Wastewater Epidemiology COVID-19 Report

Updated: 08-Jan-2024 | **Data Complete Through**: 27-Dec-2023

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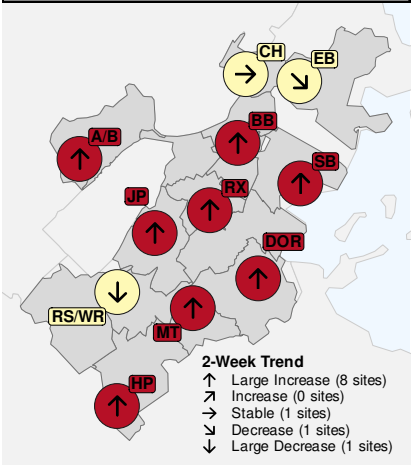
Boston Public
Health Commission

Report Contents

Neighborhood Levels and Trends

COVID-19 Wastewater Levels & Trends (27-Dec-2023)



COVID-19 Level (# sites)	0 sites	0 sites	3 sites	0 sites	8 sites
	Very Low	*Low*	*Moderate*	*High*	*Very High*

BOSTON CITYWIDE COVID-19 LEVEL & TRENDS

COVID-19 LEVEL	2-WEEK TRENDS
Very High	↑
3,271 copies/mL	*Large Increase*
samples through 27-Dec-2023	*+1,681 copies/mL (+106%)*

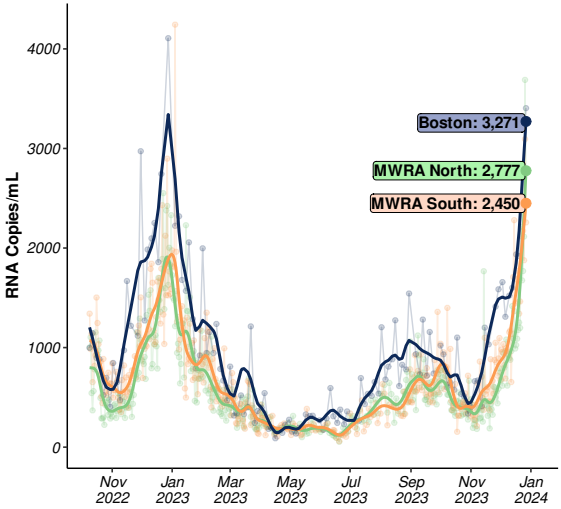
NEIGHBORHOOD SITES COVID-19 LEVEL & TRENDS

Level	Neighborhood/Site	Trend	
Very High	Mattapan (MT)	↑	Large Increase
	Roxbury (RX)	↑	Large Increase
	Dorchester (DOR)	↑	Large Increase
	Jamaica Plain (JP)	↑	Large Increase
	Allston/Brighton (A/B)	↑	Large Increase
	Hyde Park (HP)	↑	Large Increase
	South Boston (SB)	↑	Large Increase
	Back Bay (BB)	↑	Large Increase
Moderate	Charlestown (CH)	→	Stable
	East Boston (EB)	↘	Decrease
	Roslindale/West Roxbury (RS/WR)	↓	Large Decrease

For additional details see:

- Results by Neighborhood
- Detailed Neighborhood Levels and Trends Table
- Trend and Level Category Definitions

Citywide Overview and Trends



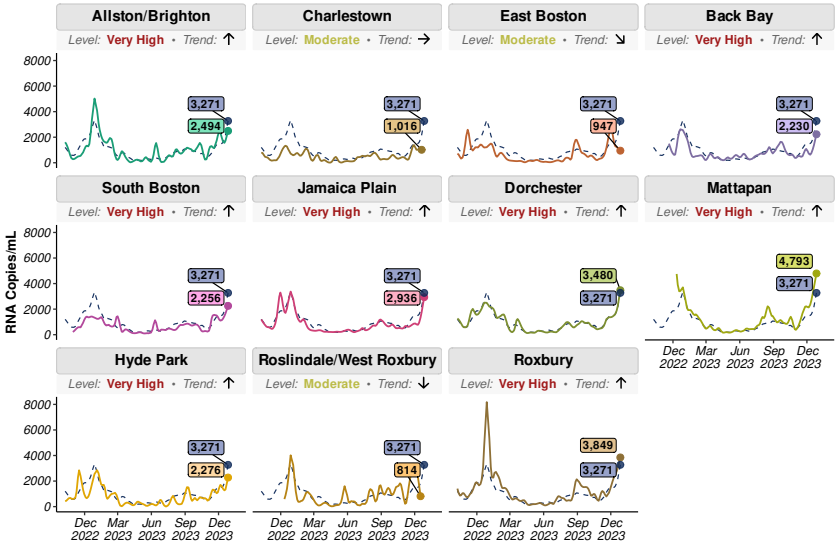
CITYWIDE AVERAGE	RANGE ACROSS 11 NEIGHBORHOOD SITES
3,271 *RNA copies/mL*	814-4,793 *RNA copies/mL*

Data through: **27-Dec-2023**

2-WEEK TRENDS	
Boston **Increasing**	**+106%** over the past 14 days
MWRA North **Increasing**	**+175%** over the past 14 days
MWRA South **Increasing**	**+89%** over the past 14 days

Updated: 08-Jan-2024 | **Samples through:** 27-Dec-2023 (BPHC); 27-Dec-2023 (MWRA) | **MWRA Data:** https://www.mwra.com/biobot/biobotdata.htm

BPHC Trend Overview by Neighborhood

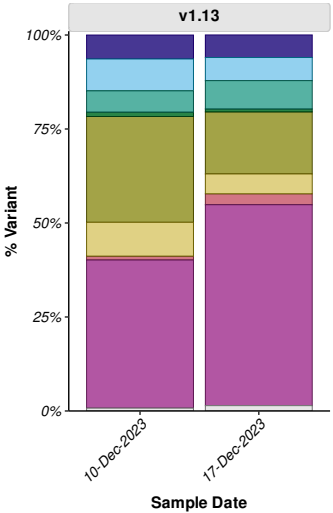


For each neighborhood, colored line and textbox shows the smoothed trend and most recent value in that neighborhood;

The dotted blue line and dark blue text box in each panel shows the trend and most recent value across **all Boston sites** weighted by population.

To see details and interpretation of these results for an individual neighborhood see Results by Neighborhood.

Citywide Percent Variant Lineages



Variant	%
XBB	6.0%
XBB.1.5	6.1%
XBB.1.9	7.5%
FL.1.5.1	0.8%
EG.5	16.5%
HV.1	5.3%
BA.2.86	2.9%
JN.1	53.4%
Other	1.4%

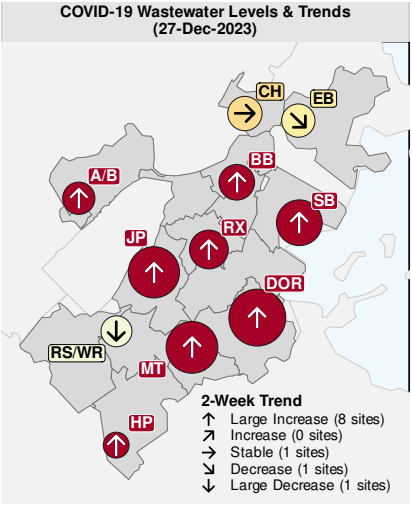
Average variant percentage across all BPHC sites weighted by population size | Table shows variant percentages for samples collected the week of 17-Dec-2023 (most recent available data); Variant results are reported weekly with a 3-week lag due to laboratory processing and analysis.

Sequencing Analysis Protocol Version: v1.13 (05-Jan-2024):
- XBB includes all XBB sublineages aside from those specifically reported
- "Other variants" contains all variants not explicitly quantified.

Version Changes: Added: • BA.2.86 • JN.1
- Removed XBB.1.9.1, XBB.1.9.2, XBB.1.16

For Additional Info See:
https://www.biobot.io/covid19-variants-report-notes/

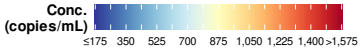
Neighborhood Levels and Data Table



NH	COVID-19 Wastewater Levels		2-Week Trends		
	Conc. (copies/mL)	Level	Trend	Diff. (copies/mL)	% Change
BOSTON	**3,271**	**Very High**	**Large Increase**	**+1,681**	**+106%**
MT	4,793	Very High	Large Increase	+2,122	+79%
RX	3,849	Very High	Large Increase	+1,337	+53%
DOR	3,480	Very High	Large Increase	+1,868	+116%
JP	2,936	Very High	Large Increase	+2,010	+217%
A/B	2,494	Very High	Large Increase	+816	+49%
HP	2,276	Very High	Large Increase	+870	+62%
SB	2,256	Very High	Large Increase	+1,012	+81%
BB	2,230	Very High	Large Increase	+1,486	+200%
CH	1,016	Moderate	Stable	+3	0%
EB	947	Moderate	Decrease	-364	-28%
RS/WR	814	Moderate	Large Decrease	-2,224	-73%

Concentration Levels: Very High: >1,400 copies/mL; High: 1,050-1,400 copies/mL; Moderate: 700-1,050 copies/mL; Low: 350-700 copies/mL; Very Low: ≤350 copies/mL

2-Week Trend Categories: Large Increase: >+500 copies/mL; Increase: +150 to +500 copies/mL; Stable: -150 to +150 copies/mL; Decrease: -500 to -150 copies/mL; Large Decrease: ≤-500 copies/mL



Results by Neighborhood

- Allston-Brighton (A/B)
- Back Bay (BB)
- Charlestown (CH)
- Dorchester (DOR)
- East Boston (EB)
- Hyde Park (HP)
- Jamaica Plain (JP)
- Mattapan (MT)
- Roslindale/West Roxbury (RS/WR)
- Roxbury (RX)
- South Boston (SB)

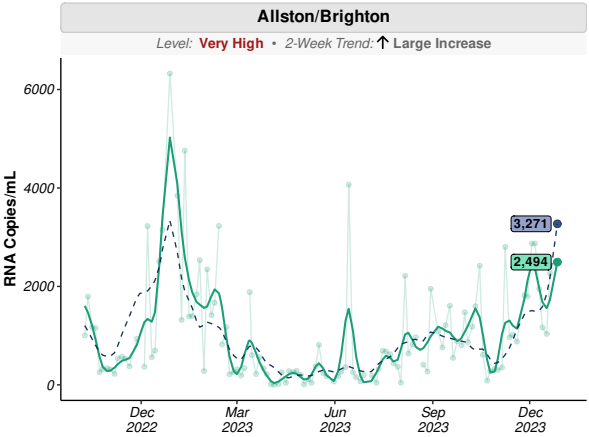
Allston/Brighton

Level: **Very High**

- Average value in **A/B** over the past week: **2,494** copies/mL.
- This value is **very high** compared to past values and **lower** than the citywide average (**3,271** copies/mL).

Trend: ↑ **Large Increase**

- Over the past two weeks, values in **A/B** are **increasing**.
- Change compared to two weeks ago: **+816** copies/mL (**+49%**).



Updated: 08-Jan-2024 | **Samples through:** 27-Dec-2023 (A/B);

See recommended actions and resources based on levels and trends in this neighborhood.

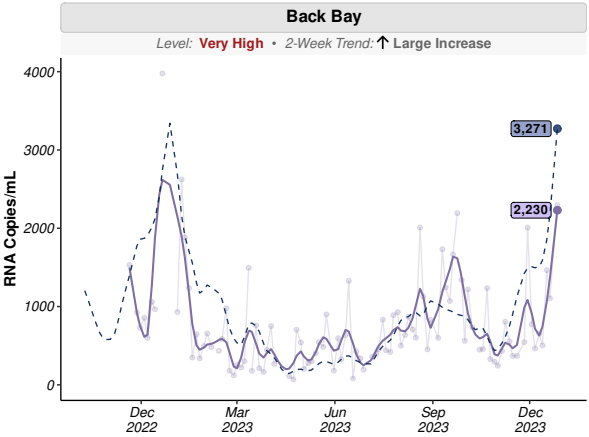
Back Bay

Level: **Very High**

- Average value in **BB** over the past week: **2,230** copies/mL.
- This value is **very high** compared to past values and **lower** than the citywide average (**3,271** copies/mL).

Trend: ↑ **Large Increase**

- Over the past two weeks, values in **BB** are **increasing**.
- Change compared to two weeks ago: **+1,486** copies/mL (**+200%**).



See recommended actions and resources based on levels and trends in this neighborhood.

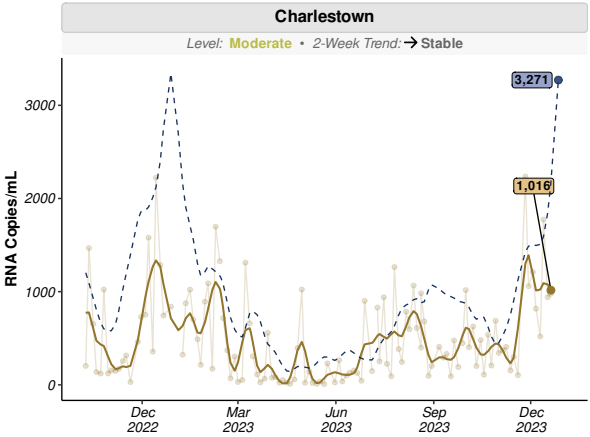
Charlestown

Level: **Moderate**

- Average value in **CH** over the past week: **1,016** copies/mL.
- This value is **moderate** compared to past values and **lower** than the citywide average (**3,271** copies/mL).

Trend: → **Stable**

- Over the past two weeks, values in **CH** are **stable**.
- Change compared to two weeks ago: **+3** copies/mL (**0%**).



See recommended actions and resources based on levels and trends in this neighborhood.

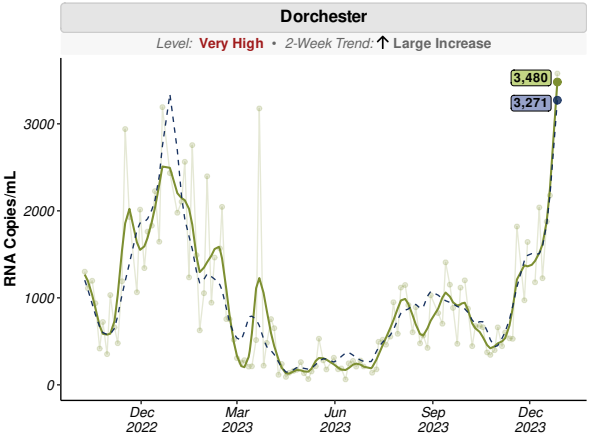
Dorchester

Level: **Very High**

- Average value in **DOR** over the past week: **3,480** copies/mL.
- This value is **very high** compared to past values and **similar** than the citywide average (**3,271** copies/mL).

Trend: ↑ **Large Increase**

- Over the past two weeks, values in **DOR** are **increasing**.
- Change compared to two weeks ago: **+1,868** copies/mL (**+116%**).



See recommended actions and resources based on levels and trends in this neighborhood.

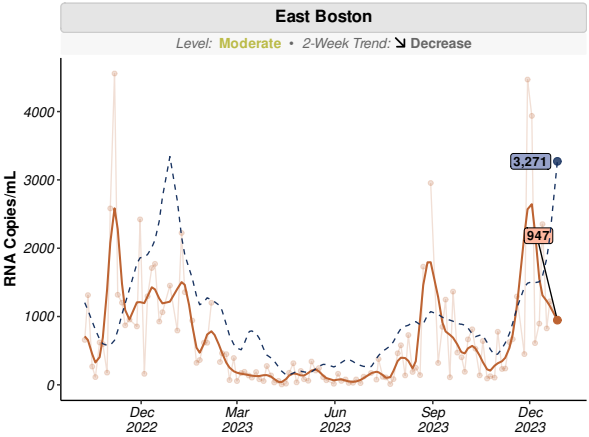
East Boston

Level: **Moderate**

- Average value in **EB** over the past week: **947** copies/mL.
- This value is **moderate** compared to past values and **lower** than the citywide average (**3,271** copies/mL).

Trend: ↘ **Decrease**

- Over the past two weeks, values in **EB** are **decreasing**.
- Change compared to two weeks ago: **-364** copies/mL (**-28%**).



See recommended actions and resources based on levels and trends in this neighborhood.

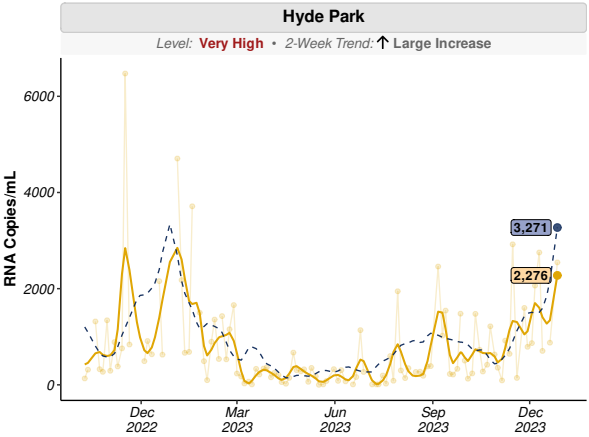
Hyde Park

Level: **Very High**

- Average value in **HP** over the past week: **2,276** copies/mL.
- This value is **very high** compared to past values and **lower** than the citywide average (**3,271** copies/mL).

Trend: ↑ **Large Increase**

- Over the past two weeks, values in **HP** are **increasing**.
- Change compared to two weeks ago: **+870** copies/mL (**+62%**).



See recommended actions and resources based on levels and trends in this neighborhood.

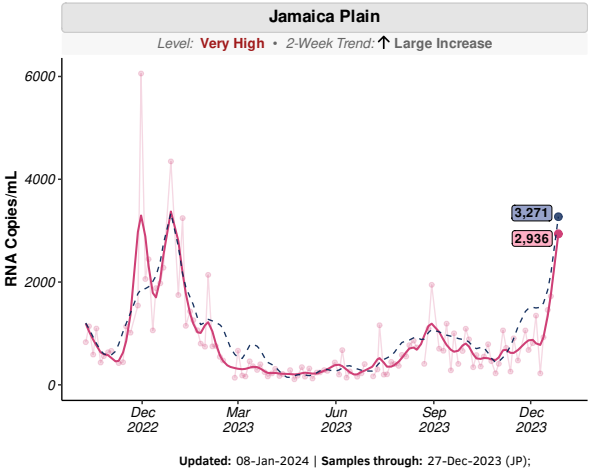
Jamaica Plain

Level: **Very High**

- Average value in **JP** over the past week: **2,936** copies/mL.
- This value is **very high** compared to past values and **similar** than the citywide average (**3,271** copies/mL).

Trend: ↑ **Large Increase**

- Over the past two weeks, values in **JP** are **increasing**.
- Change compared to two weeks ago: **+2,010** copies/mL (**+217%**).



See recommended actions and resources based on levels and trends in this neighborhood.

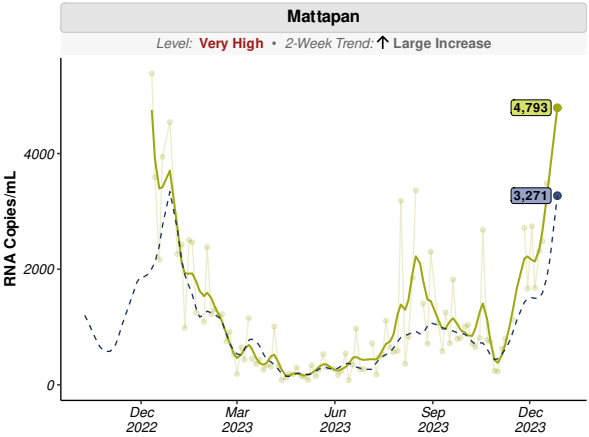
Mattapan

Level: **Very High**

- Average value in **MT** over the past week: **4,793** copies/mL.
- This value is **very high** compared to past values and **higher** than the citywide average (**3,271** copies/mL).

Trend: ↑ **Large Increase**

- Over the past two weeks, values in **MT** are **increasing**.
- Change compared to two weeks ago: **+2,122** copies/mL (**+79%**).



See recommended actions and resources based on levels and trends in this neighborhood.

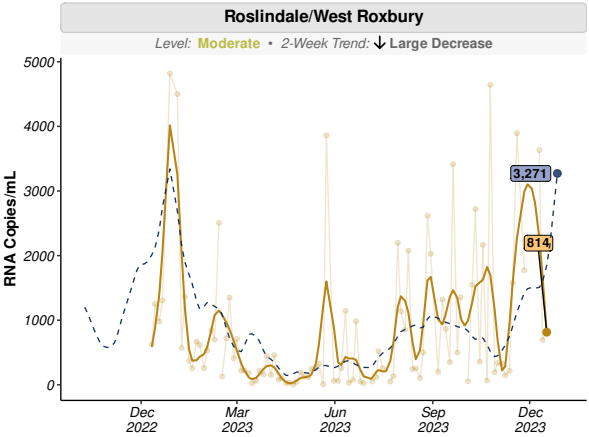
Roslindale/West Roxbury

Level: **Moderate**

- Average value in **RS/WR** over the past week: **814** copies/mL.
- This value is **moderate** compared to past values and **lower** than the citywide average (**3,271** copies/mL).

Trend: ↓ **Large Decrease**

- Over the past two weeks, values in **RS/WR** are **decreasing**.
- Change compared to two weeks ago: **-2,224** copies/mL (**-73%**).



Updated: 08-Jan-2024 | **Samples through:** 17-Dec-2023 (RS/WR);

See recommended actions and resources based on levels and trends in this neighborhood.

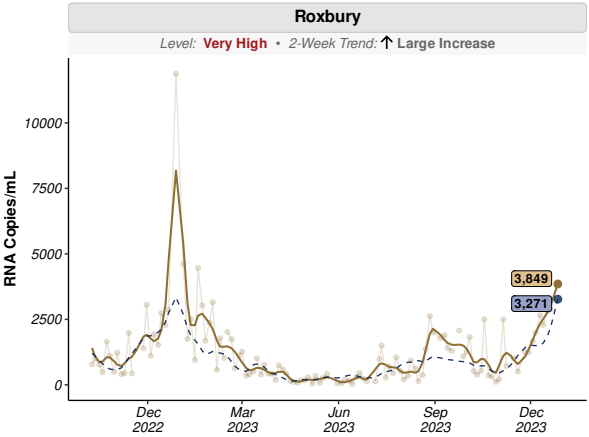
Roxbury

Level: **Very High**

- Average value in **RX** over the past week: **3,849** copies/mL.
- This value is **very high** compared to past values and **higher** than the citywide average (**3,271** copies/mL).

Trend: ↑ **Large Increase**

- Over the past two weeks, values in **RX** are **increasing**.
- Change compared to two weeks ago: **+1,337** copies/mL (**+53%**).



Updated: 08-Jan-2024 | **Samples through:** 27-Dec-2023 (RX);

See recommended actions and resources based on levels and trends in this neighborhood.

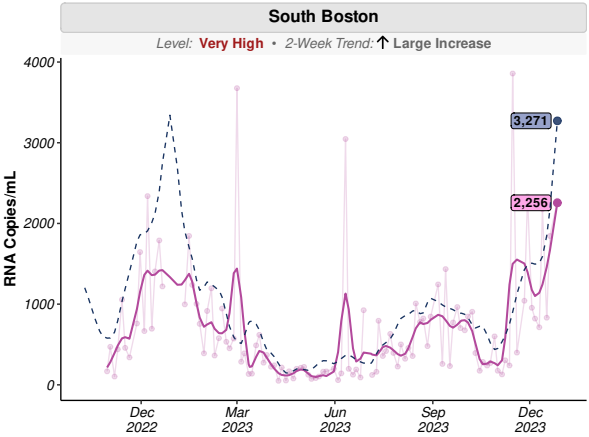
South Boston

Level: **Very High**

- Average value in **SB** over the past week: **2,256** copies/mL.
- This value is **very high** compared to past values and **lower** than the citywide average (**3,271** copies/mL).

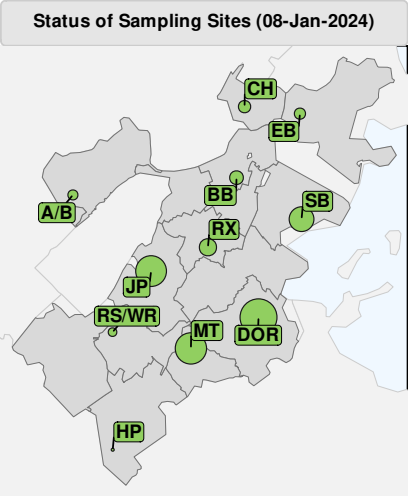
Trend: ↑ **Large Increase**

- Over the past two weeks, values in **SB** are **increasing**.
- Change compared to two weeks ago: **+1,012** copies/mL (**+81%**).



See recommended actions and resources based on levels and trends in this neighborhood.

Site Status and Details



#	Neighborhood	Date Site Confirmed	Site Status	Pop. Covered	% Neighborhood Covered
01	A/B	02-Oct-2022	Active	2,684	4.0%
02	CH	02-Oct-2022	Active	3,736	18.3%
03	EB	02-Oct-2022	Active	3,178	6.3%
04	BB	20-Nov-2022	Active	4,551	8.1%
05	SB	30-Oct-2022	Active	14,962	35.8%
07	JP	02-Oct-2022	Active	23,573	56.9%
08	DOR	02-Oct-2022	Active	34,562	23.8%
09	MT	11-Dec-2022	Active	24,441	80.5%
10	HP	02-Oct-2022	Active	1,262	3.5%
11	RS/WR	11-Dec-2022	Active	2,165	3.5%
12	RX	02-Oct-2022	Active	7,036	16.5%

Level and Trend Category Definitions

Concentration Levels

Concentration Level	Concentration Value (Copies/mL)
Very High	>1,400
High	1,050-1,400
Moderate	700-1,050
Low	350-700
Very Low	≤350

2-Week Trend Categories

	Trend Category	Trend Value (Copies/mL)
↑	Large Increase	>+500
↗	Increase	+150 to +500
→	Stable	-150 to +150
↘	Decrease	-500 to -150
↓	Large Decrease	≤-500

Level: Very High

Wastewater viral levels in your neighborhood indicate **very high risk** of COVID-19 infection.

Based on this level, BPHC urgently recommends the following practices to prevent COVID-19 in your community:

- **Wear a high-quality mask or respirator**
- **If you are at high risk of getting very sick, consider limiting non-essential indoor activities in public where you could be exposed.**
- **If you have close contact with someone at high risk of getting very sick, consider self-testing to detect infection before contact, and consider wearing a high-quality mask when indoors with them**
- Stay up-to-date on vaccinations.
- Seek testing and possible treatment if you get sick
- Stay home when sick and avoid contact with others who are sick
- Improve indoor airflow and ventilation
- Wash your hands often and cover coughs and sneezes
- Follow CDC recommendations for isolation if you have COVID-19 and for what to do if you are exposed to someone with COVID-19

RESOURCES

- Find a vaccination clinic in your neighborhood
- Find a testing site or pickup a free at-home test kit in your neighborhood
- Find treatment for COVID-19 including free telehealth and in home treatment.
- Call or visit the Mayor's Health Line
- Learn more about COVID-19 and find additional resources: COVID-19: Know the Facts Find the Truth

Level: High

Wastewater viral levels in your neighborhood indicate **high risk** of COVID-19 infection.

Based on this level, BPHC strongly recommends the following practices to prevent COVID-19 in your community:

- **Wear a high-quality mask or respirator**
- **If you have close contact with someone at high risk of getting very sick, consider self-testing to detect infection before contact, and consider wearing a high-quality mask when indoors with them**
- Stay up-to-date on vaccinations.
- Seek testing and possible treatment if you get sick
- Stay home when sick and avoid contact with others who are sick
- Improve indoor airflow and ventilation
- Wash your hands often and cover coughs and sneezes
- Follow CDC recommendations for isolation if you have COVID-19 and for what to do if you are exposed to someone with COVID-19

RESOURCES

- Find a vaccination clinic in your neighborhood
- Find a testing site or pickup a free at-home test kit in your neighborhood
- Find treatment for COVID-19 including free telehealth and in home treatment.
- Call or visit the Mayor's Health Line
- Learn more about COVID-19 and find additional resources: COVID-19: Know the Facts Find the Truth

Level: Moderate

Wastewater viral levels in your neighborhood indicate **moderate risk** of COVID-19 infection.

Based on this level, BPHC recommends the following practices to prevent COVID-19 in your community:

- **If you are at high risk of getting very sick, wear a high-quality mask or respirator in public indoor spaces**
- **If you have close contact with someone at high risk of getting very sick, consider self-testing to detect infection before contact, and consider wearing a high-quality mask when indoors with them**
- Stay up-to-date on vaccinations.
- Seek testing and possible treatment if you get sick
- Stay home when sick and avoid contact with others who are sick
- Improve indoor airflow and ventilation
- Wash your hands often and cover coughs and sneezes
- Follow CDC recommendations for isolation if you have COVID-19 and for what to do if you are exposed to someone with COVID-19

RESOURCES

- Find a vaccination clinic in your neighborhood
- Find a testing site or pickup a free at-home test kit in your neighborhood
- Find treatment for COVID-19 including free telehealth and in home treatment.
- Call or visit the Mayor's Health Line
- Learn more about COVID-19 and find additional resources: COVID-19: Know the Facts Find the Truth

Level: Low

Wastewater viral levels in your neighborhood indicate **low risk** of COVID-19 infection.

Based on this level, BPHC recommends the following practices to prevent COVID-19 in your community:

- **Continue to monitor wastewater levels and trends**
- Stay up-to-date on vaccinations.
- Seek testing and possible treatment if you get sick
- Stay home when sick and avoid contact with others who are sick
- Improve indoor airflow and ventilation
- Wash your hands often and cover coughs and sneezes
- Follow CDC recommendations for isolation if you have COVID-19 and for what to do if you are exposed to someone with COVID-19

RESOURCES

- Find a vaccination clinic in your neighborhood
- Find a testing site or pickup a free at-home test kit in your neighborhood
- Find treatment for COVID-19 including free telehealth and in home treatment.
- Call or visit the Mayor's Health Line
- Learn more about COVID-19 and find additional resources: COVID-19: Know the Facts Find the Truth

Level: Very Low

Wastewater viral levels in your neighborhood indicate **very low risk** of COVID-19 infection.

Based on this level, BPHC recommends the following practices to prevent COVID-19 in your community:

- **Continue to monitor wastewater levels and trends**
- Stay up-to-date on vaccinations.
- Seek testing and possible treatment if you get sick
- Stay home when sick and avoid contact with others who are sick
- Improve indoor airflow and ventilation
- Wash your hands often and cover coughs and sneezes
- Follow CDC recommendations for isolation if you have COVID-19 and for what to do if you are exposed to someone with COVID-19

RESOURCES

- Find a vaccination clinic in your neighborhood
- Find a testing site or pickup a free at-home test kit in your neighborhood
- Find treatment for COVID-19 including free telehealth and in home treatment.
- Call or visit the Mayor's Health Line
- Learn more about COVID-19 and find additional resources: COVID-19: Know the Facts Find the Truth