

The City of Berkley Pigeon Roosting

Mitigation Report

Prepared for

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Report

USF students visited the Telegraph-Channing Garage at 2442 Durant Ave/2435 Channing Way, Berkeley, CA on September 3rd, 2024, at 4:30pm to observe the ongoing issues with pigeon infestation at the site. Below are the observations made on the visit:

Observations:	Recommendations:	Image:
Application of bird spikes is not consistent across all horizontal surfaces, with some along unnecessary areas and many gaps in the application.	Complete application of bird spikes with supervision from city employees to ensure proper application in necessary areas.	1
Electrified areas have not been maintained and no longer function.	Replace with bird spikes or schedule regular maintenance.	2
Sticky areas have collected dust over time and no longer function. Application was also not as specified by the manufacturer.	Replace with bird spikes or schedule regular maintenance.	3
The netting around the parking structure has not been consistently applied or maintained, and nylon netting is ripping. Chain link is an eyesore.	Replace nylon and chain link nets with more durable material such as polyester netting.	4
The pigeons are attracted to the area due to the food from restaurants below and the food source that provides them.	Meet with restaurants and stores to implement covered trash that is less accessible to birds.	5
Pigeons could be deterred using predator noise machines.	BIRD-X Electronic Bird Repeller or other manufacturers.	6

Recommendations:

- Minimize the need for maintenance and lower risk of error by employing bird spikes in areas determined by contractors in conjunction with city inspectors to ensure consistent application in necessary areas only. Bird spikes are the most effective and long-lasting method.
- Nets should be maintained and applied consistently in areas where they are deemed necessary.
- Future maintenance should be observed to avoid deterioration of the applied methods in the case of missed areas or negligence. The site should be inspected at regular intervals by both parties to look for damage or faulty equipment.
- Predator bird sound deterrents offer a non-invasive, humane approach to discouraging pigeons by mimicking natural threats through recorded sounds of hawks and owls. This

method requires minimal hardware and is straightforward to implement. At Heathrow Airport, predator noises, particularly falcon and hawk calls, were effective in reducing pigeon presence as part of their bird strike prevention program (Civil Aviation Authority, 2020). Rome implemented a similar approach at key historical sites like the Colosseum and Vatican City, with mixed results as pigeons adapted in some areas over time (Italian Journal of Zoology, 2019).

- BIRD-X Electronic Bird Repeller: 1 acre Coverage Area, Wall Mount currently costs \$336.39 and should be able to cover the entire garage.
- To minimize pigeon access and reduce the chances of pigeons entering through open garage gates, install an electric garage door arm to automatically close the rooftop gate on low-traffic days. This system would not only prevent pigeons from roosting but also make it easier for employees, as they would only need to press a button to operate the gate, encouraging more routine closures. By simplifying the process, it ensures that the measure is implemented consistently, reducing the likelihood of oversight while still allowing the gate to open for high-traffic days when rooftop parking is needed.

Additional methods, such as falconry and population control, were researched, but it was determined that they were either inadequate or not applicable to this location due to local regulations and community concerns.

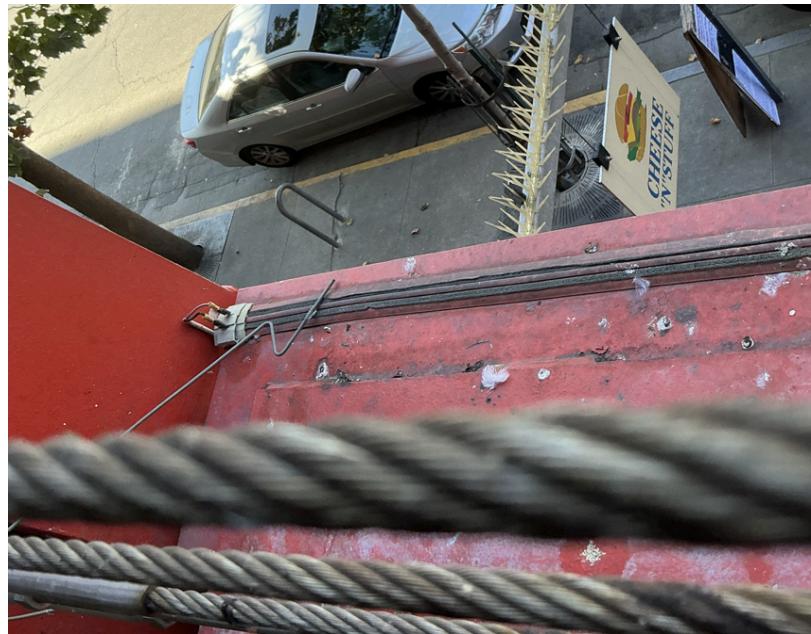
Image References

Image 1:



The image above illustrates an area on a spiked ledge where the spikes have fallen off, resulting in a buildup of bird droppings in the exposed section.

Image 2:



The wiring of electrified stips is visibly faulty.

Image 3:



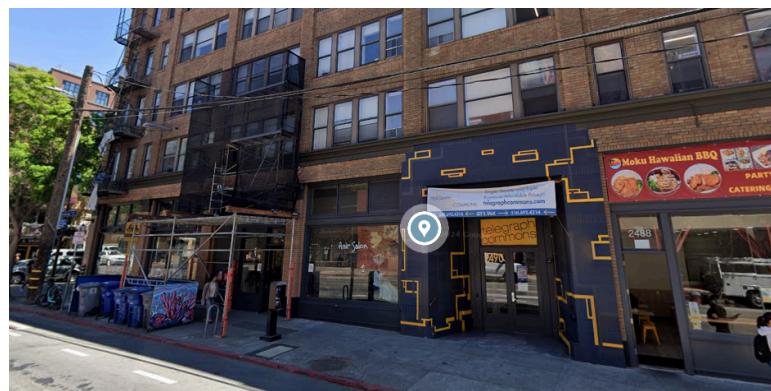
Example of sticky application: applied correctly, but covered in dust over time and diminishing the aesthetics of the facade..

Image 4:



Example of hole in nylon netting.

Image 5:



Example of restaurants across the street from the garage.

Image 6:



BIRD-X Electronic Bird Repeller.

Key Points

- 1. Bird Spike Inconsistencies:**
 - Bird spikes are not applied uniformly, with unnecessary areas covered and gaps in critical places.
 - Bird spikes are the most effective long-term solution but need careful, consistent application under supervision.
- 2. Faulty Electrified Areas:**
 - Electrified strips no longer function due to lack of maintenance.
- 3. Sticky Solutions Ineffective:**
 - Sticky deterrents have gathered dust and are improperly applied, reducing their effectiveness.
- 4. Netting Issues:**
 - The nylon netting has torn in several places and chain-link is unappealing.
- 5. Attractants from Surrounding Businesses:**
 - Food sources from nearby restaurants attract pigeons to the area.
 - Engage with local businesses to improve trash management, such as implementing covered trash cans that are bird-proof.

Action Items

- 6. Remove Faulty Electrified Strips:**
 - Replace ineffective electrified strips with bird spikes to minimize future maintenance requirements.
- 7. Continued Bird Spike Installation:**
 - Install bird spikes along horizontal surfaces of the red steel x-bracing structure on the north facing side of the parking garage. Identify locations where there are gaps in spike installation so all roosting locations are spiked.
- 8. Remove Sticky Deterrents:**
 - Remove ineffective sticky deterrents and replace them with bird spikes.
- 9. Netting Upgrade:**
 - Replace nylon netting and chain netting or more durable polyester netting for improved effectiveness and less repair need.
- 10. Consider Predator Sound Systems:**
 - Implement predator sound deterrents, testing effectiveness with minimal equipment for humane pigeon control.
- 11. Automate Rooftop Gate:**
 - Install an automated gate system to close the rooftop on low-traffic days, simplifying employee workflow and preventing pigeon entry.

Evaluation

1. Industry standards for evaluation

- a. Quantitative counts of pigeons in the area are a typical standard for evaluation, but these are not feasible or necessary for this case. Consider using benchmarks such as instances of pigeons getting caught in the garage or the frequency of cleaning needed.

2. Evaluation of functionality

- o Quantitatively, these evaluations could result from financial reports on expenditure for clean-up of bird feces below the garage. We understand the current concern is use of tax dollars and resources to clean the bird feces, so reduction in expenditure would reflect the functionality.
- o Qualitatively, there will be visibly less bird feces and visibly fewer birds around the garage. Consider utilizing existing garage staff in observing the need for cleaning.
- o The garage should be evaluated every 6 months by a city official and a contractor to ensure continued functioning, and routine financial reports should show the difference over time.

NEW ADDITIONS:

Predator Bird Sound Deterrents

1. **Costs:** The costs for predator bird sound deterrents can really vary, usually falling between \$500 and \$2,500 for purchase and installation. You'll also want to budget around \$100 to \$500 a year for maintenance. Bird-X offers predator sound systems that are pretty effective at keeping pigeons away. Their maintenance services include regular check-ups to make sure everything's running smoothly and adjusting the sound frequencies as needed. Keeping an eye on the system helps adapt to how the birds are acting, which can change. It's also nice to have this maintenance outsourced, so it doesn't rely on Ace Parking. If the sound system is the only thing needing routine maintenance, that's a huge win! You can check out more about their offerings here: [Bird-X Predator Control](#).

Bird Spikes

2. **Cost Estimates:** Switching to bird spikes is a solid low-maintenance option. These typically cost between \$1.50 and \$3.00 per linear foot for installation. For example, if you were to spike a 100-foot ledge, you'd be looking at around \$150 to \$300. Maintenance for these spikes is pretty straightforward; just a periodic check to make sure they're not clogged with debris. Plus, we'll need to install bird spikes on the entire red steel structure exoskeleton and the ledges where the sticky deterrent is. This makes them a great choice for long-term pigeon control. More details can be found on this page: [Bird-X Spikes Product Page](#).

Additional Cost Estimates

3. We'll gather more detailed estimates for supplies, installation, operation, maintenance, and labor hours for our other recommendations. This way, we can provide a clearer picture of what it will cost our community partner.

Evaluation and Metrics

4. **Evaluation of Recommendations:** We should set up a monitoring plan that includes surveys before and after implementation to check on pigeon activity and nesting behaviors. We'll track metrics like how many pigeons we see, how many nests we find, and any other changes in behavior.
5. **Determining Success:** Our main issue here is the \$20,000 we're spending annually on cleaning due to pigeon problems. We're aiming for a success definition that means cutting that cost by at least 75%, bringing it down to about \$5,000 a year. We can start by assessing the current cleaning costs and pigeon populations to keep track of our progress.
6. **Industry Standards:** There are industry standards for measuring pigeon deterrence effectiveness, and we can refer to the International Bird Control Association's guidelines, which suggest tracking how often pigeons are spotted and how many nests there are. You can read more about it here: [IBCA Guidelines](#).

Examples of Successful Implementation

7. **Case Studies:** We can include some great examples, like the predator sound systems used at San Francisco International Airport, which have reduced bird strikes by over 75%. Another success story is the bird spikes used at the Sydney Opera House, which effectively keep pigeons away and lower maintenance costs. You can learn more about these implementations on the SFO Wildlife Management page and the Sydney Opera House Pigeon Controlpage.
- **Citations**
 - Bird-X. (n.d.). *Predator Bird Sound Deterrents*. Retrieved from <https://www.bird-x.com/products/predator-sound-systems>
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