

Food bikes and the mobile food revolution

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Summary

Mobile food is becoming an increasingly popular part of the food economy. This research project looked at the potential for food bikes to serve as a low-capital, low-footprint alternative to food trucks in order to enable entrepreneurs to launch or expand their businesses.

The following report includes deliverables from a summer research project on food bikes funded by a Community Engagement Fellowship award from the Berkeley Food Institute and in affiliation with the Sustainable Economies Law Center (SELC). The author would like to thank both organizations for their generous support.

A workshop on food bikes was held in conjunction with SELC's legal cafe in September 2015 at the Alchemy Collective Café in South Berkeley. Roughly 20 community members participated. Handouts used at the workshop and some photos from the workshop are included here. The material was for discussion purposes and should not be used as an official reference. The other deliverable included in this report is a new section on mobile food to be included in the next version of [SELC's Legal Eats Guide](#).

Workshop handout: Mobile Food Regulations in Oakland

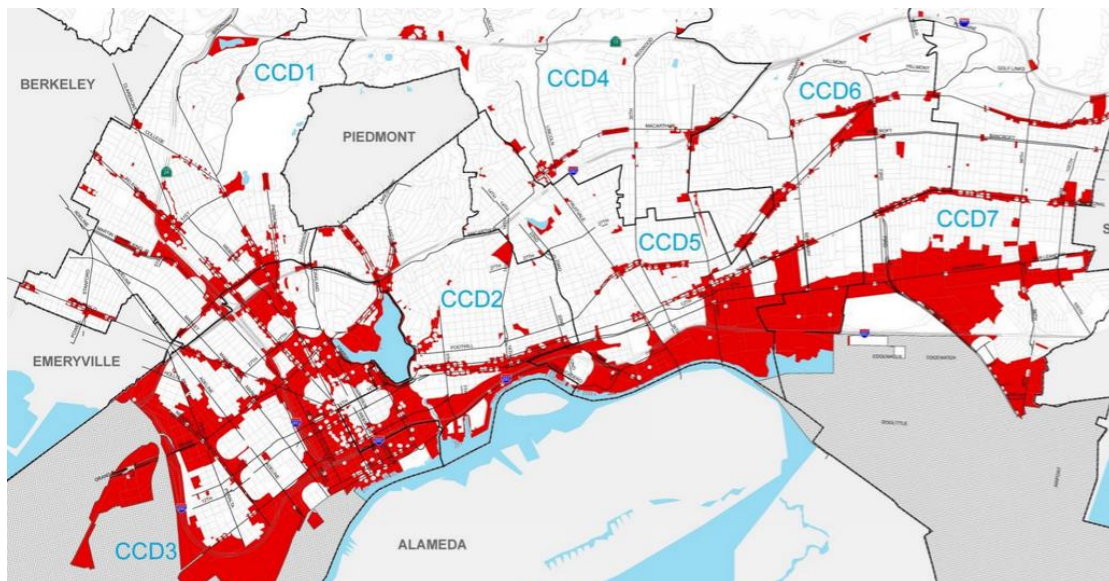
Food trucks and food carts (or “mobile food”), cottage food, “pop-up” events, catering, farmers’ markets, and temporary events are all becoming increasingly popular avenues for food entrepreneurs to get a business started without having to invest in a “brick and mortar” location. In addition to regular business licenses and seller’s permits, mobile food facilities and temporary events require zoning and health permits. **Zoning regulations** concern the **locations** where mobile food facilities can operate and temporary events can be held, while **health regulations** concern the **preparation and handling of food** to ensure public health, including the equipment needed for mobile food facilities and temporary events. In general, zoning regulations are set at the city level, while health regulations are set by the county.

What permits are required?

All mobile food facilities require the following permits to operate: 1) Seller’s Permit from California Board of Equalization, 2) City Business Tax Certificate, 3) County Health Department Permit, and 4) Zoning Permit.

More comprehensive zoning for food vending in Oakland

The City of Oakland is currently considering a new policy for “food vending” in non-fixed locations including 1) food trucks, 2) push cart, 3) food tents/booths, 4) food ‘pods’ or group sites (such as Off the Grid). The potential food vending locations are shown below. The program is expected to be up and running by Spring 2016.



Current Mobile Food Facility zoning and health permit fees by city/county (approximate)

City/County	Zoning	Health - plan check	Health - permit	Total (range)
SF/SF	\$764+	\$300, \$500, \$700	\$200, \$800	\$1,300-2,300
Oakland/Alameda	\$785, \$2215	\$438	\$376-759	\$1,600-3,412

Workshop handout: Food bikes

Food bikes in the East Bay



Cold holding for pre-packaged food	Hot holding for pre-packaged food	Beverages (Temporary food facility)	Non-prepackaged foods
Ice cream	Tamales	Coffee	Has not yet been attempted due to design/ permitting hurdles
Curbside Creamery (1)	El Taco Bike (2)	Bicycle Coffee Co. (3)	

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Could food bikes be the low-cost, low-footprint food truck?



Capital costs	<\$5,000	\$50,000+
Market size (2013)	--	\$1 billion
Carbon emissions/meal (estimate)	82 gCO ₂	169-243 gCO ₂
Potential hourly wage	\$20-25	\$10-12

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Main benefits of food bikes

- **Economic:** Lower startup and operational costs enable higher wage potential
- **Environmental:** Lower carbon emissions per meal served; promotes the power of bicycling
- **Educational:** People can learn more about food through direct interaction with chef
- **Urban planning:** Can serve in neighborhoods with poor food access; improved use of underutilized public spaces

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Limited food prep MFF's, as prescribed by the code, would be very difficult to move by bike

- Refrigeration, water heating, water/wastewater tanks, and warewashing sinks are heavy and spacious components of a mobile food facility
 - Refrigeration: >20 lbs, 3-6 cu. ft.
 - Water heater: >30 lbs, 1-2 cu. ft.
 - Water tank (15-25 gal): 120-200lbs, 2-4 cu. ft.
 - Wastewater tank (20-30 gal): >10 lbs, 3-5 cu. ft.
 - Warewashing sinks: >10 lbs, 2.5 cu. ft.
 - Battery: >25 lbs
- Total: ~200-250 lbs, 12-20 cu. ft.

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How can we limit weight, while still guaranteeing health and safety?

- Refrigeration:
 - Alternative compliance pathway: Time as public health control (CA RFC 114000)
 - Food bikes operate in four-hour time windows, which start from the moment they remove potentially hazardous foods from affiliated kitchen refrigerator. Remaining food is destroyed at end of the four-hour period.
- Warewashing sinks:
 - Alternative compliance pathway: Adequate supply of utensils (CA RFC 114351c)
 - Again food bikes operate in four hour time windows and keep an adequate supply of clean utensils for service (separate clean and dirty utensil receptacles on board)
- Handwash sink water heater:
 - Preheat water at affiliated facility and maintain 100-110F temperature onboard with effective insulation for four-hour window

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Proposed design



Features:

- 5 gallon water tank + 7.5 gallon wastewater tank + handwash sink
- 12 inch polycarbonate glass to separate customer from food preparation area
- Propane griddle capable of cooking foods to >165 F
- Proposed menu: crepes with egg, cilantro, green onion, sauces, sesame seeds
- Overhead canopy for overhead protection; collapsible to fully enclose MFF while in transport
- Ample storage for utensils and food containers
- To be classified as MFF, affiliated with commercial kitchen and commissary

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Workshop photos



New Mobile Food Section for SELC's Legal Eats Guide

Around the country, there are an increasing number of alternative ways to sell food. Food trucks and food carts (or “mobile food”), cottage food, “pop-up” events, catering, farmers’ markets, and temporary events are all becoming increasingly popular avenues for food entrepreneurs to get a business started without having to invest in a “brick and mortar” location. In addition to regular business licenses and seller’s permits, mobile food facilities and temporary events require zoning and health permits. This section just discusses the zoning and health regulations for mobile food facilities and temporary events - remember that other general laws discussed in this guidebook still apply to these mobile and temporary avenues for selling food. Zoning laws concern the locations where mobile food facilities can operate and temporary events can be held, while health laws concern the preparation and handling of food to ensure public health, including the equipment needed for mobile food facilities and temporary events. First, there is a general discussion surrounding the regulation of mobile food facilities and temporary events, followed by specific information regarding San Francisco and Alameda counties.

Mobile Food Facilities (MFF)

Mobile Food Facilities (MFF) including food trucks, trailers, and push-carts are typically regulated by county departments of environmental health. If you plan on having an operational MFF in Alameda County (in any city other than Berkeley), the Alameda County Environmental Health Department issues health permits. The City of Berkeley is an exception and runs its own Department of Environmental Health. In San Francisco County, the San Francisco Department of Public Health, Environmental Health Section issues health permits.

MFF’s require an annual health permit to operate, which entails an annual inspection of the unit. MFF’s must be affiliated with a stationary commercial kitchen where the unit can be regularly stored in clean conditions, be serviced and cleaned, dispose of wastewater, and refresh water tanks. Food and supplies used in the MFF must also be stored in the affiliated commercial kitchen when not kept in the MFF.

There are many classifications of MFF’s depending on what is being sold and how it is being prepared. The following table from SF County Department of Public Health provides an overview of how county health departments generally classify MFF’s. Most MFF’s existing in the Bay Area today are in the 4th and 5th category, though pushcarts selling pre-packaged foods and drinks are also fairly common.

Classifications of Mobile Food Facilities

Classification	Definition and examples
MFF 1 Unenclosed MFF with prepackaged non-potentially hazardous foods	MFF that handles prepackaged non-potentially hazardous foods like pushcarts, or carts selling pre-packaged pastries, bagels, donuts, popcorn, chips, candies, sodas, bottled drinks, etc.
MFF 2 Unenclosed MFF with prepackaged, potentially hazardous foods	MFF that handles prepackaged potentially hazardous foods like pushcarts selling cold prepackaged sandwiches, prepackaged salads, pasta, cold noodles, etc.
MFF 3 Unenclosed MFF with non-prepackaged, non-potentially hazardous foods	MFF that handles non-prepackaged, non-potentially hazardous foods like pushcarts selling churros, salted bagels, cotton candy, dispensing of non-potentially hazardous beverages or drinks, shaving of ice.

<p><u>MFF 4</u> Unenclosed/enclosed MFF with non-prepackaged, potentially hazardous foods</p>	<p>MFF that handles foods that involve limited food preparation like heating, frying, baking, roasting, popping, shaving of ice, blending, steaming or boiling of hot dogs, tamales in its original inedible wrapper, dispensing, slicing and chopping of food on a heated cooking surface, cooking and seasoning to order. Examples include: espresso/coffee making, steaming or boiling hot dogs; cooking foods one individual order at a time using foods that have been prepped, washed, rinsed, sliced/chopped, thawed, cooked or prepared from a commissary or an approved facility.</p> <p>Restrictions on MFF4:</p> <ul style="list-style-type: none"> • No hot holding of non-prepackaged, potentially hazardous foods except roasting corn on the cob, steamed or boiled hot dogs, tamales in the original, inedible wrapper. • No slicing/chopping on MFF unless on a heated cooking surface • No thawing • No cooling of cooked, potentially hazardous foods • No grinding of raw ingredient or potentially hazardous foods • No reheating of potentially hazardous foods for hot holding except for steamed/boiled hot dogs and tamales in the original inedible wrapper • No washing of foods
<p><u>MFF5</u> Enclosed MFF with potentially hazardous foods</p>	<p>MFF that handles full food preparation like hot trucks/catering trucks selling tacos/burritos, crepes, falafel, Mediterranean, French, Thai, Vietnamese foods, etc.</p>

Source: <https://www.sfdph.org/dph/files/EHSdocs/ehsFood/Mobile/Classifications.pdf>

Some of the common equipment that is required by health departments for MFF's include refrigeration, handwash sinks, and warewashing sinks. Pushcarts that serve only prepackaged foods (within the 1st and 2nd MFF categories) may need refrigeration but do not typically need any sinks, while MFF's dealing with potentially hazardous foods need both refrigeration and sinks. In addition to learning about the requirements for MFF's from a county's permit application, it is also useful to read through the California State Retail Food Code, which can be [downloaded here](#). Refer to chapter 10 on page 83 for MFF's.

In addition to regulations for the MFF other food and business requirements apply, including the food handler certificate classes as discussed in other sections of this guidebook. Alameda County has a list of providers for this certification which can be [downloaded here](#). For employees working on MFF's, they must receive their food handler card through the California Food Handler Certificate Program. The course can be taken online in a couple of hours and also involves an examination that must be passed. The card is good for three years once received. This website has a [list of providers](#).

From a zoning perspective, cities regulate where MFF's can operate. It is common for the city's planning department or public works department to be involved in issuing permits for MFF's to serve in a specific location or set of locations. There is often a regulated distance that MFF's have to be from restaurants, schools, and other institutions in order to properly manage safety, right of way, business, and other concerns.

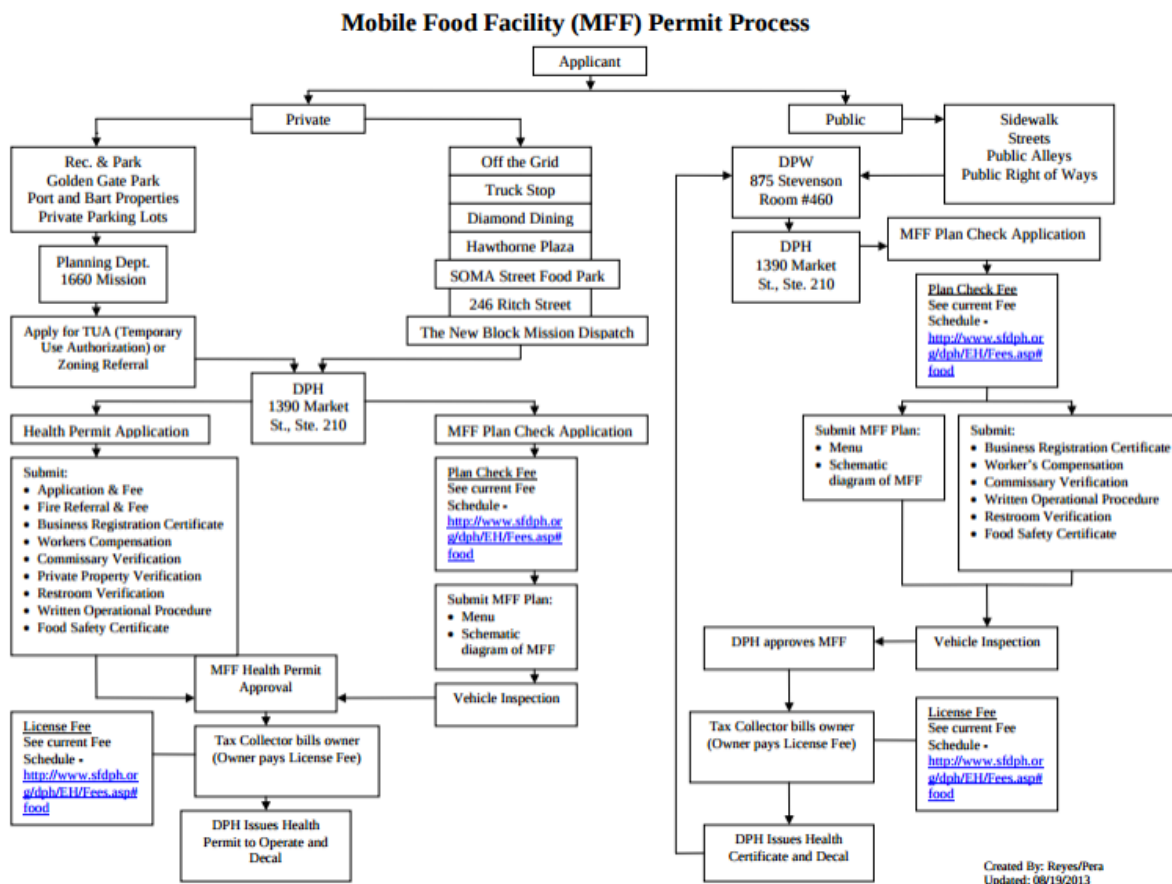
Temporary Events

Temporary events, also known as "temporary food facilities" (TFF), are an additional avenue for vendors to sell food. The prepared food booths seen at farmers markets, music festivals, city fairs, and the like are all regulated by the health department as a TFF. The permit applications for TFF's are fairly different from MFF's. Chapters 10.5 and 11 of the [State Retail Food Code](#) also offer general guidance. Often, a number of food booths can share a common setup for handwashing and warewashing so long as this setup is near to

each booth. Generally, there is one organization that should apply for the head or “sponsor” TFF permit, and then each business entity operating their own booth will apply for a booth TFF permit.

San Francisco County

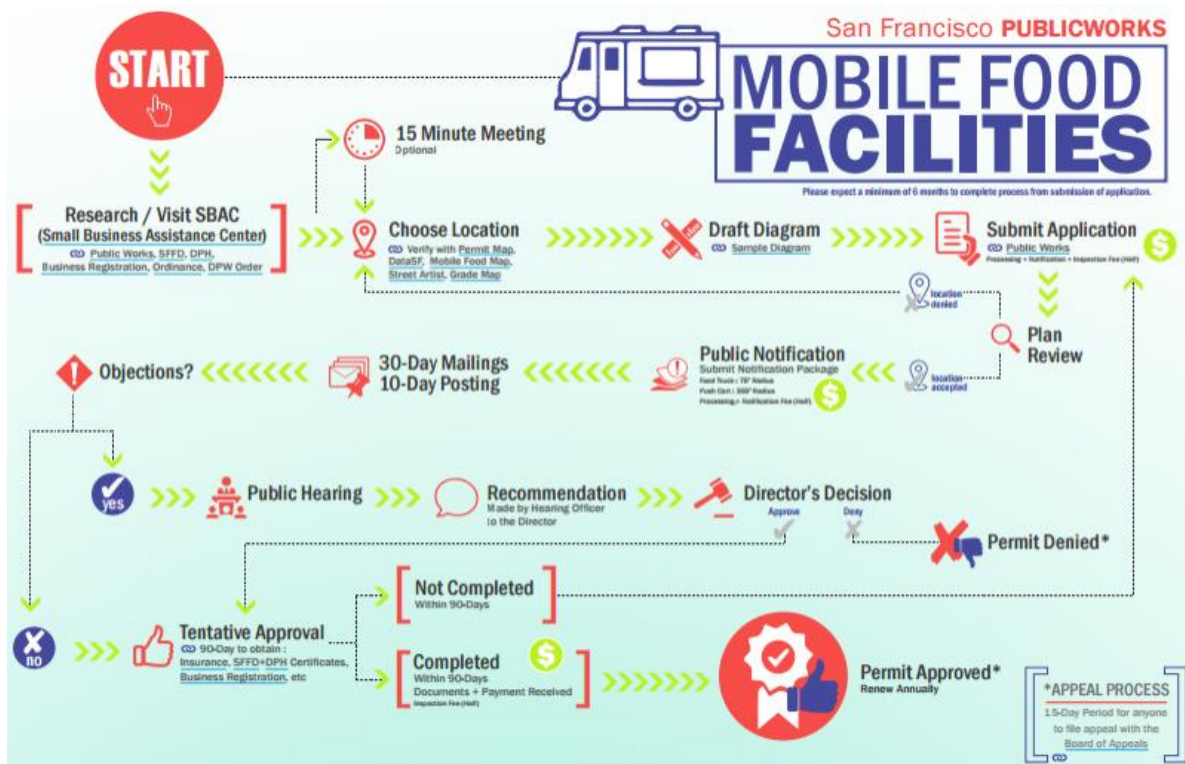
San Francisco has the benefit of being both a county and a city, so there is coordination between zoning and health departments for food vending permits. Even given that coordination, there is a fair amount of paperwork to prepare when applying for a MFF permit, as shown by the following flowchart supplied by the county (a larger version can be downloaded at [this link](https://www.sfdph.org/dph/files/EHSdocs/ehsFood/Mobile/FlowchartProcess.pdf)). In SF County, the applicant generally goes through zoning permissions before proceeding to the health permit process.



Source: SFDPH <https://www.sfdph.org/dph/files/EHSdocs/ehsFood/Mobile/FlowchartProcess.pdf>

For MFF’s serving on private property, the MFF will apply for zoning permit through the Planning Department. However, if they are serving at a location that a larger permit holder already coordinates (such as Off the Grid or SOMA Street Food Park), they can proceed directly to the Department of Public Health for their health permit.

For MFF’s serving on public property such as in parking spaces, streets, alleys, and sidewalks, the Department of Public Works provides the permit. The following flowchart from SF Public Works describes their process which involves a public notification and comment period.



Source: SFPDW <http://www.sfdpw.org/mff-flowchart>

SF Public Works has the following requirements regarding how far MFF's be from various boundaries or how much space they should provide for the public path of travel:

- 75' from existing restaurant primary entrance
- 8' from Street Artist
- 5' from Curb Return
- 6' Path of Travel
- 6' from Street Furniture
- 7' from Fire Hydrant
- 8' from Bus Zones
- 12' from Blue Zone

The Department of Public Health issues the health permit for MFF's, as well as caterers, TFF's, farmers markets, and pop-ups. For MFF's, the process involves both a plan check and inspection as well as a permit application, each with separate costs. The approximate fees (as of summer 2015) are shown below, and the applications can be [downloaded here](#). The plan check is generally a one time fee so long as the setup of the MFF does not change, while the zoning renewal fee is much lower than the initial fee. The health permit is an annual fee. The plan check and permit fees vary based on what category of MFF is being permitted. More information on the fees can be [found here](#) under the MFF section.

Mobile Food Facility zoning and health permit fees by city/county (approximate)

City/County	Zoning	Health - plan check	Health - permit	Total (range)
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For TFF's, a "sponsor" permit is required for the overall coordinating party of the event. Then, each unique vendor and booth is required to have a booth permit, which cost roughly \$100-200. Applications must be submitted 14 days prior to the event, otherwise there is a late fee. Applications cannot be submitted less than 7 days prior to the event. Farmers market booths are essentially a TFF that occurs every week. For this purpose, a quarterly permit can be issued instead of having to get a permit for each week (which would be very costly). These booths must not be in operation any more than 25 days in a 90 day period. More information on TFF permits can be found at [this link](#). Finally, SF's [Small Business Assistance Center](#) also offers support and services for food entrepreneurs.

Alameda County

The Alameda County Environmental Health Department runs a weekly information session for free every Monday at their office (1131 Harbor Bay Parkway in Alameda) from 10-11AM and check in begins at 9:30AM at the 1st floor reception desk. The head inspectors there will be able to answer any specific questions you have then, and they offer a useful handout which sums up the main food vending options that the office permits, including MFF (truck, trailer, and pushcart), caterer's license, farmers' markets, and TFF's. Alameda County has provided [this list](#) of commercial kitchens and commissaries operating in the county.

The applications for MFF and catering license can be found at [this link](#), while the applications for TFF can be found at [this link](#). A plan check is required, and the department recommends having this done before a MFF is constructed or remodeled. The health permit for MFF's costs between \$376 and \$759. The costs are summarized and compared with SF County in the previous table.

For TFF's, similar to SF, there are separate applications for the event sponsor and the booth operators. The cost for a TFF booth permit is \$132 for non-prepackaged foods and \$67 for prepackaged foods for events that are between 1 and 4 continuous days. For TFF's serving between 5 and 25 days within a 90 day period (at the same event), the costs are \$333 and \$164 for non-prepackaged and prepackaged foods, respectively.

City of Oakland

Though the particular zoning regulations will vary between cities within Alameda County, here we summarize Oakland's program as an example. Currently, the City of Oakland is redoing its zoning with respect to food vending, including mobile food and temporary events in order to provide a more comprehensive program.

A recent informational report on a city-wide food vending program was released by city's Department of Planning and Zoning. That report can be found at [this link](#). The report notes that there is a clear demand for additional food vending within the city than current programs have provided for in the past. The report also notes that a comprehensive food vending program can help provide living wage jobs for the city as well as improved access to healthy, affordable food.

Oakland had one of the first mobile food pilot programs in 2001 and implemented a permanent pushcart program in 2004, though it was limited primarily to areas in East Oakland. In 2011, it created a pilot “food pod” program for districts 1 through 4, but the city has lacked staff resources to expand its programs and enforce its existing programs. In the past, the permitting for zoning of these various programs as well as other city events such as Off the Grid and First Fridays has been managed by many different departments including Building Services, Planning and Zoning, the City Administrator’s Office, and the Police Department. It is the city’s hope to consolidate permitting and enforcement under a new comprehensive mobile food program. The timeline for the program was announced in summer 2015, with a target date of a new plan being set in place by Spring 2016.

In the meantime, information about Oakland’s existing pushcart and food pod programs can be found at [this website](#) or by visiting Oakland’s Business Assistance Center at 270 Frank Ogawa Plaza.

City of Berkeley

The City of Berkeley has an Environmental Health Department that is separate from and independent of Alameda County Department Environmental Health. Only a very limited amount of MFF’s operate within the city due to zoning limitations on where mobile food vendors are allowed to operate. The city’s farmers markets are run by the non-profit Ecology Center. The city does have many events, and thus there are opportunities to have food booth TFF’s at those events. The permits for those TFF’s can be found at [this link](#).

Food Bikes

When food entrepreneurs look to enter the mobile food space, they encounter two issues with the main types of mobile food facilities. On the one hand, food trucks have a very high capital cost, while on the other hand pushcarts offer limited mobility and menu options, typically limited to prepackaged foods. Food bikes (carts pulled by bicycle or electric bicycle) are emerging as a potential option to offer increased mobility and menu options.

There have been a number of food bikes operating in the Bay Area, including El Taco Bike, Curbside Creamery, Hot Bike, and Bicycle Coffee Co. Hot Bike (no longer in operation) was a food bike that catered small private parties. Curbside Creamery (currently operating) has a storefront and kitchen where ice cream sandwiches are prepared. The sandwiches are often sold at events and farmers’ markets as well, by use of a food bike manufactured by Icicle Tricycle based in Portland. Curbside Creamery’s food bike does not need any sinks, and keeps sandwiches in a well-insulated freezer on wheels. El Taco Bike (run by Alfonso Dominguez) followed the basic requirements set forth for “push carts”, selling pre-packaged tamales and burritos to avoid refrigeration and warewashing sink requirements. The bike has a small handwash sink. Instead of pushing his cart by hand, he pulls it with his bicycle to different public events. Finally, Bicycle Coffee Co. is a successful business which delivers roasted coffee beans by bicycle to many cafés around Oakland. It is also the main coffee business at the popular Grand Lake Farmers Market in Oakland and operates under a TFF permit. This includes buckets and water for washing hands and utensils, and coolers for milk products.



Clockwise from top left: Bicycle Coffee Co., Curbside Creamery, Hot Bike, and El Taco Bike

Despite these food bike's successes, there remains a gap: all existing food bikes are either operating as a TFF or as a class 1, 2, or 3 MFF. There are no class 4 or class 5 food bikes. In other words, no existing food bike can prepare non-prepackaged foods due to the inability to fit the required refrigeration and warewashing facilities within the scope of a bicycle trailer. One company, Culinary Ink of Vancouver, is beginning to manufacture a class 4/class 5 MFF that is pulled by an electric bicycle.