

# Assignment

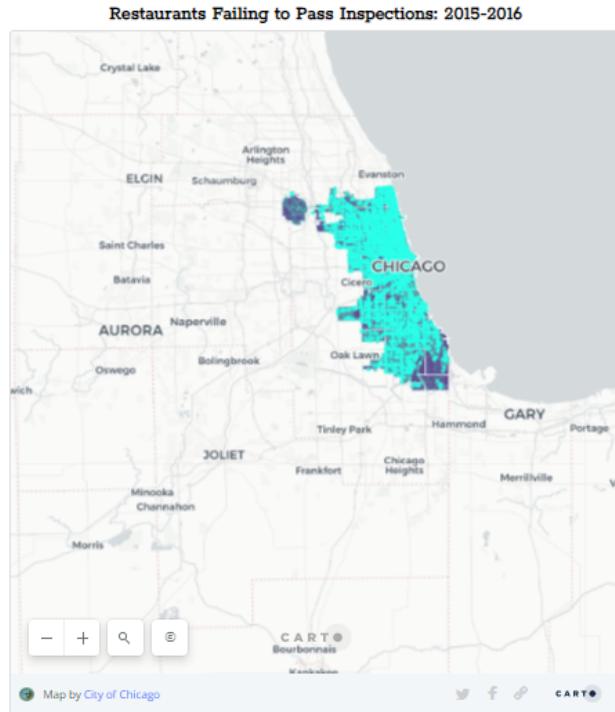
## Chicago Food Inspections

- A Data Analyst Journey

### Open Data & Analytics

Collaboration was a key component of this project, with researchers at the Department of Innovation and Technology, Department of Public Health, Allstate Insurance Company, and Civic Consulting Alliance all working together. Each variable used in the model, with the exception of widely available weather and inspector data, was available on [Chicago's open data portal](#). The portal provides access to hundreds of datasets, which have been used to improve transparency, allow application development, and catalyze commercial activity for start-ups and large enterprises.

The portal was an effective tool to allow for such collaborative research. This project was able to leverage Chicago's key data assets: its large volume of data, the transparency and size of its open data portal, and its ability and willingness to conduct research to improve city services, introduce savings, and increase engagement with Chicago-area businesses.



# Chicago Food Inspections

## Data

# Chicago Data Portal

The screenshot shows the Chicago Data Portal homepage. At the top, there's a navigation bar with links for 'Browse', 'Tutorial', 'Feedback', social media icons, and a search bar. Below the navigation is a search bar with placeholder text 'Search to find a specific dataset...'. Underneath is a section titled 'BROWSE THE DATA CATALOG BY THE FOLLOWING CATEGORIES' with a grid of 15 categories: Administration & Finance, Buildings, Community, Education, Environment, Ethics, Events, FOIA, Facilities & Geo. Boundaries, Health & Human Services, Historic Preservation, Parks & Recreation, Public Safety, Sanitation, Service Requests, and Transportation. Below this is a section titled 'CHICAGO APPS' featuring four cards: 'Open Grid' (with a blue icon), 'Health Atlas' (with a blue star icon), 'Service Tracker' (with a yellow arrow icon), and 'Digital Collections' (with a gold bar icon). At the bottom left, there's an 'ABOUT THE OPEN DATA PORTAL' section with text and a 'More Tutorials' button. On the right side, there's a thumbnail for a YouTube video titled 'Data Portal Overview'.

CHICAGO DATA PORTAL Chicago Data Portal

BROWSE THE DATA CATALOG BY THE FOLLOWING CATEGORIES

Administration & Finance      Buildings      Community      Education      Environment  
Ethics      Events      FOIA      Facilities & Geo. Boundaries      Health & Human Services  
Historic Preservation      Parks & Recreation      Public Safety      Sanitation      Service Requests  
Transportation

CHICAGO APPS

**Open Grid**  
Explore the health of your neighborhood. Search around you or draw your own search: soon-to-be open businesses, new or renovated buildings, city services requested through 311, and points-of-interest in a single, easy-to-use interface.

**Health Atlas**  
Find health-related data that you can review, explore and compare over time and across communities.

**Service Tracker**  
Find out the status of your 311 service request. Provide the service request number to get current status and which department is working on your request.

**Digital Collections**  
Access digital archives related to Chicago's neighborhood history, making historical resources about Chicago's neighborhoods, parks, and people more accessible to residents and communities.

ABOUT THE OPEN DATA PORTAL

The City of Chicago's open data portal lets you find city data, lets you find facts about your neighborhood, lets you create maps and graphs about the city, and lets you freely download the data for your own analysis. Many of these datasets are updated at least once a day, and many of them are updated several times a day. The open data portal is required under an Executive Order signed by Mayor Rahm Emanuel on December 10, 2012.

New to the open data portal? Here is a playlist of videos that provide an overview of how you can use the open data portal. If you have any questions or feedback, email us.

See more videos on how to use the data portal on the Department of Innovation and Technology's YouTube channel at the link below.

More Tutorials

Watch on YouTube

# The data assignment

Deliverables for a multi-step assignment:

- Part 1: Week 1
  - Get data on Chicago's Food Inspections & Business Licenses
  - Load into Stage Schema (data as is)
  - Perform data profiling
- Part 2: Week 1
  - Create a dimensional data model
- Part 3: Week 2
  - Load data into that dimensional data model
- Part 4: Week 3
  - Create data visualizations analyzing food inspections

# Chicago Food Inspections



## Food Inspections

Health & Human Services

[View Data](#)

[Visualize](#) ▾

[Export](#)

[API](#)

...

This information is derived from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present. Inspections are performed by staff from the Chicago Department of Public Health's Food Protection Program using a standardized procedure. The results of the inspection are inputted into a database, then reviewed and approved by a State of Illinois Licensed Environmental Health Practitioner (LEHP). For descriptions of the data elements included in this set, go to <http://bit.ly/tS9IE8>

Note about 7/1/2018 change to food inspection procedures that affects the data in this dataset:  
<http://bit.ly/2yWd2JB>

Disclaimer: Attempts have been made to minimize any and all duplicate inspection reports. However, the dataset may still contain such duplicates and the appropriate precautions should be exercised when viewing or analyzing these data. The result of the inspections (pass, pass with conditions or fail) as well as the violations noted are based on the findings identified and reported by the inspector at the time of the inspection, and may not reflect the findings noted at other times. For more information about Food Inspections, go to [https://www.cityofchicago.org/city/en/depts/cdpf/provdrs/healthy\\_restaurants/svcs/food-protection-services.html](https://www.cityofchicago.org/city/en/depts/cdpf/provdrs/healthy_restaurants/svcs/food-protection-services.html).

[Less](#)

Updated  
August 14, 2022

Data Provided by  
City of Chicago



# Food Inspections

## Featured Content Using this Data

Report a problem	Predicting food inspections	Food Inspections - Dashboard
External Content	External Content	August 14, 2022 27.7K Views
		
Report food poisoning or another food safety problem to the Chicago Department of Public Health.	Read how the City of Chicago uses open data to predict where to send food inspectors.	This information is derived from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present. I...

## About this Dataset

Updated	Metadata
<b>August 14, 2022</b>	Data Owner Public Health
Data Last Updated	Metadata Last Updated
August 14, 2022	August 14, 2022
Date Created	Topics
August 8, 2011	Category Health & Human Services
Views	Tags
<b>429K</b>	food,inspections
Downloads	
<b>118K</b>	
Licensing and Attribution	
Data Provided by	Dataset Owner
City of Chicago	cocadmin
<a href="#">Contact Dataset Owner</a>	

## What's in this Dataset?

Rows **240K** Columns **17** Each row is a **Food Inspection**

## Columns in this Dataset

Column Name	Description	Type
Inspection ID		Number #
DBA Name	Doing Business As	Plain Text T
AKA Name	Also Known As	Plain Text T
License #		Number #
Facility Type		Plain Text T
Risk		Plain Text T
Address		Plain Text T
City		Plain Text T
State		Plain Text T
Zip		Number #
Inspection Date		Date & Time
Inspection Type		Plain Text T
Results		Plain Text T
Violations		Plain Text T
Latitude		Number #
Longitude		Number #
Location		Location



# Food Inspections

## Table Preview

Inspe...	DBA ...	AKA ...	Licen...	Facili...	Risk ...	Addr...	City	State	Zip	Inspe... ▾	Inspe... ▾	Res...
2562021	AMAZING...	AMAZING...	2215901	Daycare ...	Risk 1 (Hi...	11123-11...	CHICAGO	IL	60628	08/12/20...	Non-Insp...	No E...
2562071	ALBERTO'	J.B. ALBE...	2252794	Mobile Fo...	Risk 3 (L...	1326 W ...	CHICAGO	IL	60626	08/12/20...	Canvass	Out o...
2562052	LOS MAN...	LOS MAN...	2704314	Restaurant	Risk 1 (Hi...	5915 S K...	CHICAGO	IL	60629	08/12/20...	Canvass ...	Fail
2562033	Mc DONA...	Mc DONA...	1520647	Restaurant	Risk 2 (M...	1951 N W...	CHICAGO	IL	60647	08/12/20...	Canvass	Out o...
2562022	WENDY'S ...	WENDY'S	2431957	Restaurant	Risk 1 (Hi...	2610 W P...	CHICAGO	IL	60632	08/12/20...	Canvass ...	Pass
2562062	CARNITA...	CARNITA...	2749680	Restaurant	Risk 1 (Hi...	6356 S K...	CHICAGO	IL	60629	08/12/20...	Canvass	Pass
2562042	McDONA...	McDONA...	2487933	Restaurant	Risk 2 (M...	11601 W ...	CHICAGO	IL	60666	08/12/20...	Canvass	Out o...
2562036	MCDONA...	MCDONA...	1868077	Restaurant	Risk 2 (M...	111 W JA...	CHICAGO	IL	60604	08/12/20...	Canvass	Out o...
2562057	LEFT CO...	LEFT CO...	2621362	Restaurant	Risk 1 (Hi...	151 N FR...	CHICAGO	IL	60606	08/12/20...	Canvass ...	Pass
2562025	STEPPIN...	STEPPIN...	2659134	Children's...	Risk 1 (Hi...	8509-851...	CHICAGO	IL	60652	08/12/20...	License	Pass
2562041	McDONA...	McDONA...	2487937	Restaurant	Risk 2 (M...	11601 W ...	CHICAGO	IL	60666	08/12/20...	Canvass	Out o...
2562054	TIO LUIS ...	TIO LUIS ...	2535333	Restaurant	Risk 1 (Hi...	3856 S A...	CHICAGO	IL	60632	08/12/20...	Complaint	Fail
2562031	IMA'S	IMA'S	2857110	Restaurant	Risk 1 (Hi...	5033 N E...	CHICAGO	IL	60630	08/12/20...	License	Pass
2562039	MCDONA...	MCDONA...	1595934	Restaurant	Risk 2 (M...	3241 W N...	CHICAGO	IL	60647	08/12/20...	Canvass	Out o...

< Previous    Next >

Showing Food Inspections 1 to 14 out of 240,233

[View Data](#)   [Create Visualization](#)

## Related Content Using this Data

Food Inspections - Map

Public   August 14, 2022   28.2K Views

This information is derived from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present. I...

Food Inspections - Dashboard

Public   August 14, 2022   27.7K Views

This information is derived from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present. I...

Food Inspections - 7/1/2018 - Present

Public   August 14, 2022   3,882 Views

The definition of violations changed on 7/1/2018, as discussed in <http://bit.ly/2yWd2JB>. This filtered view show...

Food Inspections - 1/1/2010 - 6/30/2018

Public   August 14, 2022   2,434 Views

The definition of violations changed on 7/1/2018, as discussed in <http://bit.ly/2yWd2JB>. This filtered view show...



# Food Inspections



## Food Inspections

This information is derived from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present. Inspections are performed by staff from the Chicago

Find in this Dataset

[More Views](#) [Filter](#) [Visualize](#) [Export](#) [Discuss](#) [Embed](#) [About](#)

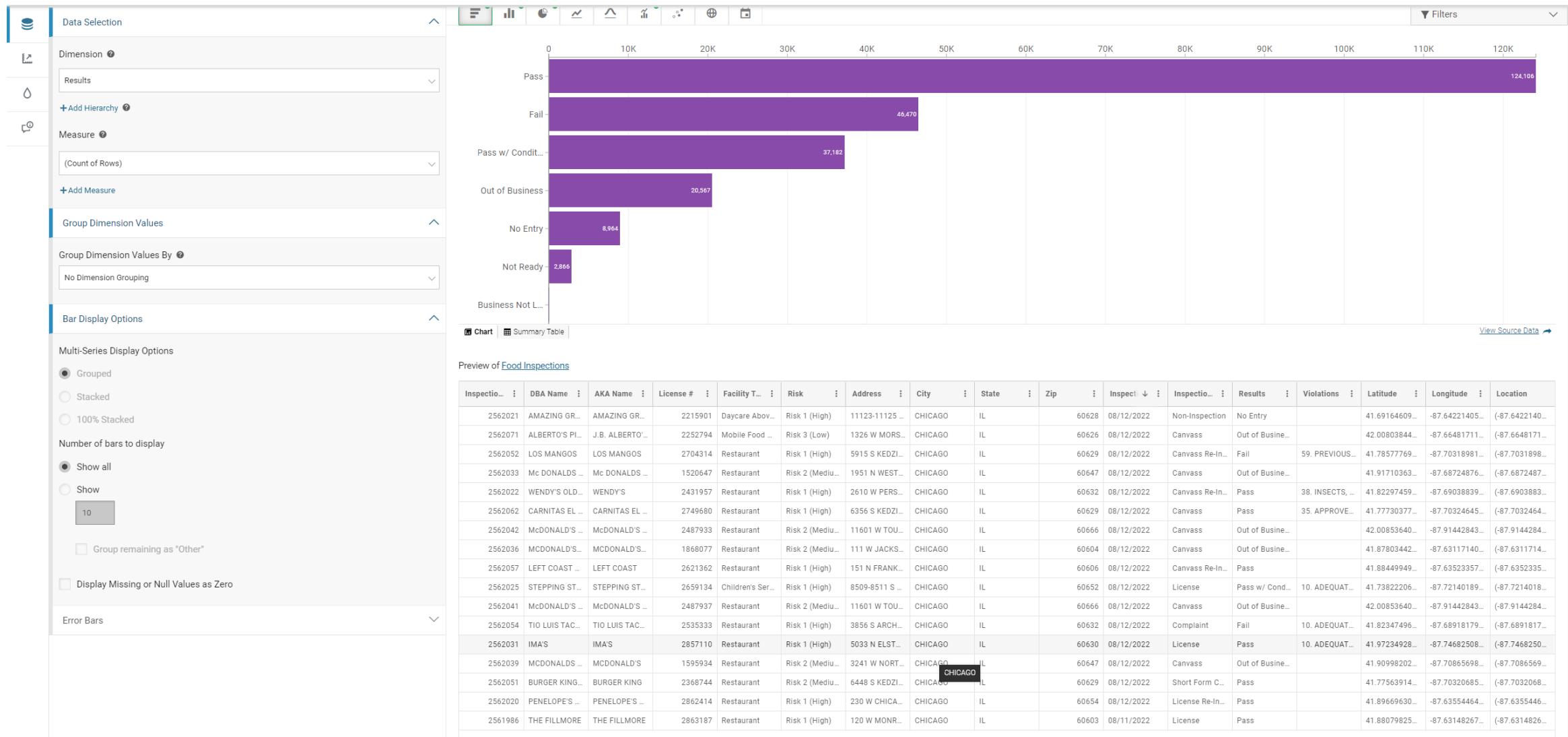
Inspection ID	DBA Name	AKA Name	License #	Facility Type	Risk	Address	City	State	Zip	Inspection Date	Inspection Type	Results	Violations	Latitude	Longitude	Location
2562021	AMAZING GRACE DAYCARE CE...	AMAZING GRACE DAYCARE CE...	2215901	Daycare Above and Un...	Risk 1 (High)	11123-11125 S HALSTED ST	CHICAGO	IL	60628	08/12/2022	Non-Inspection	No Entry		41.69164609748...	-87.6422140544...	(-87.6422140544...
2562071	ALBERTO'S PIZZA	J.B. ALBERTO'S PIZZA	2252794	Mobile Food Dispenser	Risk 3 (Low)	1326 W MORSE AVE	CHICAGO	IL	60626	08/12/2022	Canvass	Out of Business		42.00803844718...	-87.6648171190...	(-87.6648171190...
2562052	LOS MANGOS	LOS MANGOS	2704314	Restaurant	Risk 1 (High)	5915 S KEDZIE AVE	CHICAGO	IL	60629	08/12/2022	Canvass Re-Inspection	Fail	59. PREVIOUS PRIORITY FOUNDATI...	41.78577769569...	-87.7031898159...	(-87.7031898159...
2562033	Mc DONALD'S # 6771	Mc DONALD'S # 6771	1520647	Restaurant	Risk 2 (Medium)	1951 N WESTERN AVE	CHICAGO	IL	60647	08/12/2022	Canvass	Out of Business		41.91710363100...	-87.6872487670...	(-87.6872487670...
2562022	WENDY'S OLD FASHIONED HA...	WENDY'S	2431957	Restaurant	Risk 1 (High)	2610 W PERSHING RD	CHICAGO	IL	60632	08/12/2022	Canvass Re-Inspection	Pass	38. INSECTS, RODENTS, & ANIMALS ...	41.82297459861...	-87.6903883955...	(-87.6903883955...
2562062	CARNITAS EL OJON ESTILO MI...	CARNITAS EL OJON ESTILO MI...	2749680	Restaurant	Risk 1 (High)	6356 S KEDZIE AVE	CHICAGO	IL	60629	08/12/2022	Canvass	Pass	35. APPROVED THAWING METHODS...	41.77730377703...	-87.7032464534...	(-87.7032464534...
2562042	MCDONALD'S # 22821	McDONALD'S (T2 E/F)	2487933	Restaurant	Risk 2 (Medium)	11601 W TOUHY AVE	CHICAGO	IL	60666	08/12/2022	Canvass	Out of Business		42.00853640086...	-87.9144284392...	(-87.9144284392...
2562036	MCDONALD'S #20104	MCDONALD'S #20104	1868077	Restaurant	Risk 2 (Medium)	111 W JACKSON BLVD	CHICAGO	IL	60604	08/12/2022	Canvass	Out of Business		41.87803442833...	-87.6311714069...	(-87.6311714069...
2562057	LEFT COAST FOOD + JUICE	LEFT COAST	2621362	Restaurant	Risk 1 (High)	151 N FRANKLIN ST	CHICAGO	IL	60606	08/12/2022	Canvass Re-Inspection	Pass		41.88449949265...	-87.6352335760...	(-87.6352335760...
2562025	STEPPING STONES LEARNING ...	STEPPING STONES LEARNING...	2659134	Children's Services Fac...	Risk 1 (High)	8509-8511 S PULASKI RD	CHICAGO	IL	60652	08/12/2022	License	Pass w/ Conditions	10. ADEQUATE HANDWASHING SIN...	41.7382206948...	-87.7214018961...	(-87.7214018961...
2562041	MCDONALD'S # 17274	McDONALD'S (T3 L4)	2487937	Restaurant	Risk 2 (Medium)	11601 W TOUHY AVE	CHICAGO	IL	60666	08/12/2022	Canvass	Out of Business		42.00853640086...	-87.9144284392...	(-87.9144284392...
2562054	TIO LUIS TACOS AND CAFE	TIO LUIS TACOS AND CAFE	2535333	Restaurant	Risk 1 (High)	3856 S ARCHER AVE	CHICAGO	IL	60632	08/12/2022	Complaint	Fail	10. ADEQUATE HANDWASHING SIN...	41.82347496793...	-87.6891817938...	(-87.6891817938...
2562031	IMA'S	IMA'S	2857110	Restaurant	Risk 1 (High)	5033 N ELSTON AVE	CHICAGO	IL	60630	08/12/2022	License	Pass	10. ADEQUATE HANDWASHING SIN...	41.97234928256...	-87.7468250857...	(-87.7468250857...
2562039	MCDONALDS #29307	MCDONALD'S	1595934	Restaurant	Risk 2 (Medium)	3241 W NORTH AVE	CHICAGO	IL	60647	08/12/2022	Canvass	Out of Business		41.0998202237...	-87.7086569819...	(-87.7086569819...
2562051	BURGER KING RESTAURANT # ...	BURGER KING	2368744	Restaurant	Risk 2 (Medium)	6448 S KEDZIE AVE	CHICAGO	IL	60629	08/12/2022	Short Form Complaint	Pass		41.77563914941...	-87.7032068590...	(-87.7032068590...
2562020	PENELOPE'S VEGAN TAQUERIA	PENELOPE'S VEGAN TAQUERIA	2862414	Restaurant	Risk 1 (High)	230 W CHICAGO AVE	CHICAGO	IL	60654	08/12/2022	License Re-Inspection	Pass		41.89669630689...	-87.6355446422...	(-87.6355446422...
2561986	THE FILLMORE	THE FILLMORE	2863187	Restaurant	Risk 1 (High)	120 W MONROE ST	CHICAGO	IL	60603	08/11/2022	License	Pass		41.88079825522...	-87.6314826706...	(-87.6314826706...
2561974	BROWN BAG SEAFOOD CO.	BROWN BAG SEAFOOD CO.	2845777	Restaurant	Risk 1 (High)	1 W DIVISION ST	CHICAGO	IL	60610	08/11/2022	License	Pass	53. TOILET FACILITIES: PROPERLY C...	41.9038104554...	-87.6287400477...	(-87.6287400477...
2561996	QUESADILLA LA REINA DEL SU...	QUESADILLA LA REINA DEL SUR	2840896	Restaurant	Risk 1 (High)	2237 N WESTERN AVE	CHICAGO	IL	60647	08/11/2022	License	Pass w/ Conditions	3. MANAGEMENT, FOOD EMPLOYEE ...	41.92276684658...	-87.6874293195...	(-87.6874293195...
2561991	MAGE EDUCATION	MIDWEST ACADEMY FOR GIFT...	2851164	Daycare Above and Un...	Risk 1 (High)	900 N FRANKLIN ST	CHICAGO	IL	60610	08/11/2022	License	Fail	10. ADEQUATE HANDWASHING SIN...	41.89899799424...	-87.6359206731...	(-87.6359206731...
2562006	SAME DAY CAFE	SAME DAY CAFE	2840601	Restaurant	Risk 3 (Low)	2651 N KEDZIE AVE	CHICAGO	IL	60647	08/11/2022	License	Not Ready		41.92994575551...	-87.7072266251...	(-87.7072266251...
2561994	CERMAK PRODUCE	CERMAK PRODUCE	1770942	Grocery Store	Risk 1 (High)	3311 W 26TH ST	CHICAGO	IL	60623	08/11/2022	Complaint	Fail	3. MANAGEMENT, FOOD EMPLOYEE ...	41.84436672874...	-87.7078980537...	(-87.7078980537...
2561938	POPEYES	POPEYES	1621074	Restaurant	Risk 1 (High)	5353 N HARLEM AVE	CHICAGO	IL	60656	08/10/2022	Canvass Re-Inspection	Pass		41.97862919293...	-87.8068449342...	(-87.8068449342...
2561919	ERNEST & YOUNG CHICAGO C...	ERNEST & YOUNG CHICAGO C...	2862970	Restaurant	Risk 2 (Medium)	155 N WACKER DR	CHICAGO	IL	60606	08/10/2022	License Re-Inspection	Pass		41.88461561705...	-87.6366823578...	(-87.6366823578...
2561925	FRESH MARKET PLACE	FRESH MARKET PLACE	1382145	Grocery Store	Risk 1 (High)	2600 N CENTRAL AVE	CHICAGO	IL	60639	08/10/2022	Complaint Re-Inspection	Pass w/ Conditions	10. ADEQUATE HANDWASHING SIN...	41.92764767964...	-87.7662665210...	(-87.7662665210...
2561965	HALAL PERI PERI CHICKEN	HALAL PERI PERI CHICKEN	2688987	Restaurant	Risk 1 (High)	2350 W DEVON AVE	CHICAGO	IL	60659	08/10/2022	Canvass	Pass	47. FOOD & NON-FOOD CONTACT S...	41.99784774225...	-87.6894869593...	(-87.6894869593...
2561940	LEFT COAST FOOD + JUICE	LEFT COAST	2621362	Restaurant	Risk 1 (High)	151 N FRANKLIN ST	CHICAGO	IL	60606	08/10/2022	Canvass	Fail	16. FOOD-CONTACT SURFACES: CLE...	41.88449949265...	-87.6352335760...	(-87.6352335760...
2561966	DEL SEOUL	DEL SEOUL	2060126	Restaurant	Risk 1 (High)	2568-2570 N CLARK ST	CHICAGO	IL	60614	08/10/2022	Canvass Re-Inspection	Pass		41.92944795929...	-87.6429428904...	(-87.6429428904...
2561951	ADOM AFRICAN MARKET		2863133	All		118 E 47TH ST	CHICAGO	IL	60653	08/10/2022	License	Not Ready		41.80940933516...	-87.6220275187...	(-87.6220275187...
2561952	AZTECA JALISCO RESTAURAN...	AZTECA JALISCO	2807527	Restaurant	Risk 1 (High)	3550 N AUSTIN AVE	CHICAGO	IL	60634	08/10/2022	Canvass	Fail	25. CONSUMER ADVISORY PROVIDE...	41.94548695122...	-87.7766373253...	(-87.7766373253...
2561946	JUDAH NORTH	JUDAH NORTH	2665291	Daycare (Under 2 Years)	Risk 1 (High)	939-941 N PULASKI RD	CHICAGO	IL	60651	08/10/2022	License	Pass	38. INSECTS, RODENTS, & ANIMALS ...	41.89836707137...	-87.7260278440...	(-87.7260278440...
2561930	IIINO	IIINO	2185371	Restaurant	Risk 1 (High)	2638 N LINCOLN AVE	CHICAGO	IL	60614	08/10/2022	Canvass	Pass w/ Conditions	14. REQUIRED RECORDS AVAILAB...	41.92975946002...	-87.6550107681...	(-87.6550107681...

&lt; Previous Next &gt;

Showing Food Inspections 1 to 100 out of 240,233

# Visualization

## Configure Visualization





# Food Inspections

## Featured Content Using this Data

Report a problem	Predicting food inspections	Food Inspections - Dashboard
External Content	External Content	August 14, 2022 27.7K Views
		
Report food poisoning or another food safety problem to the Chicago Department of Public Health.	Read how the City of Chicago uses open data to predict where to send food inspectors.	This information is derived from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present. I...

## About this Dataset

Updated	<b>August 14, 2022</b>				
Data Last Updated	Metadata Last Updated				
August 14, 2022	August 14, 2022				
Date Created	Topics				
August 8, 2011	<table border="1"><tr><td>Category</td><td>Health &amp; Human Services</td></tr><tr><td>Tags</td><td>food,inspections</td></tr></table>	Category	Health & Human Services	Tags	food,inspections
Category	Health & Human Services				
Tags	food,inspections				
Views	Downloads				
<b>429K</b>	<b>118K</b>				
Licensing and Attribution					
Data Provided by	Dataset Owner				
City of Chicago	cocadmin				
<a href="#">Contact Dataset Owner</a>					

## What's in this Dataset?

Rows **240K** Columns **17** Each row is a **Food Inspection**

## Columns in this Dataset

Column Name	Description	Type
Inspection ID		Number #
DBA Name	Doing Business As	Plain Text T
AKA Name	Also Known As	Plain Text T
License #		Number #
Facility Type		Plain Text T
Risk		Plain Text T
Address		Plain Text T
City		Plain Text T
State		Plain Text T
Zip		Number #
Inspection Date		Date & Time
Inspection Type		Plain Text T
Results		Plain Text T
Violations		Plain Text T
Latitude		Number #
Longitude		Number #
Location		Location



# Food Inspections

JUNE 29, 2018 / BY OPEN DATA PORTAL TEAM / IN OPEN DATA . DATA PORTAL

## FOOD INSPECTION VIOLATIONS CHANGES

On 7/1/2018, the Chicago Department of Public Health's Food Protection unit will be changing its [definition of violations](#).

Structurally, this will not affect the Food Inspections dataset. The same columns will exist and continue to be populated. The Violations column will still contain the violation number, description, and comments; with separate violations delimited by the pipe character with a space on each side (i.e., " | "). However, the actual violations will change substantially so users are advised to test and potentially modify any processes that depend on this column.

While the Results values used will not change, the distribution of values – both for individual businesses and groupings of businesses, up to Chicago as a whole – may change, especially in the period immediately following 7/1/2018. Therefore, we recommend care in interpreting changes in the data. In particular, we advise considering the possibility that apparent changes in long-term trends could be artifacts of this redefinition of violation types.

In order to ease use of the data, we have created two [filtered views](#) – one showing inspection records through 6/30/2018 and one showing [inspection records from 7/1/2018 forward](#). As with all datasets, users can also find these views at the bottom of the "primer" page or in the "More Views" section of the "grid view" page. For virtually all purposes, including the SODA API, one can interact with filtered views as if they were datasets in their own right. Naturally, for uses that do not require segmenting the data in this way, users can continue using the Food Inspections dataset, itself.

As always, please contact the City of Chicago Open Data Team at [dataportal@cityofchicago.org](mailto:dataportal@cityofchicago.org) or [@ChicagoCDO](https://twitter.com/ChicagoCDO) with any questions related to using the Data Portal. However, please direct any subject matter questions about food inspections to the [Department of Public Health](mailto:Department of Public Health) at [cdphfood@cityofchicago.org](mailto:cdphfood@cityofchicago.org) or (312) 746-8030.



Accessibility

Search



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## Public Health

Healthy Chicago

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Home / Departments / Public Health / Health Inspections / Services / Food Protection Services

## Food Protection Services

Chicago is home to 16,000 food establishments like restaurants, grocery stores, bakeries, wholesalers, lunchrooms, mobile food vendors and more. Our business is food safety and sanitation with one goal, to prevent the spread of food-borne disease. We do this by inspecting food businesses, responding to complaints and food recalls.

Effective February 1, 2019, the City of Chicago implemented new requirements that all food service establishments must follow. These requirements are based on the latest science and conform to federal guidelines and to state and local laws.

- [2019 Food Advisory Disclosure and Reminder](#)
- [2019 Chicago Food Code Major Changes](#)
- [Customer Service Survey for Food Service Managers/Owners](#)
- [Employee Health Policy](#)
- [Food Code Rules](#)
- [Food Establishment Complaint](#)
- [Food Protection Program FAQ](#)
- [Food Service Sanitation Certificate and Summer Festival Certificate](#)
- [Food Service Sanitation City of Chicago Municipal Code Ordinance](#)
- [Healthy Kids Meal Information](#)
- [Juicing Requirements](#)
- [Labeling Summary for Packaged Food or Retail Sales](#)
- [Mobile Food Vendor](#)
- [Pushcart Food Vendor](#)
- [Register a Cottage Food Operation](#)
- [Restaurant and Food Service Inspection Reports](#)
- [Restaurant Inspection](#)
- [Summer Food Program / Child and Adult Care Food Program Guidelines](#)
- [Understand Health Code Requirements for Food Establishments](#)
- [Vomit and Diarrhea Cleaning Procedure](#)



### Service Facts

Department:

Public Health

Health Inspections

### Related Links

Updated Food Inspection Data is [Here](#)[Food Safety | CDC](#)

Food Recalls

### I Want To

[Apply For](#) +[Check Status Of](#) +[Find / Get](#) +[Pay For/Buy](#) +[Register](#) +[Report/File](#) +[Request](#) +[Sign up for/Volunteer](#) +

# Chicago Food Inspections

The results of the inspection are inputted into a database, then reviewed and approved by a State of Illinois Licensed Environmental Health Practitioner (LEHP). For descriptions of the data elements included in this set, go to <http://bit.ly/tS9IE8>

## Title: Food Inspections

**Brief Description:** This dataset contains information from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present.

**Description:** This information is derived from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present. Inspections are performed by staff from the Chicago Department of Public Health's Food Protection Program. Inspections are done using a standardized procedure. The results of the inspection are inputted into a database, then reviewed and approved by a State of Illinois Licensed Environmental Health Practitioner (LEHP). A subset of data elements are extracted from this database and downloaded into this data portal. These elements are:

- DBA: 'Doing business as.' This is legal name of the establishment.
- AKA: 'Also known as.' This is the name the public would know the establishment as.
- License number: This is a unique number assigned to the establishment for the purposes of licensing by the Department of Business Affairs and Consumer Protection.
- Type of facility: Each establishment is described by one of the following: bakery, banquet hall, candy store, caterer, coffee shop, day care center (for ages less than 2), day care center (for ages 2 – 6), day care center (combo, for ages less than 2 and 2 – 6 combined), gas station, Golden Diner, grocery store, hospital, long term care center(nursing home), liquor store, mobile food dispenser, restaurant, paleteria, school, shelter, tavern, social club, wholesaler, or Wrigley Field Rooftop.
- Risk category of facility: Each establishment is categorized as to its risk of adversely affecting the public's health, with 1 being the highest and 3 the lowest. The frequency of inspection is tied to this risk, with risk 1 establishments inspected most frequently and risk 3 least frequently.
- Street address, city, state and zip code of facility: This is the complete address where the facility is located.
- Inspection date: This is the date the inspection occurred. A particular establishment is likely to have multiple inspections which are denoted by different inspection dates.
- Inspection type: An inspection can be one of the following types: canvass, the most common type of inspection performed at a frequency relative to the risk of the establishment; consultation, when the inspection is done at the request of the owner prior to the opening of the establishment; complaint, when the inspection is done in response to a complaint against the establishment; license, when the inspection is done as a requirement for the establishment to receive its license to operate; suspect food poisoning, when the inspection is done in response to one or more persons claiming to have gotten ill as a result of eating at the establishment (a specific type of complaint-

based inspection); task-force inspection, when an inspection of a bar or tavern is done. Re-inspections can occur for most types of these inspections and are indicated as such.

- Results: An inspection can pass, pass with conditions or fail. Establishments receiving a 'pass' were found to have no critical or serious violations (violation number 1-14 and 15-29, respectively). Establishments receiving a 'pass with conditions' were found to have critical or serious violations, but these were corrected during the inspection. Establishments receiving a 'fail' were found to have critical or serious violations that were not correctable during the inspection. An establishment receiving a 'fail' does not necessarily mean the establishment's licensed is suspended. Establishments found to be out of business or not located are indicated as such.
- Violations: An establishment can receive one or more of 45 distinct violations (violation numbers 1-44 and 70). For each violation number listed for a given establishment, the requirement the establishment must meet in order for it to NOT receive a violation is noted, followed by a specific description of the findings that caused the violation to be issued.

**Disclaimer:** Attempts have been made to minimize any and all duplicate inspection reports. However, the dataset may still contain such duplicates and the appropriate precautions should be exercised when viewing or analyzing these data. The result of the inspections (pass, pass with conditions or fail) as well as the violations noted are based on the findings identified and reported by the inspector at the time of the inspection, and may not reflect the findings noted at other times.

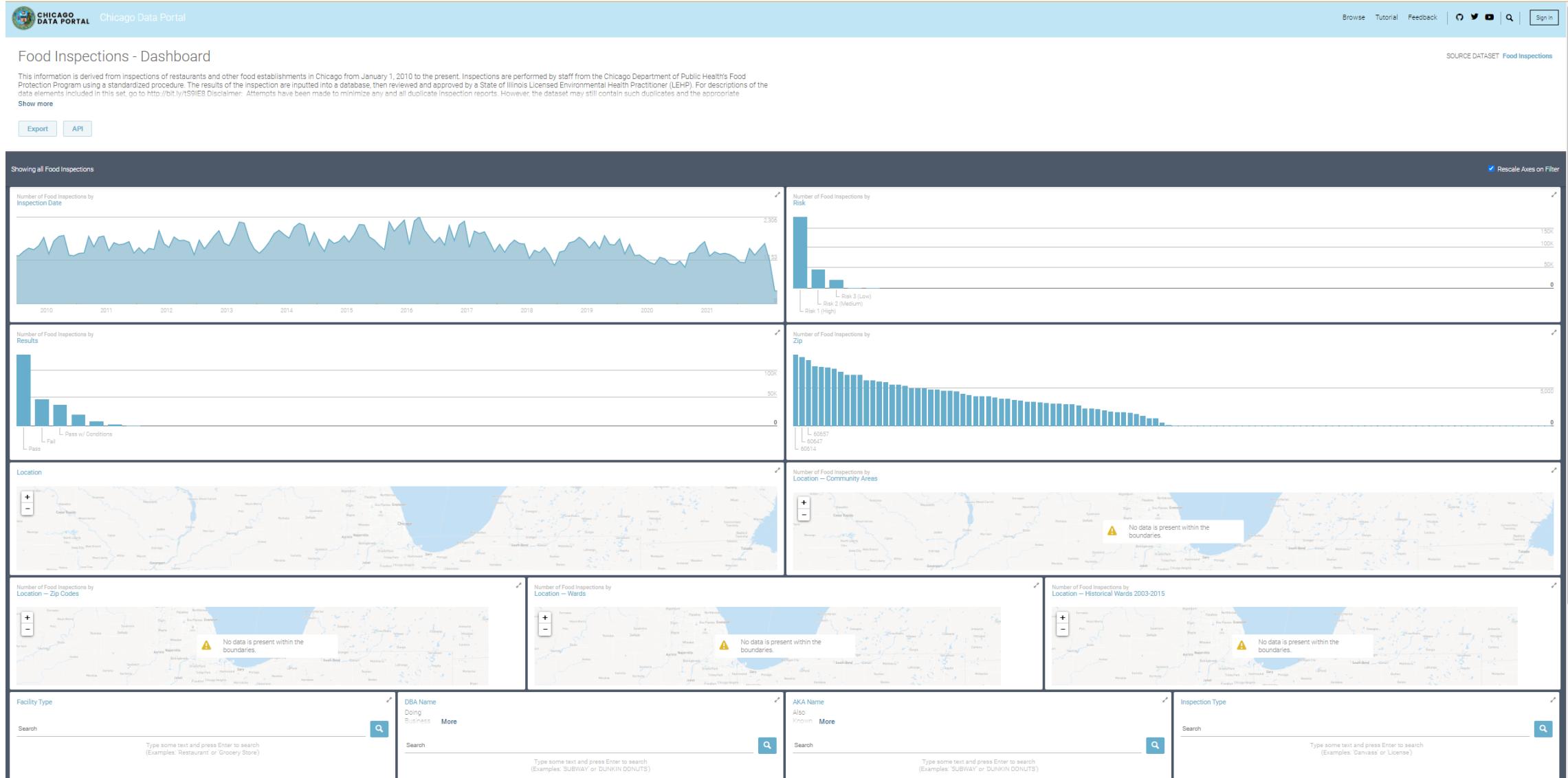
**Data Owner:** Chicago Department of Public Health

**Time Period:** 2010 - Present

**Frequency:** This database will be updated with information from new inspections each Friday.

**Related Applications:** N/A

# Food Inspections - Dashboard



# Business Licenses

## Business Licenses

Community & Economic Development

[View Data](#) [Visualize](#) [Export](#) [API](#) [...](#)

Business licenses issued by the Department of Business Affairs and Consumer Protection in the City of Chicago from 2002 to the present. This dataset contains a large number of records/rows of data and may not be viewed in full in Microsoft Excel. Therefore, when downloading the file, select CSV from the Export menu. Open the file in an ASCII text editor, such as Notepad or Wordpad, to view and search.

Data fields requiring description are detailed below.

**APPLICATION TYPE:** 'ISSUE' is the record associated with the initial license application. 'RENEW' is a subsequent renewal record. All renewal records are created with a term start date and term expiration date. 'C\_LOC' is a change of location record. It means the business moved. 'C\_CAPA' is a change of capacity record. Only a few license types may file this type of application. 'C\_EXPA' only applies to businesses that have liquor licenses. It means the business location expanded. 'C\_SBA' is a change of business activity record. It means that a new business activity was added or an existing business activity was marked as expired.

**LICENSE STATUS:** 'AAI' means the license was issued. 'AAC' means the license was cancelled during its term. 'REV' means the license was revoked. 'REA' means the license revocation has been appealed.

**LICENSE STATUS CHANGE DATE:** This date corresponds to the date a license was cancelled (AAC), revoked (REV) or appealed (REA).

Business License Owner information may be accessed at:

<https://data.cityofchicago.org/dataset/Business-Owners/ezma-pppn>. To identify the owner of a business, you will need the account number or legal name, which may be obtained from this Business Licenses dataset.

Data Owner: Business Affairs and Consumer Protection. Time Period: January 1, 2002 to present. Frequency: Data is updated daily.

Less

Updated  
September 27, 2022

Data Provided by  
City of Chicago

### About this Dataset

Mute Dataset

Updated  
**September 27, 2022**

Data Last Updated      Metadata Last Updated  
September 27, 2022      November 12, 2020

Date Created  
September 27, 2011

Views      Downloads  
**181K**      **206K**

Data Provided by      Dataset Owner  
City of Chicago      cocadmin

[Contact Dataset Owner](#)

#### Metadata

Data Owner	Business Affairs & Consumer Protection
Time Period	2002 to present
Frequency	Data is updated daily

#### Attachments

[cityofchicago\\_business\\_licenses\\_dataset\\_description.pdf](#)

#### Topics

Category	Community & Economic Development
Tags	business, licenses

#### Licensing and Attribution

License	The license for this dataset is unspecified
Source Link	<a href="http://www.cityofchicago.org">http://www.cityofchicago.org</a>

### What's in this Dataset?

Rows      Columns  
**1.08M**      **34**      Each row is a  
**Business Licenses**

# Business Licenses

## Columns in this Dataset

Column Name	Description	Type		
ID	A calculated ID for each record.	Plain Text	T	▼
LICENSE ID	An internal database ID for each record. Each license can have...	Number	#	▼
ACCOUNT NUMBER	The account number of the business owner, which will stay co...	Number	#	▼
SITE NUMBER	An internal database ID indicating the location of this licensed ...	Number	#	▼
LEGAL NAME		Plain Text	T	▼
DOING BUSINESS AS NAME		Plain Text	T	▼
ADDRESS		Plain Text	T	▼
CITY		Plain Text	T	▼
STATE		Plain Text	T	▼
ZIP CODE		Plain Text	T	▼
WARD	The ward where the business is located.	Number	#	▼
PRECINCT	The precinct within the ward where the business is located. N...	Number	#	▼
WARD PRECINCT	The ward and precinct where the business is located. This col...	Plain Text	T	▼
POLICE DISTRICT		Number	#	▼
LICENSE CODE	A code for the type of license. Each code value corresponds to...	Number	#	▼
LICENSE DESCRIPTION		Plain Text	T	▼

BUSINESS ACTIVITY ID	A code for the business activity. Each ID value corresponds to ...	Plain Text	T	▼
BUSINESS ACTIVITY		Plain Text	T	▼
LICENSE NUMBER	The license number known to the public and generally used in ...	Number	#	▼
APPLICATION TYPE		Plain Text	T	▼
APPLICATION CREATED DATE	The date the business license application was created. RENE...	Date & Time	█	▼
APPLICATION REQUIREMENTS COMPLETE	For all application types except RENEW, this is the date all req...	Date & Time	█	▼
PAYMENT DATE		Date & Time	█	▼
CONDITIONAL APPROVAL	This pertains to applications that contain liquor licenses. Cust...	Plain Text	T	▼
LICENSE TERM START DATE		Date & Time	█	▼
LICENSE TERM EXPIRATION DATE		Date & Time	█	▼
LICENSE APPROVED FOR ISSUANCE	This is the date the license was ready for issuance. Licenses ...	Date & Time	█	▼
DATE ISSUED		Date & Time	█	▼
LICENSE STATUS		Plain Text	T	▼
LICENSE STATUS CHANGE DATE		Date & Time	█	▼
SSA	Special Service Areas are local tax districts that fund expande...	Plain Text	T	▼
LATITUDE		Number	#	▼
LONGITUDE		Number	#	▼
LOCATION		Location	📍	▼

# Business Licenses

View Data   Visualize   Export   API   ...

Updated  
September 27, 2022

Data Provided by  
City of Chicago

Download Business Licenses

Download Business Licenses for offline use in other applications.

CSV   CSV for Excel

Additional Formats

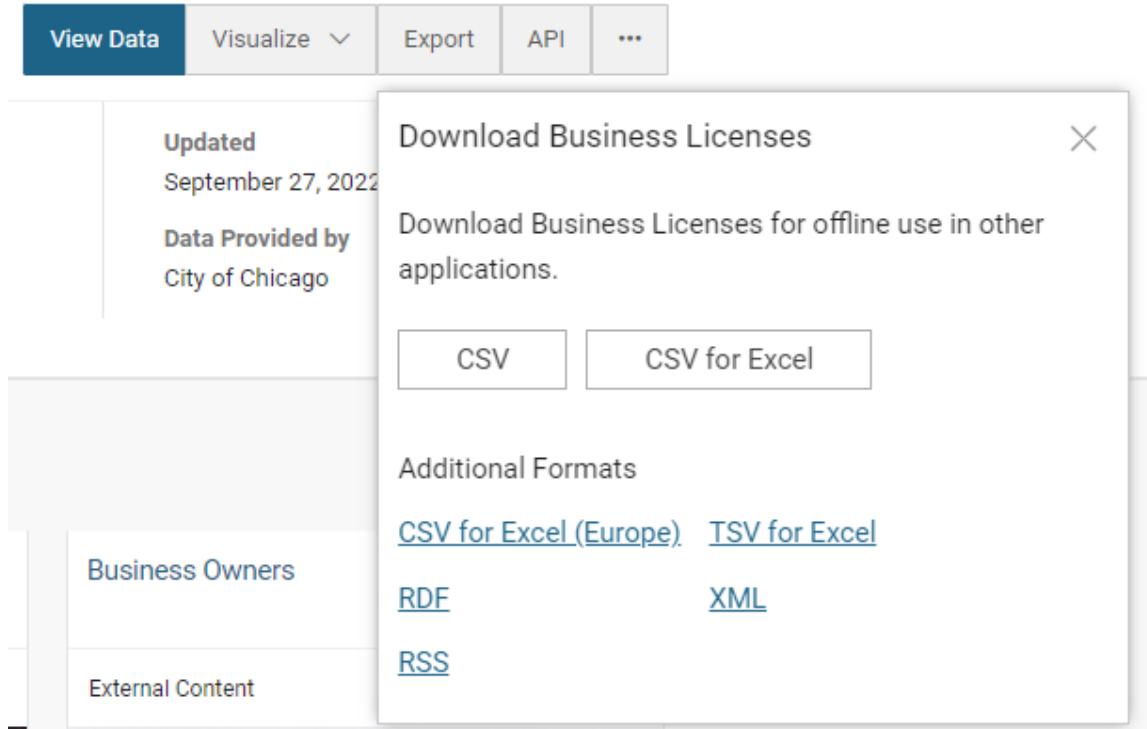
[CSV for Excel \(Europe\)](#)   [TSV for Excel](#)

RDF   XML

RSS

Business Owners

External Content



## Access this Dataset via OData

Use OData to open the dataset in tools like Excel or Tableau. This provides a direct connection to the data that can be refreshed on-demand within the connected application.

Tableau users should select the OData v2 endpoint option.

[Socrata OData Documentation](#)

### OData Endpoint

<https://data.cityofchicago.org/api/odata/v4/r5kz-chrr>

OData V4

Copy

Business\_Licenses.tsv

# Business Licenses

 CHICAGO DATA PORTAL Chicago Data Portal

Browse Tutorial Feedback |     [Sign In](#)

Business Licenses  
Business licenses issued by the Department of Business Affairs and Consumer Protection in the City of Chicago from 2002 to the present. This dataset contains a large number of records/rows of →

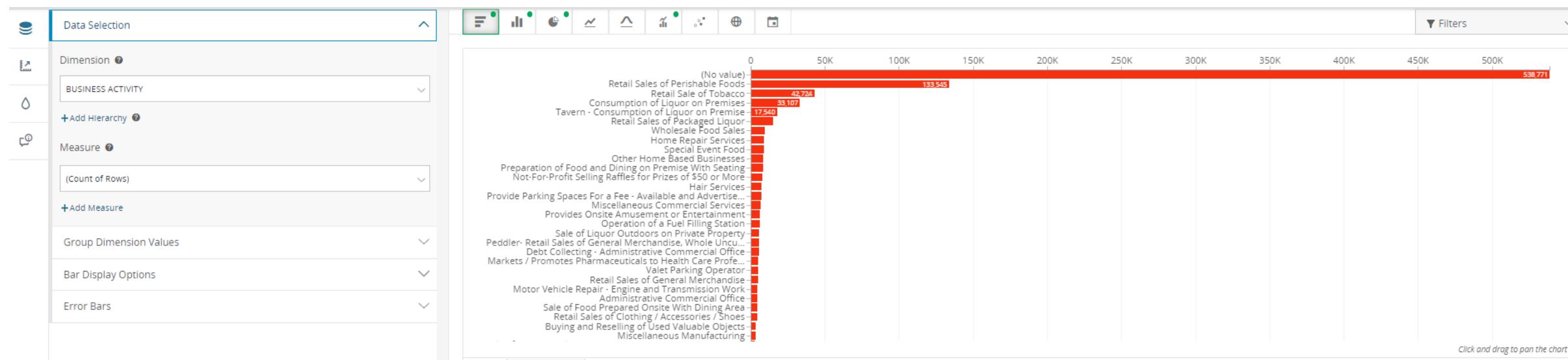
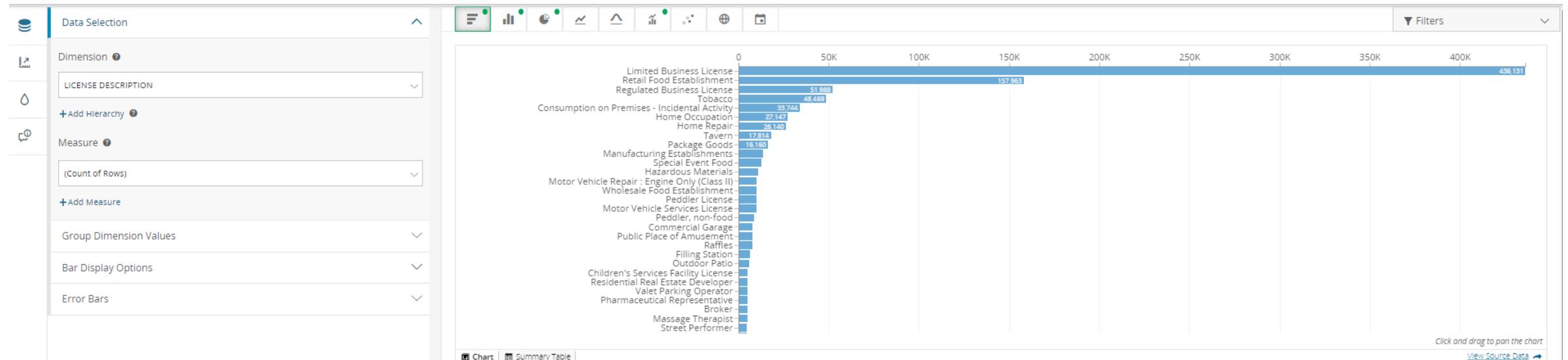
ID	LICENSE #	ACCOUNT NUMBER	SITE NUMBER	LEGAL NAME	DOING BUSINESS AS NAME	ADDRESS	CITY	STATE	ZIP CODE	WARD	PRECINCT	WARD PRECINCT	POLICE DISTRICT	LICENSE CODE	LICENSE DESCRIPTION	BUSINESS ACTIVITY ID	BUSINESS A
16570-20000...	76522	51755	1	THORNDALE CONS...	THORNDALE CONSTRUCTION	11243 CHESAPEAKE PLAC ...	WESTCH...	IL	60154					1010	Limited Business License		
25710-19960...	119268	52896	1	PAT HAMILTON, INC	PAT HAMILTON CO.	17021 S MAGNOLIA DR 1ST	HAZEL C...	IL	60429					1010	Limited Business License		
2712733-202...	2796409	461483	3	J & H DESIGNS INC.	DCI Furniture	2729 W DEVON AVE	CHICAGO	IL	60659	50	50-			1010	Limited Business License	764	Retail Sales o
53383-20150...	2375632	38691	1	MEE INC	MEE INC	11845 W LARAWAY RD 1	FRANKFO...	IL	60423					1010	Limited Business License		
1847540-200...	1940503	89020	45	FEDEX OFFICE AND...	FEDEX OFFICE AND PRINT SVCS, I...	2301 S DR MARTIN LUTHER...	CHICAGO	IL	60616	4	3	4-3	1	1010	Limited Business License		
50776-20040...	1458339	56730	1	FREDERICK MCGEE	MCGEE'S REMODELING	1009 S 11TH AVE 1	MAYWOOD	IL	60153					1011	Home Repair		
63024-19990...	275807	19866	1	SWISTUN, INC.	SWISTUN ALUMINUM INC	65 E PALATINE RD 117	PROSPEC...	IL	60070					1010	Limited Business License		
67045-19990...	286129	59758	1	LAURENCE DUREKE	LAVERA	12440 S ASHLAND AVE 1ST	CALUMET...	IL	60643					1315	Mobile Food Dispenser		
1927-20220...	2858237	62544	3	HYATT CORPORAT...	CRYSTAL BALLROOM/PLAZA BAL...	151 E WACKER DR PLAZA	CHICAGO	IL	60601	42	44	42-44	1	1477	Outdoor Patio	784	Sale of Liquor
39535-20060...	1660219	54914	1	RILEY HEATING & C...	RILEY HEATING & COOLING	16 N 9 TH AVE 1ST	MELROSE...	IL	60160					1011	Home Repair		
1888980-201...	2454132	61178	3	NORTHERN BUILDE...	NORTHERN BUILDERS, INC.	5060 RIVER RD 11	SCHILLE...	IL	60176					1010	Limited Business License		
79838-20000...	310105	48577	1	NAZI ORAHA	IMPERIAL CLEANING SERVICE	26 STACY CT 1ST	GLENVIEW	IL	60025					1010	Limited Business License		
2113456-201...	2276800	365474	1	7 DAYS A WEEK INC.	7 DAYS A WEEK INC.	4714 MAIN ST 3C	LISL...	IL	60532					1010	Limited Business License		
1121240-201...	1121240	21818	3	PRECISION CONTR...	PRECISION CONTRACTING SERV...	1011 E TOUHY AVE 210	DES PLA...	IL	60018					1010	Limited Business License		
30465-20010...	1104543	31585	1	MELVIN ARMSTRO...	DMC REFRIGERATION HEATING &...	17935 CHAPPEL AVE MAIN	LANSING	IL	60438					1010	Limited Business License		
17220-20160...	2453785	28261	1	HOLLWAY MEYER'S...	HOLLWAY MEYER'S INC	950 165TH ST 1	HAMMON...	IN	46324					1010	Limited Business License		
55461-20010...	1112535	57558	1	STERLING ELEVAT...	STERLING ELEVATOR SERVICE CO	2510 E DEMPSTER 208	DES PLA...	IL	60016					1010	Limited Business License		
78446-20010...	1115264	67310	1	360NETWORKS (US...	360NETWORKS (USA) INC.	12202 AIRPORT WAY 300	BROOMFI...	CO	80021					1010	Limited Business License		
1140501-201...	1140501	213133	1	MICHAEL BRUCE V...	MIKE VLASEK INC	7305 W 157TH ST 3RD 3B	ORLAND ...	IL	60462					1010	Limited Business License		
83699-20010...	1115778	68530	1	URGENT HEATING ...	URGENT HEATING	560 CHESTER AVE 1ST	ELGIN	IL	60120					1010	Limited Business License		
1140502-201...	1140502	213133	1	MICHAEL BRUCE V...	MIKE VLASEK INC	7305 W 157TH ST 3RD 3B	ORLAND ...	IL	60462					1011	Home Repair		
1621057-201...	2375471	22721	1	GEM COMMERCIAL...	GEM COMMERCIAL INC	1302 INDUSTRIAL DR UNITA	ITASCA	IL	60143					1010	Limited Business License		
44918-20011...	1127295	465	2	MILLARD MAINTEN...	STANDARD WINDOW CLEANING CO	7301 N CICERO AVE 1ST	LINCOLN...	IL	60646					1010	Limited Business License		
1932-20220...	2858248	62544	18	HYATT CORPORAT...	STETSON'S	151 E WACKER DR PLAZA	CHICAGO	IL	60601	42	44	42-44	1	1006	Retail Food Establishment	775	Retail Sales o
69904-20020...	1202098	21298	2	ILLINOIS QUALITY...	ILL QUALITY BUILDERS	600 LOCUST 1ST F	WILMETTE	IL	60091					1010	Limited Business License		
37359-20160...	2448239	54581	1	HAGEN DECORATO...	NORTH CENTRAL INSULATION	3204 PLEASANT ST 1ST	ALTOONA	WI	54720					1010	Limited Business License		
55014-20020...	1201283	18088	3	AMERITECH COMM...	AMERITECH COMMUNICATIONS I...	9525 W BRYN MAWR AVE 6...	ROSEMBO...	IL	60018					1010	Limited Business License		
37444-20020...	1205853	33414	1	MAESTRO GENERA...	MAESTRO GENERAL CONTRACTO...	411 SPRINGHILL DR HOME	ROSELLE	IL	60172					1011	Home Repair		
17129-20020...	1215056	85715	2	FCI CONSTRUCTIO...	FCI CONSTRUCTION, INC.	735 N YALE A	VILLA PA...	IL	60181					1010	Limited Business License		
71647-20030...	1309915	21652	1	GEMINI HEATING &...	GEMINI HTG & AIR CONDITIONING	8 FRANCES CT 1ST	BUFFALO	IL	60089					1011	Home Repair		
1594885-200...	1652038	7700	1	WARNING CHARTER...	WARNING CHARTER SERVICE INC	4845 W 167TH ST 300	OAK FOR...	IL	60452					1010	Limited Business License		
37443-20030...	1313198	33414	1	MAESTRO GENERA...	MAESTRO GENERAL CONTRACTO...	411 SPRINGHILL DR HOME	ROSENF...	IL	60172					1010	Limited Business License		

< Previous Next >

Showing Business Licenses 1 to 100 out of 1,080,482

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# Business Licenses



# **Chicago Food Inspections**

## **Business questions to answer**

# Chicago Food Inspections: BI & Reporting

- Our Assignment
  - Enable BI & Reporting of Chicago Food Inspections
  - Load data to support:
    - BI & Reporting
    - Forecasting



There are over 15,000 food establishments across the City of Chicago that are subject to sanitation inspections by the Department of Public Health. Three dozen inspectors are responsible for checking these establishments, which means one inspector is responsible for nearly 470 food establishments. The Department of Public Health has systematically collected the results of nearly 100,000 sanitation inspections; meanwhile, other city departments have collected data on 311 complaints, business characteristics, and other information. With this information, the city's advanced analytics team and Department of Public Health teamed up to forecast food establishments that are most likely to have critical violations so that they may be inspected first. The result is that food establishments with critical violations are more likely to be discovered earlier by the Department of Public Health's inspectors.

**7 days**

Improvements in number of days to discover restaurants with critical violations.  
Food establishments with critical violations were discovered over one week earlier during a two-month evaluation.

# Chicago Food Inspections

- Examine food inspection results by:
  - Inspection result
  - Inspection type
  - Risk category
  - Facility type
  - Violations (Codes, descriptions)
  - Business inspected
    - DBA (Doing Business As), AKA (Also Know As), License
  - Location
- Inspection report
  - All of above with inspection #, license #, violations & inspector comments

# Chicago Food Inspections



## Featured Content Using this Data

Report a problem	Predicting food inspections
External Content	External Content



Report food poisoning or another food safety problem to the Chicago Department of Public Health.

Predicting food inspections

External Content



Read how the City of Chicago uses open data to predict where to send food inspectors.

Food Inspections - Dashboard

Public August 14, 2022 27.7K Views

This information is derived from inspections of restaurants and other food establishments in Chicago from January 1, 2010 to the present. I...

## Related Content Using this Data

Food Inspections - Dashboard	Food Inspections - Map	Food Inspections - 7/1/2018 - Present
Food Inspections - 1/1/2010 - 6/30/2018		

Food Inspections - Dashboard

Public August 30, 2021 27.7K Views



This information is derived from inspections of restaurants and other food establishments in Chicago from January 1,...

Food Inspections - Map

Public August 30, 2021 27.2K Views



This information is derived from inspections of restaurants and other food establishments in Chicago from January 1,...

Food Inspections - 7/1/2018 - Present

Public August 30, 2021 3,281 Views



The definition of violations changed on 7/1/2018, as discussed in <http://bit.ly/2yWd2JB>. This filtered view sho...

Food Inspections - 1/1/2010 - 6/30/2018

Public August 30, 2021 1,975 Views



The definition of violations changed on 7/1/2018, as discussed in <http://bit.ly/2yWd2JB>. This filtered view sho...

# **Chicago Food Inspections**

**Data Preparation:  
Load Stage & Perform Data Profiling**

# Initial Load: Food Inspections to Staging Schema

# Initial Load: Business Licenses to Staging Schema

# **Chicago Food Inspections**

## **Creating a dimensional data model**

# Chicago Food Inspections

- Determine Dimensions & Facts

# Chicago Food Inspections: Data Model

# **Chicago Food Inspections**

**Data Preparation:  
Load Integration Schema (Dimensional Model)**

# Load Dimensions

# Load Facts

# Integration Schema (Dimensional Model)

## Tables & Row Counts

# BI Workshop

## Sample BI data visualizations

# Chicago Food Inspections w/ Power BI

# Chicago Food Inspections w/ Tableau

## Appendix

### Background on Food Inspection

# Food Inspection Forecasting



There are over 15,000 food establishments across the City of Chicago that are subject to sanitation inspections by the Department of Public Health. Three dozen inspectors are responsible for checking these establishments, which means one inspector is responsible for nearly 470 food establishments. The Department of Public Health has systematically collected the results of nearly 100,000 sanitation inspections; meanwhile, other city departments have collected data on 311 complaints, business characteristics, and other information. With this information, the city's advanced analytics team and Department of Public Health teamed up to forecast food establishments that are most likely to have critical violations so that they may be inspected first. The result is that food establishments with critical violations are more likely to be discovered earlier by the Department of Public Health's inspectors.

**7 days**  
Improvements in number of days to discover restaurants with critical violations.  
Food establishments with critical violations were discovered over one week earlier during a two-month evaluation.

## Forecasting Critical Violations

A key finding of any food inspection is whether a food establishment commits a critical violation. These violations, which normally pertain to improper temperature control for food, are most susceptible to accommodating the start or spread of food borne illnesses. Just one critical violation will result in a failure, and must be remedied by the establishment to the satisfaction of the Department of Public Health.

### Predictors of food inspection outcomes

Establishments that had previous critical or serious violations

Three-day average high temperature

Nearby garbage and sanitation complaints

The type of facility being inspected

Nearby burglaries

Whether the establishment has a tobacco license or has an incidental alcohol consumption license

Length of time since last inspection

The length of time the establishment has been operating

Inspector assigned

Locating restaurants with critical issues is an important priority for the Department of Public Health.

Approximately fifteen percent of inspections result in at least one critical violation. Given the large number of inspections that inspectors have to complete, the time and effort it takes to discover critical violations can mean prolonged exposure to potential disease, illness, and unsanitary conditions at some food establishments.

The Department of Public Health and Department of Innovation and Technology have partnered to explore a combination of datasets to prioritize which establishments are more likely to yield a critical violation during an inspection. Staff from Allstate Insurance have also assisted with the research project.

After conducting interviews with the Department of Public Health's food inspection team, several data sources--ranging from 311 data to food inspections and weather--were explored. A dozen variables had substantial relationships with the likelihood of an establishment failing a food inspection.

Information about the food establishment, such as its CDPH-assigned risk level and whether the establishment had failed previous inspections, served as important predictors. Information about the establishment's community, such as its location and nearby sanitation complaints made through 311, was also related to the most severe violations.

When factoring all of these items together, the research team was able to provide a likelihood of critical violations for each establishment, which was developed to prioritize which ones should be inspected first.

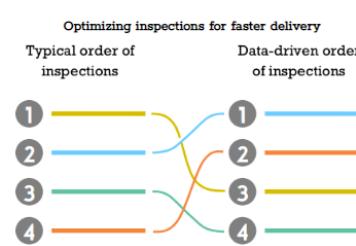
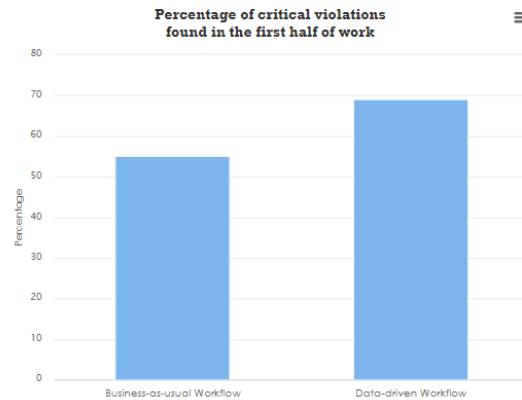
# Food Inspection Forecasting

## Evaluating the effectiveness of the model

The analytical model was tested using a double-blind retrodiction. The Department of Public Health conducted inspections via its normal operational procedure during September and October of 2014. During these two months, food establishments were visited in their normal order.

During this time, the Department of Public Health visited 1,637 food establishments. Almost 16 percent of them—258 establishments—yielded at least one critical violation during the experiment. Over half, 55 percent or 141 establishments, were found during the first month of the evaluation, whereas 117 establishments (45 percent) were found during the second half.

After all of the inspections were completed, the Department of Innovation and Technology used data to estimate the likelihood of each establishment having a critical violation. Researchers applied a probability to each establishment using historical data, and then investigated if these probabilities could be used to make the inspection process more efficient.



The simulation would show if riskier establishments would be inspected first. Researchers found that food inspectors could be allocated more efficiently using the computer algorithm. During the simulation, 69 percent of inspections—178 establishments—with critical violations were found during the first half of work, compared to 55 percent during normal operations. Over the two month pilot, establishments with violations were found, on average, 7 and a half days earlier. That is, an additional 37 establishments would have been cited for violations in the first month, as opposed to being discovered later, potentially after patrons became ill.

# FOOD INSPECTION FORECASTING

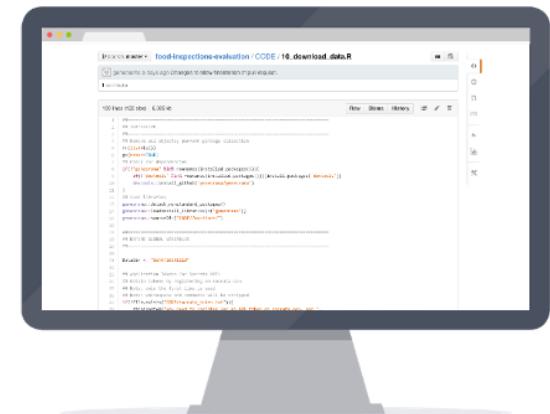
## OPTIMIZING INSPECTIONS WITH ANALYTICS

## Open Science

Food inspection forecasting is also made available as an [open source project](#). An open source approach helps build a foundation for other models attempting to forecast violations at food establishments. The analytic code is written in **R**, an open source, widely-known programming language for statisticians. There is no need for expensive software licenses to view and run this code.

Open sourcing the code also allows for collective advancement. The open source code contains the necessary data to let others test and try to improve upon the current analytic method. The project is also documented in a reproducible format, allowing researchers to read a description of the research and view its underlying calculations. The repository contains everything that is needed to let a community of researchers refine and derive better models.

Food Inspection Model on GitHub



# Food Inspection Forecasting

The screenshot shows a web page from Data-Smart City Solutions. At the top, there's a red header bar with the website's logo, navigation links for 'THEMES', 'PROJECTS', and 'ABOUT', and social media links for Facebook and Twitter. Below the header is a large banner image featuring various food items like olives, chickpeas, and lettuce. Overlaid on the banner is a dark blue box containing the title 'Delivering Faster Results with Food Inspection Forecasting' and a subtitle 'Chicago's Analytics-Driven Plan to Prevent Foodborne Illness'. Below the banner, the author 'BY SEAN THORNTON • MAY 19, 2015' is mentioned. The main content area contains several paragraphs of text discussing food inspection challenges and the benefits of using analytics. At the bottom right of the content area, there are small icons for sharing on social media.

**Delivering Faster Results with Food Inspection Forecasting**

Chicago's Analytics-Driven Plan to Prevent Foodborne Illness

BY SEAN THORNTON • MAY 19, 2015

Consider this: Chicago, a city with nearly three million people and more than 15,000 food establishments, has fewer than three dozen inspectors who are in charge of annually checking the city's entire lot.

When inspectors check this entire lot, 15% of these establishments, on average, earn a critical violation.

Having a critical violation, which generally relates to food temperature control, can drastically increase the odds that a restaurant may start or spread a foodborne illness. Because of the obvious negative effects this can have on a population, efficiently and effectively targeting food establishments with critical violations is a top public health priority.

Chicago's challenging task to quickly locate and address these violations is a prime candidate for optimization with advanced analytics. It's also an opportunity that Chicago's analytics team has been sure to seize as the City pioneers in its use of data.

Chicago committed to build the first-ever municipal open-source, predictive analytics platform when selected as one of five cities for Bloomberg Philanthropies' inaugural Mayors Challenge, an ideas competition that encourages cities to generate innovative ideas to solve major challenges and improve city life. The City's goal was to aggregate and analyze information to help leaders make smarter, faster decisions and prevent problems before they develop.

The City's recently completed pilot program to optimize the city's food inspections process – conducted by the Chicago Department of Innovation and Technology (DoIT), along with the Department of Public Health (CDPH) and research partnerships with Civic Consulting Alliance and Allstate Insurance – has been a milestone that has yielded striking results. When using an analytics-based procedure, Chicago was able to discover critical violations, on average, seven days earlier than if they had used the traditional inspection procedure.

The results have implications not only for Chicago, but for cities anywhere that wish to optimize inspections processes using advanced analytics. Moreover, Chicago's collaborative and open method for launching such an initiative provides lessons for other places that wish to start analytics programs of their own.

# Food Inspection Forecasting

## UNDERSTANDING THE PILOT

Tom Schenk, Chicago's Chief Data Officer, has had food inspections on his mind for a long time. Nearly two years ago, Schenk held discussions with CDPH around how the two departments could collaborate around the city's growing analytics program. Following on the City's goal to build the first municipal open-source, predictive analytics platform with the \$1,000,000 award from Bloomberg Philanthropies' Mayors Challenge, the City had begun constructing the *SmartData Platform*. To test the application for operationalizing predictive analytics, the City had also already introduced its first analytics pilot program, which used advanced analytics to enhance the *Department of Streets and Sanitation's* rodent baiting efforts.

Schenk and CDPH reached out to [Civic Consulting Alliance](#) (CCA), a local organization that pairs corporations with City of Chicago departments to engage in meaningful pro-bono projects. Through CCA, Chicago met with Allstate, the Chicago-area based insurance giant with a history of [community involvement](#). Allstate has worked with Chicago before, notably as a leading member of [Get In Chicago](#), a cross-sector initiative to improve neighborhood safety across the city.

With CCA's help, the city teamed up specifically with [Allstate Insurance](#)'s data science team—a new kind of relationship for both parties. Allstate Insurance operates Project BlueLight, which commits up to 10% of team members to pro bono projects. Often, these projects include volunteer opportunities, such as the Adopt-a-Highway program or service in soup kitchens. This project, however, offered an opportunity to let Allstate's data scientists apply their skills to a research project with a new level of impact.

With a coalition in place, Schenk and the team then began by interviewing CDPH inspectors in order to better understand the logistics of their jobs and see how they interact with data. Chicago identified food inspection reports, 311 service data, and weather data as top candidates for exploration for predictors of food inspection outcomes. The team also used other information on the [city's open data portal](#), such as community and crime information, to bolster the model.

The importance of Chicago's open data program to this project cannot be understated. With multiple parties involved, the Chicago coalition needed to work with a centralized, comprehensive, and universally accessible source of data. Fitting this bill, the portal was able to provide a means for partners to easily exchange research and analysis while working on the project. Without the data portal, Chicago's key datasets would have been located in disparate systems, making this extremely time-consuming and difficult.

In processing and analyzing the data, Chicago found several key predicting variables that, when observed, indicated there could be a considerable likelihood that a restaurant may earn a critical violation. These predicting variables include the following:

- Prior history of critical violations
- Possession of a tobacco and/or incidental alcohol consumption license
- Length of time establishment has been operating
- Length of time since last inspection
- Location of establishment
- Nearby garbage and sanitation complaints
- Nearby burglaries
- Three day average high temperature

These predictors were then factored together into a model, which was tested against food inspection procedures via a double-blind post-diction analysis. In other words, after collecting a set of data, Chicago performed a simulation that used this past data to predict what its future outcome would have been under data-optimized conditions.

What does that process mean, then, when put into practice in a government setting?

In September and October of 2014, CDPH performed food inspections using their traditional method, and then handed detailed inspection information over to Chicago's analytics team. During that trial period, CDPH's inspectors visited 1,637 food establishments in total. Of these inspections, CDPH found there were 258 establishments—approximately 15% of that total—that had at least one critical violation.

The screenshot shows a website header for "DATA-SMART CITY SOLUTIONS" with links for "THEMES", "PROJECTS", and "ABOUT". Below the header is a banner titled "Delivering Faster Results with Food Inspection Forecasting" with the subtitle "Chicago's Analytics-Driven Plan to Prevent Foodborne Illness". The banner features images of food containers (olives, nuts) and a salad.

Keep in mind that the goal of the pilot is for analytics to help deliver inspection results faster—so that critical violations may be detected earlier. This is why data was collected over a two month period; September's and October's numbers were used as a source for comparison. In September, CDPH inspectors found more than half of those aforementioned establishments with violations—141 of them, or 55%, to be precise. In October, the remainder of that total (45%) was then found.

If 55% of critical violations were found during a normal-operations first half, then what percent of critical violations could be found with an analytics-optimized-operations first half?

It's worth noting that CDPH inspectors had a good first month—finding more than 50% of violations within the first half of a given time period is always a good sign. But what if, instead of inspecting these food establishments via standard procedure, inspectors first visited all locations that met the key predicting variables listed above?

To find out, the analytics team assigned each inspected food establishment from the trial period with a probability of earning a critical violation, which was based on how many predicting variables each establishment met. For example, if one establishment met 8 out of 10 predicting factors, it would be assigned a higher probability than an establishment that met two out of ten predicting factors. Since this newly ranked "forecast" list was assembled using trial period data, it provided an ideal source for comparison between the two inspection methods.

Chicago's analytics team found that inspections could be allocated more efficiently with the data-optimized forecast list than they were with the traditional procedure's list. In the simulation, 178 food establishments, or 69% of inspections with critical violations, were found in the first half.

These numbers mean that had inspectors been using the data-optimized forecast list instead, an additional 37 establishments with critical violations would have been detected during the first month. By detecting these establishments earlier, CDPH is able to prevent restaurant patrons from becoming potential victims of foodborne illnesses.

When comparing the traditional procedure to the data-optimized procedure for inspecting food establishments, the pilot's results led to a 25% increase in the number of critical violations found in the first half. Given the first half was one month, this 25% increase when measured in time shows us that using a data-optimized procedure for inspecting food establishments leads to finding critical violations, on average, 7 days earlier.

## WHAT DOES IT ALL MEAN?

The success of Chicago's food inspections pilot does not mean more critical violations are being found, nor does it mean that CDPH will be changing their inspections processes overnight. Rather, the pilot is a key step towards the continued adaptation of advanced analytics into city operations. While the same general critical violations average of 15% is still being found, it is being found *faster* than before, which brings public health benefits to the city. These results—and the process to obtain them—are similar to Chicago's aforementioned work on rodent baiting analytics.

When Chicago's [rodent pilot](#) concluded earlier in 2014, its key gain for rodent baiting staff was a 20% increase in the amount of time that staff have been able to spend actually rat baiting (as opposed to figuring out where to bait rats). Chicago's Department of Streets and Sanitation has already adopted analytics into their operations, with data-optimized lists of rat locations being sent to rat baiting teams on a regular basis.

Both cases show that advanced analytics isn't an indictment of current operations, but rather an enhancement. Following the completion of the pilot, the food inspections use case is in the process of becoming a more operational mechanism within CDPH.

# Food Inspection Forecasting

## FORECASTING AND THE FUTURE

Chicago's new use case is a key marker for the continued development of the SmartData Platform. Each completed pilot provides a new algorithmic model which can then potentially be replicated to apply to other city services and operations.

Furthermore, with each use case, Chicago's collaborative, multi-partner system for advanced analytics initiatives is becoming more adept and experienced.

While the rodent control pilot pulled primarily from one source of data—311 calls—the food inspections pilot included a broader range of datasets, and required a more complex model to be developed. To accommodate this, Chicago expanded its working base to include more partners on the project. By leveraging the talents of Allstate data engineers working pro bono, Chicago was able to grow—and even help formalize—a partnership-centric working plan. This allows the city to take on projects it would otherwise not have the resources to complete entirely on its own. This new working plan has piqued the interest of other cities as well.

Lastly, in line with its collaborative approach, Chicago has created an [open-source repository](#) to share the code used for the pilot, as well as [evaluation information](#), on [code-sharing site GitHub](#). This means that other cities interested in adopting similar projects of their own can begin by using Chicago's analytics work as a starting point, rather than having to begin the entire process from scratch.

All the data that Chicago used to develop its food inspections forecasting model was from its publicly available data portal. By releasing the model's source code, Chicago is essentially giving away both the tools and the building materials it used to more quickly locate critical food establishment violations, and is inviting others to use these materials and do the same. The effort hopes to foster increased innovative development and cooperation between cities.



# Restaurant Inspection



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## Restaurant Inspection

### Our Mission

The mission of the Chicago Department of Public Health's Food Protection Division is to educate food businesses, inspect food establishments, address food related emergencies, and otherwise act in the public interest. Through the inspection of food establishments and education of the food service manager, we are able to promote public health in the areas of food safety and sanitation to prevent the spread of food-borne disease.

In carrying out these responsibilities, members of the Food Protection Division conduct periodic inspections of food establishments in the city of Chicago. There are approximately 16,000 food establishments licensed in the city. These food establishments include:

- Restaurants
- Grocery stores
- Convenience stores
- Bakeries
- Hospital kitchens
- Nursing homes kitchens
- Day cares, schools
- Seasonal facilities
- Wholesale food establishments
- Temporary food events

The Food Protection Division gets its mandate from the [City of Chicago's Food Service Sanitation Municipal Code](#) and the [Rules and Regulations](#) promulgated by the Chicago Board of Health in support of its mission to provide food safety training for food service managers responsible for food safety, to perform inspections of food establishments to ensure adherence to the aforementioned regulations, and to provide service and education to the general public.



### About Us

The Sanitarians - or Health Inspectors - are on call 24 hours a day to perform their duties when emergencies arise. The areas focused upon during a food safety inspection are:

- Health and disease control of food handlers
- Food source origination and wholesomeness
- Food-handling practices and proper temperature control
- Cleanliness of food handlers
- Hand-washing facilities
- Personal hygiene of employees

Each sanitarian also focuses on areas of sanitation pertaining to rodent control, facility maintenance, equipment adequacy and cleanliness, and sanitary maintenance. Additionally, the sanitarian responds to emergencies and investigations of food-borne outbreaks.

Our sanitarians are licensed in many areas of the Environmental Health field. Many hold state licenses such as Environmental Health Practitioners, Certified Pest Control Operators, Certified Food Service Managers and Instructors, and Swimming Pool Operators.

Sanitarians certified as Swimming Pool Operators inspect indoor and outdoor public pools in the city of Chicago, Swimming Pool Operators inspect approximately 290 indoor pools, and 95 spas within the city.

Chicago's sanitarians not only conduct close surveillance of swimming pools, spas and restaurants, but also of food handling throughout the entire food distribution system, from wholesale food processing plants to warehouse distribution centers.



# Food Protection Services



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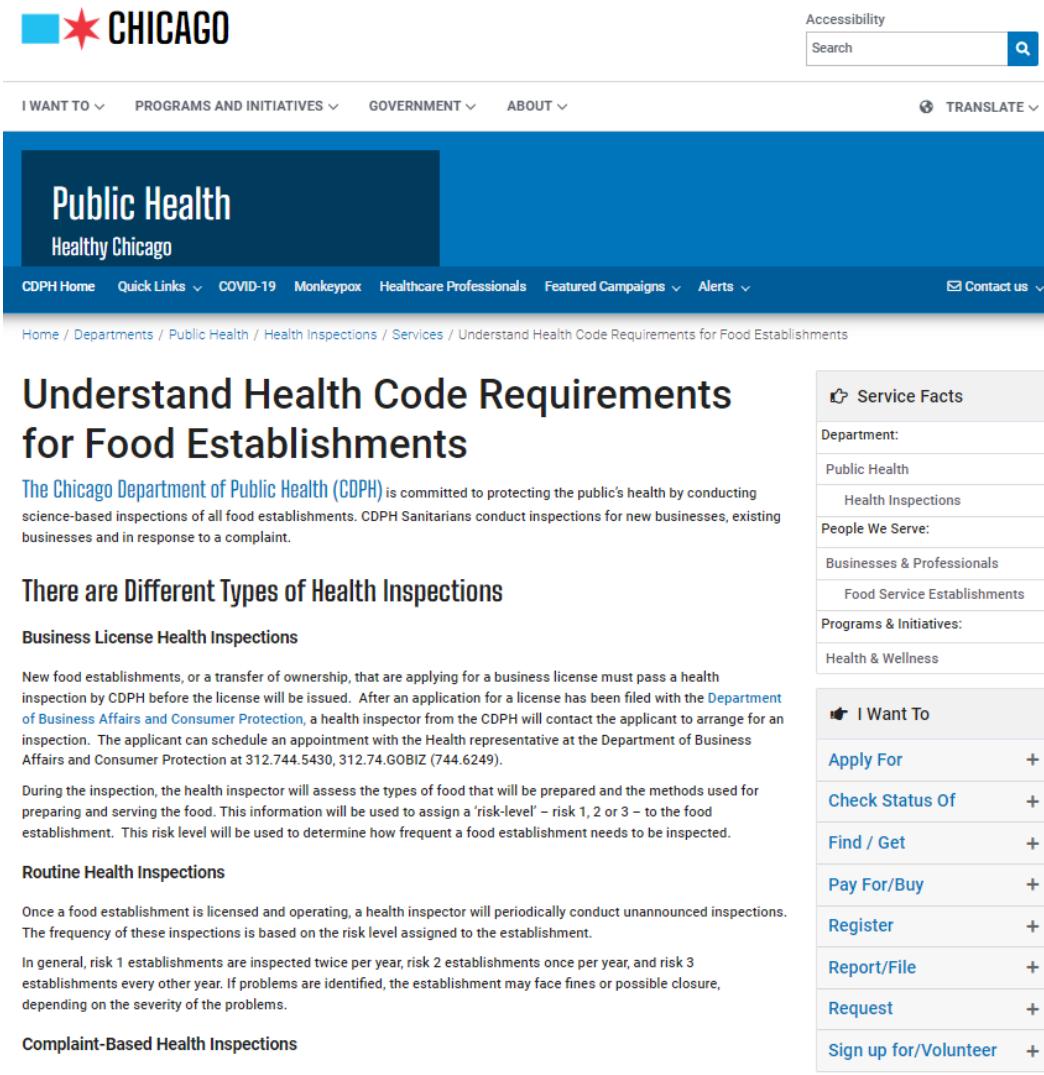
## Food Protection Services

Chicago is home to 16,000 food establishments like restaurants, grocery stores, bakeries, wholesalers, lunchrooms, mobile food vendors and more. Our business is food safety and sanitation with one goal, to prevent the spread of food-borne disease. We do this by inspecting food businesses, responding to complaints and food recalls.

Effective February 1, 2019, the City of Chicago implemented new requirements that all food service establishments must follow. These requirements are based on the latest science and conform to federal guidelines and to state and local laws.

- [2019 Food Advisory Disclosure and Reminder](#)
- [2019 Chicago Food Code Major Changes](#)
- [Customer Service Survey for Food Service Managers/Owners](#)
- [Employee Health Policy](#)
- [Food Code Rules](#)
- [Food Establishment Complaint](#)
- [Food Protection Program FAQ](#)
- [Food Service Sanitation Certificate and Summer Festival Certificate](#)
- [Food Service Sanitation City of Chicago Municipal Code Ordinance](#)
- [Healthy Kids Meal Information](#)
- [Juicing Requirements](#)
- [Labeling Summary for Packaged Food or Retail Sales](#)
- [Mobile Food Vendor](#)
- [Pushcart Food Vendor](#)
- [Register a Cottage Food Operation](#)
- [Restaurant and Food Service Inspection Reports](#)
- [Restaurant Inspection](#)
- [Summer Food Program / Child and Adult Care Food Program Guidelines](#)
- [Understand Health Code Requirements for Food Establishments](#)
- [Vomit and Diarrhea Cleaning Procedure](#)

# Understand Health Code Requirements for Food Establishments



The screenshot shows the Chicago Public Health website. The header includes the Chicago logo, a search bar, and links for Accessibility, Translate, I WANT TO, PROGRAMS AND INITIATIVES, GOVERNMENT, and ABOUT. A sidebar on the left is titled "Public Health Healthy Chicago". The main content area has a blue header "Understand Health Code Requirements for Food Establishments". Below it, a paragraph about CDPH's mission to protect public health through inspections is followed by sections on "There are Different Types of Health Inspections" (Business License Health Inspections, Routine Health Inspections, Complaint-Based Health Inspections), and a sidebar with "Service Facts" and "I Want To" options.

**Public Health Healthy Chicago**

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Home / Departments / Public Health / Health Inspections / Services / Understand Health Code Requirements for Food Establishments

## Understand Health Code Requirements for Food Establishments

The Chicago Department of Public Health (CDPH) is committed to protecting the public's health by conducting science-based inspections of all food establishments. CDPH Sanitarians conduct inspections for new businesses, existing businesses and in response to a complaint.

### There are Different Types of Health Inspections

#### Business License Health Inspections

New food establishments, or a transfer of ownership, that are applying for a business license must pass a health inspection by CDPH before the license will be issued. After an application for a license has been filed with the Department of Business Affairs and Consumer Protection, a health inspector from the CDPH will contact the applicant to arrange for an inspection. The applicant can schedule an appointment with the Health representative at the Department of Business Affairs and Consumer Protection at 312.744.5430, 312.74.60BIZ (744.6249).

During the inspection, the health inspector will assess the types of food that will be prepared and the methods used for preparing and serving the food. This information will be used to assign a 'risk-level' – risk 1, 2 or 3 – to the food establishment. This risk level will be used to determine how frequent a food establishment needs to be inspected.

#### Routine Health Inspections

Once a food establishment is licensed and operating, a health inspector will periodically conduct unannounced inspections. The frequency of these inspections is based on the risk level assigned to the establishment.

In general, risk 1 establishments are inspected twice per year, risk 2 establishments once per year, and risk 3 establishments every other year. If problems are identified, the establishment may face fines or possible closure, depending on the severity of the problems.

#### Complaint-Based Health Inspections

CDPH receives around 4,000 complaints against food establishments each year. In response, CDPH health inspectors conduct unannounced inspections at the establishment.

**Service Facts**

Department:  
Public Health  
Health Inspections  
People We Serve:  
Businesses & Professionals  
Food Service Establishments  
Programs & Initiatives:  
Health & Wellness

**I Want To**

Apply For +  
Check Status Of +  
Find / Get +  
Pay For/Buy +  
Register +  
Report/File +  
Request +  
Sign up for/Volunteer +

## Health Code Violations

During routine inspections, or in response to a complaint a health inspector may issue one or more citations to the food establishment. These citations are based on the following violations:

### Priority Violations

This category includes such occurrences as:

- Inadequate storage temperatures
- Improper food handling practices
- Improper personal hygiene
- Rodent and/or insect infestation
- Lack of hot running water

Priority violations create an immediate health hazard that carry a high-risk of causing food-borne illness. Priority violations must be corrected immediately; if they cannot be corrected immediately, the license will be suspended, and the food establishment must close. Once the violations are corrected, the food establishment operator must sign an affidavit stating the violations have been corrected, and schedule a follow-up inspection. All violations must be corrected in order for the establishment to reopen.

### Priority Foundation Violations

This category includes such occurrences as:

- No certified food manager
- No written employee health policy
- Food not properly protected from contamination during storage, preparation, display, service, or transportation
- Inadequate pest control

Priority Foundation violations create a potential health hazard if not corrected in the timeframe specified by the health inspector. If serious violations are identified, an unannounced follow-up inspection will be conducted by the health inspector at a later date.

### Core Violations

Core violations include such occurrences as:

- Poorly constructed or maintained walls, ceilings or floors
- Improper storage of soiled and clean linens, coats, and aprons

Core violations do not pose an immediate threat to the public's health. A follow-up inspection is not performed if there are only Core violations. No citations are issued for Core violations.

