holiday lighting and other temporary lighting. This application does not include all the provisions of the rules.
4. Your group/organization, contractor and/or permittee shall obtain and maintain in force an insurance policy as provided in Section 2-02 of the Highway Rules and shall indemnify and hold the City harmless from any and all claims for personal injury or property damage arising from the installation, maintenance, operation and eventual removal of the temporary lights.
5. The sponsoring group shall make arrangements with the appropriate electric utility company to pay for the electricity that will be used to illuminate the temporary festoon/holiday lighting and/or other temporary lighting.

APPLICATION FOR THE INSTALLATION OF
TEMPORARY FESTOON/HOLIDAY LIGHTING AND/OR OTHER TEMPORARY LIGHTING

Continued:

6. All plans, maps and documentation for the installation of temporary festoon/holiday and other temporary lighting shall be received by the Division of Street Lighting **at least 60 days** in advance of the desired installation date. Plans (indicating the main street and cross streets where the lights shall be located) are to be detailed and show each pole on the street where the lighting will be installed. The plans shall also indicate from which pole(s) the electric power is to be drawn and which pole is being used solely as an attachment. The plans shall include the size of the cable and the electrical load to be used, where and how the lighting is attached on all ends, such as on another street light pole, on a building, wooden stake, etc.; the types of devices to be installed on the poles and the heights of the equipment over streets and sidewalks. (GFI outlets are required. Please be sure to refer to the Highway Rules.)
7. **No lighting shall be installed on traffic signal poles (including pedestrian signal poles) or obstruct the visibility of traffic signals.** Temporary festoon/holiday and/or other temporary lighting shall not be installed inside the borders of an intersection and shall not obstruct the visibility of any traffic signals or signs.
8. All work shall be performed by a New York City licensed electrical contractor.
9. The Division of Street Lighting (DSL) shall review the plans and shall note the disposition of the applicant's request on this application form in Section II. If approved, the signed application shall be used to apply for a NYC Department of Buildings (DOB) Permit. Copies of this signed application along with the DOB permit shall be needed when applying for a NYCDOT permit the group to perform the work, as per Section 2-14 (e) of the DOT Highway Rules. **This application is NOT a permit. No lighting, including any attachments, shall be installed on a street light pole until a NYCDOT permit is acquired.**
10. The NYCDOT Electrical Inspections Unit (EIU) shall be notified via fax number 718-472-5228 of all proposed work at least 72 hours prior to commencement. **A copy of your DOT permit shall also be faxed at this time.**
11. Prior to commencing any work, the electrical contractor shall test the pole for stray voltage. If a pole tests positive, the electrical contractor shall contact DOT and Con Edison immediately and shall report such test result and location of the pole. This procedure shall be repeated when installation has been completed and when the equipment is to be removed at the conclusion of the permit. The results of such tests and determinations shall be provided to the Department as requested.
12. The Department may mandate that changes be made to the work performed. If the changes are not satisfactorily made, the Department may remove the temporary lighting and charge the cost of removal to the sponsoring group/organization.
13. Any group/organization, permittee, and/or electrical contractor who fails to comply with the requirements of this procedure shall be excluded from installing any temporary lighting the following year or seasonal cycle, or any other period of time as determined by the Department.
14. The signature of a duly authorized officer of your group/organization at the foot hereof, and the return of this application to the Division of Street Lighting, shall constitute your consent to the foregoing.

The below signature, title and date must be completed. This must be an original signature with the name printed on the next line. No copies or faxes are permitted.

Signature of Officer of Sponsoring Group: ____________

Print Name: ____________

Title:____________ Date: ____________

(Form SL-12, revised 1/3/08)

Before you submit this application, have you remembered to include?:

1. The current year's application, with signature, printed name and title of an officer of the sponsoring group. It must be dated. It must be prepared and filed by the sponsoring group. Your contractor may not file this request. The contractor's corporate officer's name(s) must be included on the application. It may not be faxed.
2. A drawing/map of the project location must be included with the application. It shall indicate which street light poles are to receive attachments, the electrical loads of the temporary lighting, the types of electrical devices to be used on the poles, and where the temporary lighting is attached when not on the described poles, etc.
3. A copy of your Mayor's Office Street Activity or other permit, if appropriate. (Your DOT permit fee may be waived if you have acquired a Mayor's Office permit for this event; however, you must still file this application and attach your Mayor's Office permit.)

DIAL 311 Government Services & Information for NYC

Figure 1. A portion of the original document: Applying for a permit for installing temporary lighting.

a plan (usually with the help of electrical contractors) for their activity that the city would approve.

We evaluated the original document by asking internal stakeholders to read and assess the document, scrutinizing its parts. We also conducted interviews with managers within the Department of Transportation regarding their impressions of what led an application to be rejected. Decision makers from the city government detailed incidents that led them to reject an application or ask for a resubmission.

Our team had also planned to assess the original documents with external stakeholders by employing a variety of reader-focused usability methods (Schriver, 1989). Our contention was that only by understanding the applicant's perspective (their cognitive and emotional responses) would we gain insight into why so many people found the instructions, forms, and regulations to be confusing. Unfortunately, our clients within the NYC Department of Transportation could not secure funding for usability testing. They advised that we postpone usability testing until our revised documents passed the scrutiny of their legal department. The city's lawyers believed that the most important aspect of the content was whether it accurately characterized the city's codes and regulations.

Our team heartily agreed that the documents should reflect the law, but we were more focused on designing usable documents organized from the perspective of the user. Our concern was not only with whether people could fill-in the forms correctly and understand the city's rules, but also on how people would feel about dealing with the New York City government as a result of their interaction. Put simply, we were interested in promoting a positive and painless user experience.

We hoped citizens' experience in using the redesigned communications might generate a long-term favorable "halo effect" about engaging with the city government. (The "halo effect" is the tendency to generalize a value judgment about a person, product, service, or experience to another. For example, when people have a positive experience with a service or product, they are likely to think well of the organization or brand that created it.) Ultimately, we strove to encourage city residents to perceive the city government as helpful. Our aim was to redesign the documents so it would be easy to engage with the city's policies and procedures. In this way fewer citizens would make mistakes or simply give up because engaging with the bureaucracy was too complicated and irritating.

With these goals in mind, we supplemented the internal stakeholder analysis with an expert review focused on issues of information design and plain language. Here, we drew on our substantial prior experience in usability in order to predict aspects of the content that would likely create difficulty for citizens. Together, the stakeholder analysis and the expert review allowed us to identify a number of deficiencies in the original and set some explicit goals for the revision.

Observations from expert review

Our expert review revealed problems of content, organization, writing, and design—each of which is explained briefly next.

Problems of content and organization

- The content was disorganized and not presented in the order the applicant needed it. In short, the forms and their instructions had problems of information flow (Jansen & Steehouder, 1992; Jarrett & Gaffney, 2009).
- The procedures and advice were often ambiguous, unclear, or missing. For instance, in interviews with the managers who approved the permits, they reported that applicants often failed to include in the plans they submitted information about how they would attach their electrical wiring to buildings or telephone poles. When applicants failed to include this information, the form would be returned to them for resubmission, delaying approval of their project. This and other types of planning advice about how to specify their project were missing in the original instructions, a major omission of content. As anyone who has used poor instructions would attest, trying to carry out procedures with missing steps challenges even the most patient of us. Put differently, problems of omission are often worse than those of commission (Schriver, 1992).

Problems of writing

- The writing style was antiquated and legalistic, with heavy-handed use of the imperative voice. For example, the word "shall" was employed 32 times (e.g., all work shall conform…).

- There were archaic word choices. For example, the word “festoon” was chosen as a keyword in the form’s title (“festoon lighting”), even though festoon is a rarely used word in American English. In fact, the Corpus of Historical American English indicates that between 1810 and 2009 the word festoon appeared only 99 times per 400 million American English words (Davies, 2010). Instead of using the low-frequency festoon, we chose the more common “festival,” which is among the top 5,000 most frequent words in American English, appearing 12,198 times per 400 million words (Davies & Gardner, 2010, p. 152). Research shows that high-frequency words are easier to recognize than low-frequency words (Carpenter & Just, 1983; Hudson & Bergman, 1985; Zipf, 1949). We can conclude that it is important to choose short, familiar, high-frequency words rather than long, complex, or low-frequency words.
- Diverse content (e.g., steps, advice, rules, regulations) was presented in numbered lists, which grossly distorted the hierarchy of the content and implied that each item was an ordered step. The failure to group similar content and to signal the groups visually and verbally according to rhetorical function (e.g., procedures, tips, rules and regulations) made it hard for readers to discern what they “must do” from what they “needed to know before doing.”
- The tone was distant and unfriendly, projecting a rigid bureaucratic persona.

Problems of design

The application and the form had an uninviting appearance. The negative impression was created by characteristics such as the following:

- The form design was randomly organized and visually chaotic, employing a layout reminiscent of the typewriter era.
- The rules and regulations were presented on the same pages as parts of the form. Only the form needed to be submitted to the city government. The form should have been displayed separately. This would have avoided confusion for the user and irrelevant content for the government employee reviewing the form. The jumbled format failed to promote efficient reading and was unsuitable for displaying the content either on paper or online (Schriver, 2010).
- There was not enough space for applicants to write the answers to questions (Summers, Summers, & Pointer, 2014).
- The form had problems of alignment, grouping, and contrast.
- The visual organization did not reveal the structure of the content (Sless, 1999).
- The size of the typography violated principles of readable design (Schriver, 1997). For example, the list of conditions was displayed in type too small for comfortable reading. The text overused underlining. Enumerated items were randomly bolded.

The problems of the original document led us to develop goals for our revision, including goals for stakeholders as well as for the design of the content itself.

Goals for external stakeholders (the audience)

To help applicants

- Apply for a permit without making errors caused by confusing questions or by the wording of instructions, advice, rules, or regulations;
- Plan a project that would abide by the city's laws, rules, regulations;
- Fill in the form quickly and easily; and
- Understand the process of obtaining a permit and what happens in each stage of approval.

Goals for internal stakeholders (the client)

To help the client

- Build good will between the New York City government and the citizens of New York;
- Make the text plain and clear in English in order to support an efficient translation into different languages; and
- Generate a template for use in designing a set of interactive online documents.

Goals for the redesign

- To use design to reinforce the text's hierarchy and suggest an appropriate sequence for reading;
- To segment the content into meaningful groups and help applicants negotiate the application process;
- To rewrite the text using plain language in order to make the laws, rules, and

Figure 2

NEW YORK CITY DOT New York City Department of Transportation

Applying for a permit to install festival lighting: Guidelines, questions & answers

You need a permit to install festival lighting for a holiday or special event in New York City. To get the permit you need to:

1 Plan your event
2 Apply for approval with the New York City Division of Street Lighting (NYC DSL)
3 Get a permit from the New York City Department of Buildings (NYC DOB)
4 Send a copy of your permit to the NYC DSL Electrical Inspections Unit (NYC EIU)
5 Have your electrician test the electrical pole(s) to be used

1 Plan your event

Tips: Plan your event about three months in advance. The NYC Division of Street Lighting (DSL) must receive your application for temporary lighting **60 days in advance of your desired installation date.** Your plan should contain these items:

- Filled-in and signed application form
- Map or drawing showing the location and details of your event
- Details about your electrical contractor and the specifics of the lighting
- Proof of insurance

Choose a timeframe for your event (start date and end date). You will need to tell us the date you want to put up the lights, how many days the lights will be on, and the date you will take them down. To prepare for your event, it is important to know the rules for temporary lighting.

Get to know the rules for festival lighting

Questions	Answers
• Where can I find the rules for festival lighting?	Download the highway rules at the New York City Department of Transportation (NYC DOT) website: http://nyc.gov/html/dot/downloads/pdf/hwyrules.pdf See Sections 2-03 (pp. 18–19) and 2-14(e) (pp. 108–111): "Temporary Festoon/Holiday Lighting."
• Who should apply for the permit to install the festival lighting?	One person from your group must apply for the permit and serve as the permit holder. **The permit holder must sign and date the form,** and then submit it to the NYC Division of Street Lighting (NYC DSL). **Your contractor or electrician is not permitted to sign the form.**
• Why are permits sometimes denied?	Failing to follow the rules will lead to a project being delayed or rejected. Make time to visit our website so you can understand the rules.

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Applying for a permit to install festival lighting

1 Plan your event (continued)

Once you understand the NYC rules for temporary lighting, you can begin to lay the groundwork for your plan.

Lay the groundwork for your plan

What to do	What to consider
• Choose a location for your event. Keep in mind NYC's rules about where you may or may not attach lighting.	**You may attach your lights to metal street lights or use your own wooden stakes.** You may also attach to buildings or other structures as long as you have permission from the owner or manager. **You may not attach your lights to traffic signal poles in intersections, wooden street light poles, wooden telephone poles, any type of traffic pole, or any poles at pedestrian crosswalks.** Your lights may not obscure street signs or traffic signals.
TIP: Don't let your plan get rejected because you forgot to follow NYC's rules for festival lighting.	The NYC Department of Transportation (DOT) cannot approve a permit that does not follow the rules. DOT will remove lighting that does not follow the rules and you will be charged for the removal.
• Hire a NYC licensed electrical contractor to do the job.	Get the job done right and safely. Your electrician will play a key role in your event so choose that person wisely. Ask the electrician to specify the lighting you will use and how much power you will need.
• Decide where you will get the electricity for your lighting.	If from a pole, get permission from the electrical company (Con Edision) to tie into the pole. If from a building, get permission from the owner to use the electricity.
• Make sure you have proof of insurance.	Get insurance to cover the unlikely chance of injury or property damage that might occur as you put up the lighting, as you hold your event, or while you are taking down your lighting. See Section 2-02 of the Highway Rules (pp. 3–22). Your insurance must cover any injury or damage that may arise. The City of New York will not be held responsible for any claims related to your event.

After you lay the groundwork for your plan, it is time to work with an electrician who will help you to answer the questions on the permit application form. Your electrician may also help in detailing the map you need as part of the application.

Tips: See the next two tables for advice on
(1) working with your electrician, and
(2) creating a map that shows your plan for the lighting.

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regulations clear; and
- To use tables instead of prose to enable efficient decision making.

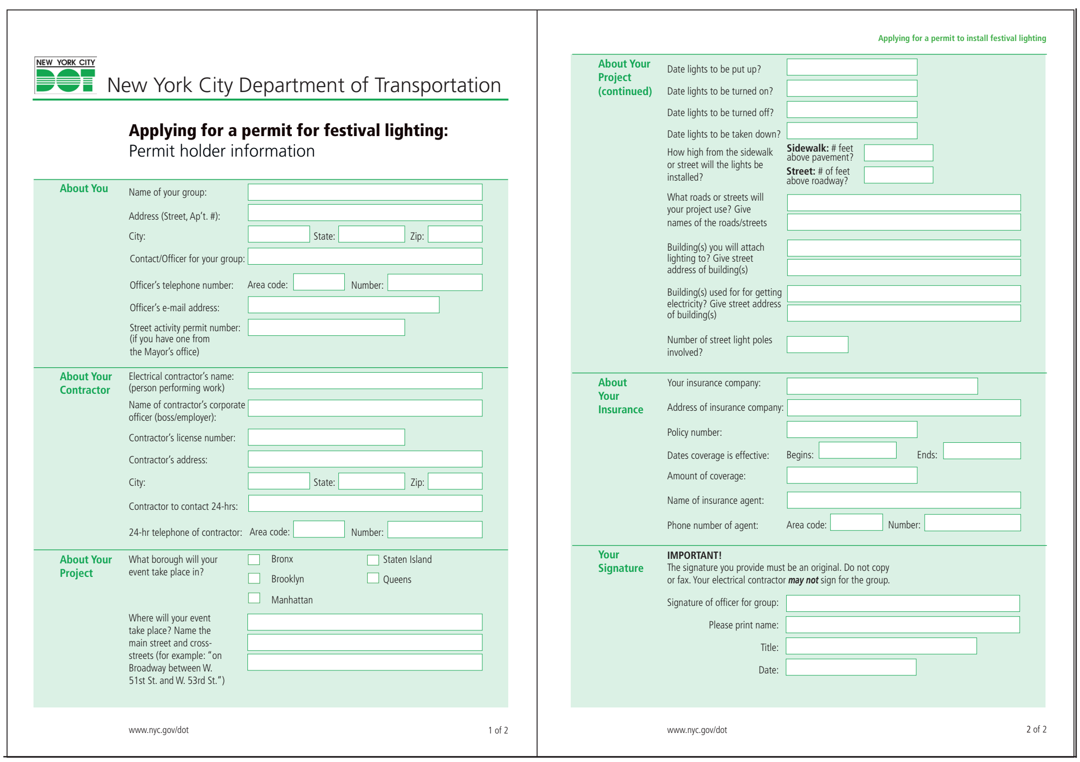
Moreover, we embraced the idea that shorter is not better if making a shorter document means omitting crucial content. Figure 2 presents a two-page spread from the redesigned application.

As shown in the top left portion of Figure 2, we grouped the content according to five steps required for a successful application. Figure 2 shows the first step, "plan your event." Our approach was to segment the content into logical groups and organize it from the perspective of external stakeholders, using reader-friendly headings (e.g., "Questions" and "Answers"). We also re-conceived the information display, shifting most of the content from prose to tables. This information design strategy of grouping, organizing, and signaling made the procedures stand out, enabling users to know what to do and what to focus on (Schriver, 2013). Each table has a clear structure (e.g., "What to do" and "What to consider") and is designed to walk the applicant through the process, making the steps more conspicuous and intelligible.

Figure 3 presents our revised form. In the redesign we created a strong vertical alignment for the headings, questions, and form fields for answering. Unlike the original, the revision provides applicants with sufficient space for writing or typing their answers.

As shown in Figure 3, we separated the content into logical groups, making it easy to scan. The redesign cues the applicant regarding the categories of questions that must be answered (e.g., "about your insurance"). It also orders

Figure 3


NEW YORK CITY DOT New York City Department of Transportation

Applying for a permit for festival lighting:
Permit holder information

About You
Name of your group:
Address (Street, Ap't. #):
City: State: Zip:
Contact/Officer for your group:
Officer's telephone number: Area code: Number:
Officer's e-mail address:
Street activity permit number: (if you have one from the Mayor's office)

About Your Contractor
Electrical contractor's name: (person performing work)
Name of contractor's corporate officer (boss/employer):
Contractor's license number:
Contractor's address:
City: State: Zip:
Contractor to contact 24-hrs:
24-hr telephone of contractor: Area code: Number:

About Your Project
What borough will your event take place in? Bronx Staten Island Brooklyn Queens Manhattan
Where will your event take place? Name the main street and cross-streets (for example: "on Broadway between W. 51st St. and W. 53rd St.")

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Applying for a permit to install festival lighting

About Your Project (continued)
Date lights to be put up?
Date lights to be turned on?
Date lights to be turned off?
Date lights to be taken down?
How high from the sidewalk or street will the lights be installed? **Sidewalk:** # feet above pavement? **Street:** # of feet above roadway?
What roads or streets will your project use? Give names of the roads/streets
Building(s) you will attach lighting to? Give street address of building(s)
Building(s) used for for getting electricity? Give street address of building(s)
Number of street light poles involved?

About Your Insurance
Your insurance company:
Address of insurance company:
Policy number:
Dates coverage is effective: Begins: Ends:
Amount of coverage:
Name of insurance agent:
Phone number of agent: Area code: Number:

Your Signature
IMPORTANT!
The signature you provide must be an original. Do not copy or fax. Your electrical contractor ***may not*** sign for the group.
Signature of officer for group:
Please print name:
Title:
Date:

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the content in a way that applicants would likely expect and poses the questions more clearly (see those listed under "about your project"). Additionally, the form was made easier to use online by adding interactive fields.

Client feedback on the design

Once the revisions were complete, we solicited feedback from our client team. The response from internal stakeholders was extremely positive. As one team member (who worked on processing forms) said, "Could this actually be a form from NYC government? Wow, this is great!"

Although we were very gratified with the positive response, our enthusiasm waned when we did not get approval to test our revision. We were unable to move forward with a user-based assessment of the redesign because of internal problems within the organizational structure.

Our supervisors on the project—who were staunch advocates of plain language—ran into difficulties when they presented our redesign to the city's legal team. We had assumed that our project supervisors had apprised the city's legal team of the redesign concept as it progressed. The design had gone through four iterations prior to the semi-final version, with each iteration receiving extensive client feedback.

Like many information design teams, we worked remotely through electronic means and had never met face-to-face. We collaborated through email and conference calls, but because the legal team did not have (or make) time to participate, we had no access to their opinions.

Months after the redesign had been approved for publication by our project supervisors and collaborators, lawyers for the city voiced skepticism about three aspects of the redesign. First, lawyers argued that they could have done a better job of making a plain English version. They criticized the revision because it did not use the same legal language as the original. Second, they contended that if the redesign was actually better, it should have been shorter not longer than the original. And third, they also admonished us that the city did not need to provide advice about planning a festival lighting project and that such information was unnecessary.

In our opinion, underlying these three claims were serious empirical questions that could only be answered by engaging potential users of the content. From an information design perspective, clarifying the legal language was a virtue not a shortcoming. We also adhered to the principle that a document's length should be a function of the content audiences need or expect. In this case, as mentioned earlier, much of the content was unclear, ambiguous, or missing. With regard to the critique about our including advice about planning a festival lighting project, we contended that applicants needed guidance about planning their project because, as our interviews with staff indicated, a poor plan had often led to a rejected application. These controversies about the adequacy of the redesign could have been resolved through usability testing, but instead the legal team derailed the project.

Retrospective

In retrospect, our team had not anticipated the legal team's rejection of a citizen-oriented revision. We had interpreted the mayor's executive order to promote access to public information as a call for clarifying legal language. We also believed it meant giving citizens the content they needed for supporting an error-free application process, which could have saved the city the time and money associated with answering phone calls and re-reviewing rejected applications (Schriver, 1993).

This case study shows that although we were quite skilled in redesigning the documents and in negotiating with the team members we worked with, we were unable to gain support for our activities within a powerful segment of the larger organizational culture. Information designers can draw a lesson from this case.

It is important to understand the needs of all internal stakeholders for a redesign, not only the immediate team members and managers, but also those who may play a role in approving a project directly or indirectly. Information designers must acquire skills in “reading the context.” We need to understand the relative power held by various stakeholders within the organization—power that determines how decisions get made and what activities are deemed of value. Information designers must acquire deep knowledge of the broader context in which design takes place in order to anticipate reactions of those who may wield control over their work; for a discussion, see Schriver (2012).

Although it may not be possible to engage all decision makers collaboratively, it may be possible to get their feedback and buy-in on a project before it is too far along toward completion. When people who can exert control over a project do not feel part of design decisions (even if they had opportunities to collaborate and did not), they are more likely to derail or even reject a design solution.

Additionally, the outcome of the project might have been different had we been able to meet our clients face-to-face rather than by collaborating at a distance through email and conference calls. Although we had built good relationships with those team members we had the chance to converse with, there were no opportunities to understand the hierarchy of the organization and the varied internal stakeholders for the project. We assumed the client team had given the legal department progress reports on the project. At the same time, we concluded the legal team would be only concerned with whether the revisions presented the city’s codes, rules, and regulations in a clear and accurate manner. We knew they needed to review the final product but did not realize the legal team had authority over whether the redesign would be published. As collaboration expert from Harvard University Richard Hackman points out, distributed teams face unique challenges, stating “it is hard to coordinate at a distance if it is unclear who is actually on the team” (Hackman, 2011, p. 33).

In hindsight we should have insisted on at least one face-to-face meeting with all internal stakeholders, including the legal team. If the project had been planned with all decision makers meeting face-to-face, we could have built up a sense of team cohesion, trust, and respect. Had we been able to help the team focus its goals, our final redesign could have been assessed on the basis of those shared goals and values. And if we had been able to garner support for usability testing our prototypes, we would have had empirical evidence for the efficacy of the redesign rather than having it evaluated on the basis of seemingly idiosyncratic criteria.

The larger lesson we can draw from this study of the rhetoric of redesign is that to be effective in bureaucratic settings, information designers must be skilled in three interdependent activities:

- Constructing content (generating ideas for visual and verbal artifacts);
- Connecting content (shaping artifacts rhetorically to meet external stakeholders' needs); and
- Contextualizing design activity (engaging in advocacy to orchestrate buy-in from all important internal stakeholders, with the goal of making design activity visible and valued within the organization).

As information designers develop sophistication in carrying out these activities, they stand a much better chance not only of creating good designs, but also of seeing the fruits of their labor make a difference.

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Biographical note

Karen Schriver, PhD, is a designing woman on a mission. She helps organizations around the globe realize the social and economic benefits of excellence in information design. As an information designer with an empirical bent, Karen advocates for evidence-based decision-making in writing and visual design. Karen is a former professor of rhetoric and communication design at Carnegie Mellon University (Pittsburgh, Pennsylvania), where she co-directed the graduate programs in professional communication and document design. She created some of the first courses in the United States on integrating word and image, usability testing, and information design. For the past two decades Karen has led her own research and consulting firm, Karen Schriver Associates (KSA), which specializes in improving the quality of communications in technology, science, education, and health. Karen brings expertise in designing content that is clear, usable and memorable for expert or lay audiences—from websites to instructions to educational tools to forms to marketing materials. Karen challenges organizations to re-imagine their design strategies on the basis of research into their everyday practices of writing and design. Karen's clients include Microsoft, Sony, Apple, ATT, IRS, US Postal Service, Sprint, Fujitsu, Mitsubishi, Lutron Electronics, IBM, MIT Press, Hoffman-LaRoche, and the New York City Department of Transportation. Karen's book, *Dynamics in Document Design: Creating Texts for Readers* (New York: Wiley)—now in its 9th printing—is

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