

**IN LIEU OF
DIRECTORS' ORGANIZATIONAL MEETING
Monday, April 26, 2021**

**I. DIRECTORS CORRESPONDENCE
FINANCE DEPARTMENT**

1. April 2021 Sales Tax Report reflecting February 2021 Sales

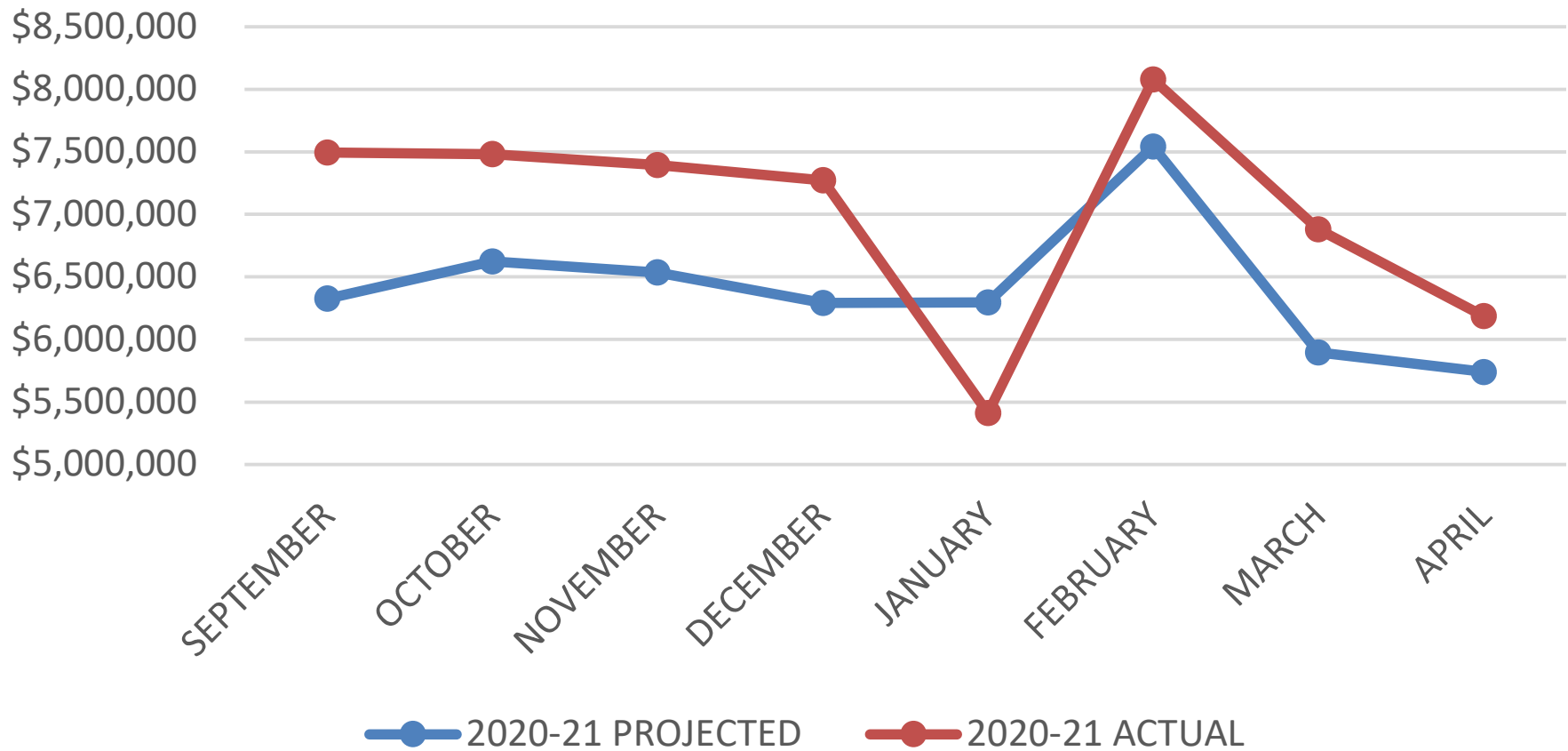
PLANNING DEPARTMENT

1. Administrative Approvals from April 13, 2021 through April 19, 2021

II. CONSTITUENT CORRESPONDENCE

1. Bid Number: 6375; Liquid Cationic Polymer Testing – Jeff Given
Staff response provided by Sharon Mulder, Assistant Purchasing Agent
2. COPS Bond Financing, Pioneers Golf Course – Alice Skultety
3. Mask Mandate and Science – DeeAnn Allison
4. Mask Mandate – Cortni Hansen
5. Police Training – Adam Dunn

FY 2020-21 Projected vs Actual Net Sales Tax



**Actual Compared to
Projected Sales Tax Collections**

	2020-21 PROJECTED	2020-21 ACTUAL	VARIANCE FROM PROJECTED	\$ CHANGE FROM 19-20	% CHANGE FROM 19-20
SEPTEMBER	\$6,325,838	\$7,492,398	\$1,166,560	\$693,111	10.19%
OCTOBER	\$6,621,779	\$7,480,919	\$859,140	\$401,905	5.68%
NOVEMBER	\$6,537,834	\$7,392,815	\$854,981	\$281,686	3.96%
DECEMBER	\$6,292,944	\$7,273,404	\$980,460	\$389,694	5.66%
JANUARY	\$6,294,730	\$5,412,199	(\$882,531)	(\$567,472)	-9.49%
FEBRUARY	\$7,542,765	\$8,079,047	\$536,282	\$49,294	0.61%
MARCH	\$5,894,467	\$6,878,810	\$984,343	\$611,930	9.76%
APRIL	\$5,740,899	\$6,188,984	\$448,085	(\$130,335)	-2.06%
MAY	\$6,709,386				
JUNE	\$6,338,704				
JULY	\$6,445,755				
AUGUST	\$6,914,489				
TOTAL	\$77,659,590	\$56,198,576	\$4,947,320	\$1,729,813	3.18%

Actual collections for the fiscal year to date are 9.65% over projections for the year.

CITY OF LINCOLN
GROSS SALES TAX COLLECTIONS (WITH REFUNDS ADDED BACK IN)
2016-2017 THROUGH 2020-2021

	ACTUAL	ACTUAL	ACTUAL	% CHG.	ACTUAL	% CHG.	ACTUAL	% CHG.
	2016-17	2017-18	2018-19	FROM PRIOR	2019-20	FROM PRIOR	2020-21	FROM PRIOR
				YEAR		YEAR		YEAR
SEPTEMBER	\$6,265,764	\$6,386,734	\$6,457,192	1.10%	\$6,927,862	7.29%	\$7,514,711	8.47%
OCTOBER	\$6,598,756	\$6,811,452	\$6,817,440	0.09%	\$7,116,483	4.39%	\$7,514,902	5.60%
NOVEMBER	\$6,471,721	\$6,537,754	\$6,637,486	1.53%	\$7,146,575	7.67%	\$7,422,009	3.85%
DECEMBER	\$6,128,386	\$6,371,026	\$6,493,888	1.93%	\$6,897,823	6.22%	\$7,316,836	6.07%
JANUARY	\$6,285,444	\$6,432,363	\$6,516,808	1.31%	\$6,776,561	3.99%	\$6,749,486	-0.40%
FEBRUARY	\$7,293,928	\$7,459,132	\$7,386,107	-0.98%	\$8,118,745	9.92%	\$8,105,671	-0.16%
MARCH	\$5,521,761	\$5,930,406	\$5,981,967	0.87%	\$6,303,510	5.38%	\$6,886,017	9.24%
APRIL	\$5,639,028	\$5,618,037	\$5,586,708	-0.56%	\$6,350,301	13.67%	\$7,267,560	14.44%
MAY	\$6,708,815	\$6,759,407	\$6,623,556	-2.01%	\$6,308,611	-4.75%		
JUNE	\$6,255,952	\$6,325,718	\$6,721,994	6.26%	\$5,793,431	-13.81%		
JULY	\$6,440,709	\$6,644,137	\$6,804,001	2.41%	\$6,282,775	-7.66%		
AUGUST	\$6,736,493	\$6,770,977	\$7,199,568	6.33%	\$7,595,398	5.50%		
TOTAL	\$76,346,757	\$78,047,143	\$79,226,715	1.51%	\$81,618,075	3.02%	\$58,777,192	5.64%

**CITY OF LINCOLN
SALES TAX REFUNDS
2016-2017 THROUGH 2020-2021**

	ACTUAL 2016-2017	ACTUAL 2017-2018	ACTUAL 2018-2019	% CHG. FROM PRIOR YEAR	ACTUAL 2019-2020	% CHG. FROM PRIOR YEAR	ACTUAL 2020-2021	% CHG. FROM PRIOR YEAR
SEPTEMBER	(\$217,212)	(\$98,235)	(\$52,954)	-46.09%	(\$128,575)	142.81%	(\$22,314)	-82.65%
OCTOBER	(\$31,712)	(\$30,920)	(\$7,524)	-75.66%	(\$37,469)	397.97%	(\$33,982)	-9.31%
NOVEMBER	(\$81,460)	(\$923)	(\$2,944)	218.96%	(\$35,446)	1104.01%	(\$29,194)	-17.64%
DECEMBER	(\$79,179)	(\$46,365)	(\$58,585)	26.36%	(\$14,114)	-75.91%	(\$43,432)	207.72%
JANUARY	(\$294,431)	(\$379,926)	(\$342,169)	-9.94%	(\$796,890)	132.89%	(\$1,337,287)	67.81%
FEBRUARY	(\$90,752)	(\$719)	(\$33,054)	4497.22%	(\$88,992)	169.23%	(\$26,624)	-70.08%
MARCH	(\$92,105)	(\$49,445)	(\$40,643)	-17.80%	(\$36,630)	-9.87%	(\$7,207)	-80.32%
APRIL	(\$29,707)	(\$41,280)	(\$31,464)	-23.78%	(\$30,982)	-1.53%	(\$40,355)	30.25%
MAY	(\$67,726)	(\$91,272)	(\$41,555)	-54.47%	(\$15,309)	-63.16%	(\$40,737)	166.10%
JUNE	(\$83,394)	(\$51,268)	(\$13,186)	-74.28%	(\$10,195)	-22.68%		
JULY	(\$1,932)	(\$347,486)	(\$29,772)	-91.43%	(\$45,946)	54.32%		
AUGUST	(\$17,202)	(\$96,471)	(\$9,385)	-90.27%	(\$34,190)	264.30%		
TOTAL	(\$1,086,812)	(\$1,234,310)	(\$663,236)	-46.27%	(\$1,274,738)	92.20%	(\$1,581,132)	33.50%

**CITY OF LINCOLN
NET SALES TAX COLLECTIONS
2016-2017 THROUGH 2020-2021**

	ACTUAL 2016-17	ACTUAL 2017-18	ACTUAL 2018-19	% CHG. FROM PRIOR YEAR	ACTUAL 2019-20	% CHG. FROM PRIOR YEAR	ACTUAL 2020-21	% CHG. FROM PRIOR YEAR
SEPTEMBER	\$6,048,552	\$6,288,498	\$6,404,239	1.84%	\$6,799,287	6.17%	\$7,492,398	10.19%
OCTOBER	\$6,567,045	\$6,780,531	\$6,809,916	0.43%	\$7,079,014	3.95%	\$7,480,919	5.68%
NOVEMBER	\$6,390,261	\$6,536,831	\$6,634,499	1.49%	\$7,111,129	7.18%	\$7,392,815	3.96%
DECEMBER	\$6,049,207	\$6,324,661	\$6,435,303	1.75%	\$6,883,710	6.97%	\$7,273,404	5.66%
JANUARY	\$5,991,013	\$6,052,437	\$6,174,639	2.02%	\$5,979,671	-3.16%	\$5,412,199	-9.49%
FEBRUARY	\$7,203,175	\$7,458,413	\$7,353,053	-1.41%	\$8,029,753	9.20%	\$8,079,047	0.61%
MARCH	\$5,429,656	\$5,880,960	\$5,941,323	1.03%	\$6,266,880	5.48%	\$6,878,810	9.76%
APRIL	\$5,609,320	\$5,576,757	\$5,555,244	-0.39%	\$6,319,319	13.75%	\$6,188,984	-2.06%
MAY	\$6,641,089	\$6,668,135	\$6,582,001	-1.29%	\$6,293,302	-4.39%		
JUNE	\$6,172,558	\$6,274,450	\$6,708,808	6.92%	\$5,783,236	-13.80%		
JULY	\$6,438,777	\$6,296,651	\$6,774,229	7.58%	\$6,236,829	-7.93%		
AUGUST	\$6,719,292	\$6,674,506	\$7,190,183	7.73%	\$7,561,209	5.16%		
TOTAL	\$75,259,945	\$76,812,830	\$78,563,436	2.28%	\$80,343,339	2.27%	\$56,198,576	3.18%



Memorandum

Date: ♦ April 20, 2021

To: ♦ City Clerk

From: ♦ Rhonda Haas, Planning Dept.

Re: ♦ Administrative Approvals

cc: ♦ Geri Rorabaugh, Planning Dept.

This is a list of City administrative approvals by the Planning Director from April 13, 2021 through April 19, 2021:

Administrative Amendment 210014, to Change of Zone 17013A, Iron Ridge PUD, approved by the Planning Director on April 15, 2021 to show the site-specific layout for the B-2 PUD area with up to 250 dwelling units and no commercial floor area and revise the areas designated as Phase IV and Phase V, on property generally located at South 27th Street and Rokeby Road.

Angela M. Birkett

From: Sharon R. Mulder
Sent: Tuesday, April 20, 2021 7:45 AM
To: 'Jeff Given'
Cc: Council Packet; Janice L. Folkner; Transportation and Utilities; JCA Attorney; Mayor; Robert L. Walla; Eric C. Lee
Subject: RE: Bid Number: 6375; Bid Title: Liquid Cationic Polymer Testing

Good Morning Jeff,

We are not trying to do anything suspicious, sorry if you feel that is the case. **We are only requesting details to test your product**. We are not bidding the product at this time.

Thank you and if you have any other questions, let me know.

Thanks,

Sharon

Sharon Mulder, C.P.M. | Assistant Purchasing Agent

City of Lincoln | Lancaster County Purchasing

440 S. 8th Street, Suite 200

Lincoln, NE 68508

Phone: 402.441.7428

smulder@lincoln.ne.gov

From: Jeff Given <JeffGiven@polytecinc.net>

Sent: Monday, April 19, 2021 6:23 PM

To: Sharon R. Mulder <SMulder@lincoln.ne.gov>

Cc: Council Packet <CouncilPacket@lincoln.ne.gov>; Janice L. Folkner <jfolkner@lincoln.ne.gov>; Transportation and Utilities <LTU@lincoln.ne.gov>; JCA Attorney <JCAAttorney@lincoln.ne.gov>; Mayor <mayor@lincoln.ne.gov>

Subject: Bid Number: 6375; Bid Title: Liquid Cationic Polymer Testing

Ms. Mulder,

There is not enough information or time (4/19/21 2:01PM issue - 4/23/21 close) supplied to allow prospective vendors to respond properly. The fact that such a short time frame to respond garners suspicion.

- 1) How many pounds or gallons per day/week/month/year of the current polymer is being used by the City/Lincoln, NE.
- 2) How many gallons per day/week/month/year of water is being treated by the City/Lincoln, NE.
- 3) Which facility/facilities within the City/Lincoln, NE will use said Polymer.
- 4) Who/legal entity is the current supplier.
- 5) What price was the current bid awarded (per pound/gallon).
- 6) Is there a 'piggyback' agreement in place. Example: City/Omaha Polymer bid awarded, City/Lincoln can use the same vendor, product, price?

None of the above information is supplied in the solicitation. The only information supplied thus far is attached.

Thank You for your attention.

Warmest Regards,

Jeff Given

Jeff Given

Polytec Inc.

Sales Representative (Mid-West)

Cell: 402-319-5672

jeffgiven@polytecinc.net

<http://www.polytecinc.net/>

Better Water and Service.



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Dear Supplier,

A new event matching your commodity registration profile is available.

Bid Opportunity Information

Bid Number: 6375

Bid Title: Liquid Cationic Polymer Testing

Issue Date: 4/19/2021 02:00:07 PM (CT)

Close Date: 4/23/2021 12:00:00 PM (CT)

Bid Notes

If you need assistance in preparing your bid, 1) Click the "Help" button in the upper right hand corner of any screen; or 2) Contact our office at 402-441-8103 to assistance over the phone.

Due to the Covid 19 virus emergency the Purchasing Department will not allow the public to enter the Purchasing Office effective April 13, 2020. We are still issuing bids and contracts for City, County and PBC projects without interruptions.

We ask that you follow these recommendations to submit bids, ask questions or submit documents until further notice:

1. Bidders must submit bids from personal computers, or public computers at locations that are open for business. Computers are not available at the Purchasing Office.

2. Vendors are strongly encouraged to attach bid bonds to their bid in the Response Attachment section. Original bid bonds are to be mailed to the Purchasing Office within 3 days of bid close.

3. If you must drop off a bid bond, insurance, or other documents, a drop box will be located at the Purchasing Office where there is no exposure to the staff or public.

4. If you need assistance completing a bid or have other problems with submission of bids or documents, please call us at 402-441-8103 or email Purchasing@lincoln.ne.gov.

5. Refer to all other instructions associated with the bid documents which are attached to the Ebid system to ensure you have completed all requirements.

We thank you for your cooperation in reducing exposure to the Covid virus. It is our hope that we will be doing business as usual again soon and these restrictions will be removed.

Take care of yourself and your families, and thank you for doing business with the City of Lincoln, Lancaster County, and the Lincoln/Lancaster County Public Building Commission.

The City/County Purchasing Department

Bid Contact Information

Sharon Mulder

Purchasing

440 S. 8th St.

Lincoln, NE 68508 USA

1 (402) 441-7428

smulder@lincoln.ne.gov

[Click Here to View Opportunity](#)

If you have questions about your account or the system, please contact Purchasing.

Phone: 402-441-7410

Fax: 402-441-6513

E-mail: purchasing@lincoln.ne.gov



VNDBIDAUTOINVITE - 4/19/2021 02:00 PM (CT)

Warmest Regards,

Jeff Given

Jeff Given

Polytec Inc.

Sales Representative (Mid-West)

Cell: 402-319-5672

jeffgiven@polytecinc.net

<http://www.polytecinc.net/>

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INSTRUCTIONS TO BIDDERS

CITY OF LINCOLN, NEBRASKA

E-Bid

1. **BIDDING PROCEDURE**

- 1.1 Sealed bid, formal and informal, subject to Instructions and General Conditions and any special conditions set forth herein, will be received in the office of the Purchasing Division, 440 So. 8th St., Lincoln, NE 68508, until the bid closing date and time indicated for furnishing the City of Lincoln, hereinafter referred to as "City", the materials, supplies, equipment or services shown in the electronic bid request.
- 1.2 Bidders shall use the electronic bid system for submitting bids and must complete all required fields.
- 1.3 Identify the item you will furnish by brand or manufacturer's name and catalog numbers. Also furnish specifications and descriptive literature if not bidding the specific manufacturer or model as listed in the specifications.
- 1.4 Any person submitting a bid for a firm, corporation, or other organization must show evidence of his authority so as to bind such firm, corporation, or organization.
- 1.5 Bids received after the time and date established for receiving bids will be rejected.
- 1.6 The Bidders and public are invited, but not required, to attend the opening of bids. At the opening, prices will be displayed electronically and/or read aloud to the public. The pricing is also available for immediate viewing on-line. No decisions related to an award of a contract or purchase order will be made at the opening.
- 1.7 If bidding on a construction contract, the City's most current Standard Specifications for Municipal Construction shall apply.
 - 1.7.1 Bidders may obtain this document from the City's Design Engineering Division of the Public Works & Utilities Department for a small fee.
 - 1.7.2 Said document can be reviewed at Design Engineering or at the office of the Purchasing Division.
 - 1.7.3 Said document is available on the web site.
<http://www.lincoln.ne.gov/city/pworks/engine/dconst/standard/stndspec/index.htm>

2. **BID SECURITY**

- 2.1 Bid security, as a guarantee of good faith, in the form of a certified check, cashier's check, or bid bond, may be required to be submitted with this bidding document, as indicated on the bid.
 - 2.1.1 Bid security, if required, shall be in the amount specified on the bid. The bid security must be scanned and attached to the "Response Attachments" section of your response or it can be faxed to the Purchasing Division at 402-441-6513. The original bid security should then be sent or delivered to the office of the Purchasing Division, 440 S. 8th St., Ste. 200, Lincoln, NE 68508 within three (3) days of bid closing.
 - 2.1.2 If bid security is not received in the office of the Purchasing Division as stated above, the vendor may be determined to be non-responsive.
- 2.2 If alternates are submitted, only one bid security will be required, provided the bid security is based on the amount of the highest gross bid.
- 2.3 Such bid security will be returned to the unsuccessful Bidders when the award of bid is made.
- 2.4 Bid security will be returned to the successful Bidder(s) as follows:
 - 2.4.1 For single order bids with specified quantities: upon the delivery of all equipment or merchandise, and upon final acceptance by the City.
 - 2.4.2 For all other contracts: upon approval by the City of the executed contract and bonds.
- 2.5 City shall have the right to retain the bid security of Bidders to whom an award is being considered until either:
 - 2.5.1 A contract has been executed and bonds have been furnished.
 - 2.5.2 The specified time has elapsed so that the bids may be withdrawn.
 - 2.5.3 All bids have been rejected.
- 2.6 Bid security will be forfeited to the City as full liquidated damages, but not as a penalty, for any of the following reasons, as pertains to this bidding document:
 - 2.6.1 If the Bidder fails or refuses to enter into a contract on forms provided by the City, and/or if the Bidder fails to provide sufficient bonds or insurance within the time period as established in this bidding document.

3. **BIDDER'S REPRESENTATION**

- 3.1 Each Bidder by electronic signature and submitting a bid, represents that the Bidder has read and understands the bidding documents, and the bid has been made in accordance therewith.
- 3.2 Each Bidder for services further represents that the Bidder has examined and is familiar with the local conditions under which the work is to be done and has correlated the observations with the requirements of the bidding documents.

4. CLARIFICATION OF BIDDING DOCUMENTS

- 4.1 Bidders shall promptly notify the Purchasing Agent of any ambiguity, inconsistency or error which they may discover upon examination of the bidding documents.
- 4.2 Bidders desiring clarification or interpretation of the bidding documents for formal bids shall make a written request which must reach the Purchasing Agent at least five (5) calendar days prior to the date and time for receipt of formal bids.
- 4.3 Changes made to the bidding documents will be issued electronically via addendum. All vendors registered for that bid prior to bid issuance will be notified of the addendum. Bidders registering after the bid is issued will receive the bid with the addendum included.
- 4.4 Oral interpretations or changes to the bidding documents made in any manner other than written form will not be binding on the City; and Bidders shall not rely upon such interpretations or changes.

5. ADDENDA

- 5.1 Addenda are instruments issued by the City prior to the date for receipt of bids which modify or interpret the bidding document by addition, deletion, clarification or correction.
- 5.2 Addenda notification will be made available to all registered vendors immediately via e-mail for inspection on-line.
- 5.3 No addendums will be issued later than forty-eight (48) hours prior to the date and time for receipt of bids, except an addendum withdrawing the invitation to bid, or an addendum which includes postponement of the bid.

6. INDEPENDENT PRICE DETERMINATION

- 6.1 By signing and submitting this bid, the Bidder certifies that the prices in this bid have been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other Bidder or with any competitor; unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the Bidder prior to bid opening directly or indirectly to any other Bidder or to any competitor; no attempt has been made, or will be made, by the Bidder to induce any person or firm to submit, or not to submit, a bid for the purpose of restricting competition.

7. ANTI-LOBBYING PROVISION

- 7.1 During the period between the bid advertisement date and the contract award, Bidders, including their agents and representatives, shall not lobby or promote their bid with the Mayor, any member of the City Council, or City staff except in the course of City sponsored inquiries, briefings, interviews, or presentations, unless requested by the City.

8. BRAND NAMES

- 8.1 Wherever in the specifications or bid that brand names, manufacturer, trade name, or catalog numbers are specified, it is for the purpose of establishing a grade or quality of material only; and the term "or equal" is deemed to follow.
- 8.2 It is the Bidder's responsibility to identify any alternate items offered in the bid, and prove to the satisfaction of the City that said item is equal to, or better than, the product specified.
- 8.3 Bids for alternate items shall be stated in the appropriate space on the e-bid form, or if the proposal form does not contain blanks for alternates, Bidder MUST attach to its bid document on Company letterhead a statement identifying the manufacturer and brand name of each proposed alternate, plus a complete description of the alternate items including illustrations, performance test data and any other information necessary for an evaluation.
- 8.4 The Bidder must indicate any variances by item number from the bidding document no matter how slight.
- 8.5 If variations are not stated in the bid, it will be assumed that the item being bid fully complies with the City's bidding documents.

9. DEMONSTRATIONS/SAMPLES

- 9.1 Bidders shall demonstrate the exact item(s) proposed within seven (7) calendar days from receipt of such request from the City.
- 9.2 Such demonstration can be at the City delivery location or a surrounding community.
- 9.3 If items are small and malleable, the Bidder is proposing an alternate product, the Bidder shall supply a sample of the exact item. Samples will be returned at Bidder's expense after receipt by the City of acceptable goods. The Bidder must indicate how samples are to be returned.

10. DELIVERY (Non-Construction)

- 10.1 Each Bidder shall state on the bid the date upon which it can make delivery of all equipment or merchandise.
- 10.2 The City reserves the right to cancel orders, or any part thereof, without obligation, if delivery is not made within the time(s) specified on the bid.
- 10.3 All bids shall be based upon **inside** delivery of the equipment/ merchandise F.O.B. to the City at the location specified by the City, with all transportation charges paid.
- 10.4 At the time of delivery, a designated City of Lincoln employee will sign the invoice/packing slip. The signature will only indicate that the order has been received and the items actually delivered agree with the delivery invoice. This signature does not indicate all items met specifications, were received in good condition and/or that there is not possible hidden damage or shortages.

11. WARRANTIES AND GUARANTEES

- 11.1 Copies of the following documents shall accompany the bid proposal for all items being bid, if requested:
 - 11.1.1 Manufacturer's warranties and/or guarantees.
 - 11.1.2 Bidder's maintenance policies and associated costs.
- 11.2 Unless stated otherwise in the specifications, as a minimum requirement of the City, the Bidder will guarantee in writing that any defective components discovered within a one (1) year period after the date of acceptance shall be replaced at no expense to the City. Replacement parts of defective components shall be shipped at no cost to the City. Shipping costs for defective parts required to be returned to the Bidder shall be paid by the Bidder.

12. ACCEPTANCE OF MATERIAL

- 12.1 All components used in the manufacture or construction of materials, supplies and equipment, and all finished materials, shall be new, the latest make/model, of the best quality, and the highest grade workmanship.
- 12.2 Material delivered under this proposal shall remain the property of the Bidder until:
 - 12.2.1 A physical inspection and actual usage of the material is made and found to be acceptable to the City; and
 - 12.2.2 Material is determined to be in full compliance with the bidding documents and accepted bid.
- 12.3 In the event the delivered material is found to be defective or does not conform to the bidding documents and accepted bid, the City reserves the right to cancel the order upon written notice to the Bidder and return materials to the Bidder at Bidder's expense.
- 12.4 Awarded Bidder shall be required to furnish title to the material, free and clear of all liens and encumbrances, issued in the name of the City of Lincoln, Nebraska, as required by the bidding documents or purchase orders.
- 12.5 Awarded Bidder's advertising decals, stickers or other signs shall not be affixed to equipment. Vehicle mud flaps shall be installed blank side out with no advertisements. Manufacturer's standard production forgings, stampings, nameplates and logos are acceptable.

13. BID EVALUATION AND AWARD

- 13.1 The electronic signature shall be considered an offer on the part of the Bidder. Such offer shall be deemed accepted upon issuance by the City of purchase orders, contract award notifications, or other contract documents appropriate to the work.
- 13.2 No bid shall be modified or withdrawn for a period of ninety (90) calendar days after the time and date established for receiving bids, and each Bidder so agrees in submitting the bid.
- 13.3 In case of a discrepancy between the unit prices and their extensions, the unit prices shall govern.
- 13.4 The bid will be awarded to the lowest responsible, responsive Bidder whose bid will be most advantageous to the City, and as the City deems will best serve the requirements and interests of the City.
- 13.5 The City reserves the right to accept or reject any or all bids; to request rebids; to award bids item-by-item, with or without alternates, by groups, or "lump sum"; to waive minor irregularities in bids; such as shall best serve the requirements and interests of the City.
- 13.6 In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit additional information as deemed necessary by the City. Failure to provide the information requested to make this determination may be grounds for a declaration of non-responsive with respect to the Bidder.
- 13.7 The City reserves the right to reject irregular bids that contain unauthorized additions, conditions, alternate bids, or irregularities that make the bid incomplete, indefinite or ambiguous.
- 13.8 Any governmental agency may piggyback on any contract entered into from this bid.

14. INDEMNIFICATION

- 14.1 The Bidder shall indemnify and hold harmless the City of Lincoln, Nebraska from and against all losses, claims, damages, and expenses, including, attorney's fees arising out of or resulting from the performance of the contract that results in bodily injury, sickness, disease, death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom and is caused in whole or in part by the Bidder, any subcontractor, any directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. This section will not require the Bidder to indemnify or hold harmless the City of Lincoln for any losses, claims damages, and expenses arising out of or resulting from the sole negligence of the City of Lincoln, Nebraska.
- 14.2 In any and all claims against the City or any of its members, officers or employees by an employee of the Bidder, any subcontractor, anyone directly or indirectly employed by any of them or by anyone for whose acts made by any of them may be liable, the indemnification obligation under paragraph 14.1 shall not be limited in any way by any limitation of the amount or type of damages, compensation or benefits payable by or for the Bidder or any subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

15. TERMS OF PAYMENT

- 15.1 Unless stated otherwise, the City will begin processing payment within thirty (30) calendar days after all labor has been performed and all equipment or other materials have been delivered, and all such labor and equipment and other materials have met all contract specifications.

16. LAWS

- 16.1 The laws of the State of Nebraska shall govern the rights, obligations, and remedies of the parties under this bid and any contract reached as a result of this process.
- 16.2 Bidder agrees to abide by all applicable local, state and federal laws and regulations, including those concerning the handling and disclosure of private and confidential information from individuals and corporations as to inventions, copyrights, patents and patent rights.
- 16.3 If there are any conflicts or inconsistencies between the Bidder's documents and the City's, the City's documents shall control.

17. EQUIPMENT TAX ASSESSMENT

- 17.1 Any bid for public improvement shall comply with Nebraska Revised Statute Sections 77-1323 and 77-1324. In that regard, every person, partnership, limited liability company, association or corporation furnishing labor or material in the repair, alteration, improvement, erection, or construction of any public improvement shall sign a certified statement which will accompany the contract. The certified statement shall state that all equipment to be used on the project, except that acquired since the assessment date, has been assessed for taxation for the current year, giving the county where assessed.

18. AFFIRMATIVE ACTION

- 18.1 The City of Lincoln provides equal opportunity for all Bidders and encourages minority businesses, women's businesses and locally owned business enterprises to participate in our bidding process.

19. LIVING WAGE

- 19.1 The Bidder shall be responsible for determining whether it is subject to the Living Wage ordinance in the event it is awarded the contract.
- 19.2 If the contract is subject to the City Living Wage pursuant to Section 2.81 of the Lincoln Municipal Code, the Bidder agrees to pay all employees employed in the performance of this contract, a base wage of not less than the City Living Wage. This wage is subject to change every July.

20. INSURANCE

- 20.1 All Bidders shall take special notice of the insurance provisions required for City contracts (see *Insurance Requirements for All City Contracts*).

21. EXECUTION OF AGREEMENT

- 21.1 Depending on the type of service or commodity provided, one of the following methods will be employed. The method applicable to this contract will be checked below:
- _____ a. **PURCHASE ORDER**, unless otherwise noted.
1. This contract shall consist of a City of Lincoln Purchase Order.
 2. A copy of the Bidder's bid response (or referenced bid number) attached and that the same, in all particulars, becomes the contract between the parties hereto: that both parties thereby accept and agree to the terms and conditions of said bid documents.
- X b. **CONTRACT**, unless otherwise noted.
1. City will furnish copies of a Contract to the successful Bidder who shall prepare attachments as required. Insurance as evidenced by a Certificate of Insurance (as required), surety bonds properly executed (as required), and Contract signed and dated.
 2. The prepared documents shall be returned to the Purchasing Office within 10 days (unless otherwise noted).
 3. The City will sign and date the Contract and prepare an Executive Order or Directorial Order for signature.
 4. Upon approval and signature, the City will return one copy to the successful Bidder.

22. TAXES AND TAX EXEMPTION CERTIFICATE

- 22.1 The City is generally exempt from any taxes imposed by the state or federal government. A Tax Exemption Certificate will be provided as applicable.
- 22.2 The Water Division of the City of Lincoln is taxable per Reg. 066.14A and no exemption certificate will be issued.

23. CITY AUDIT ADVISORY BOARD

- 23.1 All parties of any City agreement shall be subject to audit pursuant to Chapter 4.66 of the Lincoln Municipal Code and shall make Available to a contract auditor, as defined therein, copies of all financial and performance related records and materials germane to the contract/order, as allowed by law.

24. E-VERIFY

- 24.1 In accordance with Neb. Rev. Stat. 4-108 through 4-114, the winning bidder agrees to register with and use a federal immigration verification system, to determine the work eligibility status of new employees performing services within the state of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324 a, otherwise known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee pursuant to the Immigration Reform and Control Act of 1986. The winning bidder shall not discriminate against any employee or applicant for employment to be employed in the performance of this section pursuant to the requirements of state law and 8 U.S.C.A 1324b. The winning bidder shall require any subcontractor to comply with the provisions of this section. For information on the E-Verify Program, go to www.uscis.gov/everify.

LINCOLN WATER SYSTEM CATIONIC POLYMER TESTING REQUIREMENTS

For purposes of comparing “like or equal” cationic polymer products to the currently used polymer at LWS, the following requirements and testing must be done to demonstrate a like or equal product.

Testing Methods:

Turbidity reduction measurements through jar testing are not acceptable methods of determining the efficacy of polymer additions. There are no conventional treatment processes in place in the LWS treatment facility and polymer is not used for turbidity reduction as is typically the case for conventional treatment plant processes.

LWS measurement of polymer efficacy is based on total and dissolved manganese speciation analysis of pre-filtration versus post-filtration data after polymer additions. Dissolved manganese concentrations of ≤ 5 micrograms per liter and Total manganese concentrations of < 10 micrograms per liter are required to be consistently achievable in filtered water while maintaining current filtered water turbidity levels and performance.

Testing Procedures:

The City will not allow full-scale testing on any treatment plant while actively engaged in Water Production.

A perspective bidder for polymer must provide detailed plans for their testing and how it is to be performed and provide this information in the requested RFQ developed by City Purchasing.

The current City of Lincoln contractor/vendor product has already met this performance criteria consistently and is not required to perform any testing.

If detailed testing plans are approved by the City of Lincoln, then the City will get in touch with Vendor/Contractor to set up testing protocols

After review of the submitted testing procedures and depending upon the City’s discretion, enough testing runs will be required to successfully demonstrate that the proposed product can consistently meet the required Total and Dissolved manganese treatment criteria for filtered water while maintaining current LWS post-filtration turbidities. There may be a possibility of several testing runs to determine polymer efficacy.

Please attach to your RFQ the following information:

1. Detailed plans on how your testing will be performed. **This should be a complete step by step process.**

Angela M. Birkett

From: Alice Skultety <skultetya@windstream.net>
Sent: Tuesday, April 20, 2021 8:17 AM
To: Council Packet
Subject: COPS bond financing proposal for replacement of irrigation system at Pioneers Golf Course

Please consider approving Certificate of Participation bond financing for the replacement of the irrigation system at Pioneers golf course.

The current irrigation system is over a decade beyond its useful life.

Because of the aging system, frequent leaks and major repairs are need throughout the year, requiring unavoidable additional expense and disruption for players. The replacement has been under discussion for many years. The bond debt would be repaid by repurposing the golf surcharge that has been paying bond debt for the Holmes Golf clubhouse, which will be fully paid this fall.

I am a member of the Lincoln City golf committee. The use of COP financing for the replacement of the Pioneers irrigation system has received full support from all members of that committee.

We urge you to approve.

Thank you,

Alice Skultety

Angela M. Birkett

From: DeeAnn Allison <deeann.allison@gmail.com>
Sent: Tuesday, April 20, 2021 8:50 AM
To: Council Packet
Subject: Mask mandates and science

Since you advocate following the science I thought you would find this article informative.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7680614/>

Let me know if this helps with the efforts to fight the virus.

Deeann Allison
3136 Crown Pointe Rd, Lincoln, NE 68506

Angela M. Birkett

From: Cortni Hansen <cortnihansen@yahoo.com>
Sent: Tuesday, April 20, 2021 7:39 PM
To: Council Packet
Cc: Aleksandra Maslowska; aliherrera21@yahoo.com; Darcy Yocum; Denise Rieschick Shaw; Jessica Morten; Cory Radenslaben; Britni Myers; Samuel Lyon; Amber Steckelberg; Skogie
Subject: Mask Mandate
Attachments: Facemasks Stanford Study.pdf

Dear City Council Members,

At what point are you going to wake up and realize these face mask don't work? I have attached the most resent study from Stanford. Logic is fast science is slow. It is my understanding that the health officer would like the mandate to remain until 75% of the population is vaccinated. Which is never going to happen. Most people understand that none of the vaccines are FDA approve and are only approved for emergency use only. I encourage you all to look at the Vaers website. To date there have been 56,569 injuries and 2,342 deaths. Less than 1% of vaccine injuries are reported.

<https://wonder.cdc.gov/controller/datarequest/D8;jsessionid=8F155B855585896340D66093EE9B>

Cortni Hansen
8760 Fremont Street Apt 134
Lincoln, NE 68507
Registered Voter

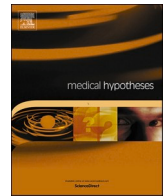
Conclusion

The existing scientific evidences challenge the safety and efficacy of wearing facemask as preventive intervention for COVID-19. The data suggest that both medical and non-medical facemasks are ineffective to block human-to-human transmission of viral and infectious disease such SARS-CoV-2 and COVID-19, supporting against the usage of facemasks. Wearing facemasks has been demonstrated to have substantial adverse physiological and psychological effects. These include hypoxia, hypercapnia, shortness of breath, increased acidity and toxicity, activation of fear and stress response, rise in stress hormones, immunosuppression, fatigue, headaches, decline in cognitive performance, predisposition for viral and infectious illnesses, chronic stress, anxiety and depression. Long-term consequences of wearing facemask can cause health deteri- oration, developing and progression of chronic diseases and premature death. Governments, policy makers and health organizations should utilize prosper and scientific evidence-based approach with respect to wearing facemasks, when the latter is considered as preventive inter- vention for public health.



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Facemasks in the COVID-19 era: A health hypothesis

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ABSTRACT

Many countries across the globe utilized medical and non-medical facemasks as non-pharmaceutical intervention for reducing the transmission and infectivity of coronavirus disease-2019 (COVID-19). Although, scientific evidence supporting facemasks' efficacy is lacking, adverse physiological, psychological and health effects are established. It has been hypothesized that facemasks have compromised safety and efficacy profile and should be avoided from use. The current article comprehensively summarizes scientific evidences with respect to wearing facemasks in the COVID-19 era, providing proper information for public health and decisions making.

Introduction

Facemasks are part of non-pharmaceutical interventions providing some breathing barrier to the mouth and nose that have been utilized for reducing the transmission of respiratory pathogens [1]. Facemasks can be medical and non-medical, where two types of the medical masks primarily used by healthcare workers [1,2]. The first type is National Institute for Occupational Safety and Health (NIOSH)-certified N95 mask, a filtering face-piece respirator, and the second type is a surgical mask [1]. The designed and intended uses of N95 and surgical masks are different in the type of protection they potentially provide. The N95s are typically composed of electret filter media and seal tightly to the face of the wearer, whereas surgical masks are generally loose fitting and may or may not contain electret-filtering media. The N95s are designed to reduce the wearer's inhalation exposure to infectious and harmful particles from the environment such as during extermination of insects. In contrast, surgical masks are designed to provide a barrier protection against splash, spittle and other body fluids to spray from the wearer (such as surgeon) to the sterile environment (patient during operation) for reducing the risk of contamination [1].

The third type of facemasks are the non-medical cloth or fabric masks. The non-medical facemasks are made from a variety of woven and non-woven materials such as Polypropylene, Cotton, Polyester, Cellulose, Gauze and Silk. Although non-medical cloth or fabric facemasks are neither a medical device nor personal protective equipment, some standards have been developed by the French Standardization Association (AFNOR Group) to define a minimum performance for filtration and breathability capacity [2]. The current article reviews the

scientific evidences with respect to safety and efficacy of wearing facemasks, describing the physiological and psychological effects and the potential long-term consequences on health.

Hypothesis

On January 30, 2020, the World Health Organization (WHO) announced a global public health emergency of severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) causing illness of coronavirus disease-2019 (COVID-19) [3]. As of October 1, 2020, worldwide 34,166,633 cases were reported and 1,018,876 have died with virus diagnosis. Interestingly, 99% of the detected cases with SARS-CoV-2 are asymptomatic or have mild condition, which contradicts with the virus name (*severe* acute respiratory syndrome-coronavirus-2) [4]. Although infection fatality rate (number of death cases divided by number of reported cases) initially seems quite high 0.029 (2.9%) [4], this overestimation related to limited number of COVID-19 tests performed which biases towards higher rates. Given the fact that asymptomatic or minimally symptomatic cases is several times higher than the number of reported cases, the case fatality rate is considerably less than 1% [5]. This was confirmed by the head of National Institute of Allergy and Infectious Diseases from US stating, "the overall clinical consequences of COVID-19 are similar to those of severe seasonal influenza" [5], having a case fatality rate of approximately 0.1% [5–8]. In addition, data from hospitalized patients with COVID-19 and general public indicate that the majority of deaths were among older and chronically ill individuals, supporting the possibility that the virus may exacerbates existing conditions but rarely causes death by itself [9,10]. SARS-CoV-2 primarily

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affects respiratory system and can cause complications such as acute respiratory distress syndrome (ARDS), respiratory failure and death [3,9]. It is not clear however, what the scientific and clinical basis for wearing facemasks as protective strategy, given the fact that facemasks restrict breathing, causing hypoxemia and hypercapnia and increase the risk for respiratory complications, self-contamination and exacerbation of existing chronic conditions [2,11–14].

Of note, hyperoxia or oxygen supplementation (breathing air with high partial O_2 pressures that above the sea levels) has been well established as therapeutic and curative practice for variety acute and chronic conditions including respiratory complications [11,15]. In fact, the current standard of care practice for treating hospitalized patients with COVID-19 is breathing 100% oxygen [16–18]. Although several countries mandated wearing facemask in health care settings and public areas, scientific evidences are lacking supporting their efficacy for reducing morbidity or mortality associated with infectious or viral diseases [2,14,19]. Therefore, it has been hypothesized: 1) the practice of wearing facemasks has compromised safety and efficacy profile, 2) Both medical and non-medical facemasks are ineffective to reduce human-to-human transmission and infectivity of SARS-CoV-2 and COVID-19, 3) Wearing facemasks has adverse physiological and psychological effects, 4) Long-term consequences of wearing facemasks on health are detrimental.

Evolution of hypothesis

Breathing Physiology

Breathing is one of the most important physiological functions to sustain life and health. Human body requires a continuous and adequate oxygen (O_2) supply to all organs and cells for normal function and survival. Breathing is also an essential process for removing metabolic byproducts [carbon dioxide (CO_2)] occurring during cell respiration [12,13]. It is well established that acute significant deficit in O_2 (hypoxemia) and increased levels of CO_2 (hypercapnia) even for few minutes can be severely harmful and lethal, while chronic hypoxemia and hypercapnia cause health deterioration, exacerbation of existing conditions, morbidity and ultimately mortality [11,20–22]. Emergency medicine demonstrates that 5–6 min of severe hypoxemia during cardiac arrest will cause brain death with extremely poor survival rates [20–23]. On the other hand, chronic mild or moderate hypoxemia and hypercapnia such as from wearing facemasks resulting in shifting to higher contribution of anaerobic energy metabolism, decrease in pH levels and increase in cells and blood acidity, toxicity, oxidative stress, chronic inflammation, immunosuppression and health deterioration [11–13,24].

Efficacy of facemasks

The physical properties of medical and non-medical facemasks suggest that facemasks are ineffective to block viral particles due to their difference in scales [16,17,25]. According to the current knowledge, the virus SARS-CoV-2 has a diameter of 60 nm to 140 nm [nanometers (billionth of a meter)] [16,17], while medical and non-medical facemasks' thread diameter ranges from 55 μ m to 440 μ m [micrometers (one millionth of a meter), which is more than 1000 times larger [25]. Due to the difference in sizes between SARS-CoV-2 diameter and facemasks thread diameter (the virus is 1000 times smaller), SARS-CoV-2 can easily pass through any facemask [25]. In addition, the efficiency filtration rate of facemasks is poor, ranging from 0.7% in non-surgical, cotton-gauze woven mask to 26% in cotton sweater material [2]. With respect to surgical and N95 medical facemasks, the efficiency filtration rate falls to 15% and 58%, respectively when even small gap between the mask and the face exists [25].

Clinical scientific evidence challenges further the efficacy of facemasks to block human-to-human transmission or infectivity. A

randomized controlled trial (RCT) of 246 participants [123 (50%) symptomatic] who were allocated to either wearing or not wearing surgical facemask, assessing viruses transmission including coronavirus [26]. The results of this study showed that among symptomatic individuals (those with fever, cough, sore throat, runny nose ect...) there was no difference between wearing and not wearing facemask for coronavirus droplets transmission of particles of $>5 \mu$ m. Among asymptomatic individuals, there was no droplets or aerosols coronavirus detected from any participant with or without the mask, suggesting that asymptomatic individuals do not transmit or infect other people [26]. This was further supported by a study on infectivity where 445 asymptomatic individuals were exposed to asymptomatic SARS-CoV-2 carrier (been positive for SARS-CoV-2) using close contact (shared quarantine space) for a median of 4 to 5 days. The study found that none of the 445 individuals was infected with SARS-CoV-2 confirmed by real-time reverse transcription polymerase [27].

A meta-analysis among health care workers found that compared to no masks, surgical mask and N95 respirators were not effective against transmission of viral infections or influenza-like illness based on six RCTs [28]. Using separate analysis of 23 observational studies, this meta-analysis found no protective effect of medical mask or N95 respirators against SARS virus [28]. A recent systematic review of 39 studies including 33,867 participants in community settings (self-report illness), found no difference between N95 respirators versus surgical masks and surgical mask versus no masks in the risk for developing influenza or influenza-like illness, suggesting their ineffectiveness of blocking viral transmissions in community settings [29].

Another meta-analysis of 44 non-RCT studies ($n = 25,697$ participants) examining the potential risk reduction of facemasks against SARS, middle east respiratory syndrome (MERS) and COVID-19 transmissions [30]. The meta-analysis included four specific studies on COVID-19 transmission (5,929 participants, primarily health-care workers used N95 masks). Although the overall findings showed reduced risk of virus transmission with facemasks, the analysis had severe limitations to draw conclusions. One of the four COVID-19 studies had zero infected cases in both arms, and was excluded from meta-analytic calculation. Other two COVID-19 studies had unadjusted models, and were also excluded from the overall analysis. The meta-analytic results were based on only one COVID-19, one MERS and 8 SARS studies, resulting in high selection bias of the studies and contamination of the results between different viruses. Based on four COVID-19 studies, the meta-analysis failed to demonstrate risk reduction of facemasks for COVID-19 transmission, where the authors reported that the results of meta-analysis have low certainty and are inconclusive [30].

In early publication the WHO stated that “facemasks are not required, as no evidence is available on its usefulness to protect non-sick persons” [14]. In the same publication, the WHO declared that “cloth (e.g. cotton or gauze) masks are not recommended under any circumstance” [14]. Conversely, in later publication the WHO stated that the usage of fabric-made facemasks (Polypropylene, Cotton, Polyester, Cellulose, Gauze and Silk) is a general community practice for “preventing the infected wearer transmitting the virus to others and/or to offer protection to the healthy wearer against infection (prevention)” [2]. The same publication further conflicted itself by stating that due to the lower filtration, breathability and overall performance of fabric facemasks, the usage of woven fabric mask such as cloth, and/or non-woven fabrics, should only be considered for infected persons and not for prevention practice in asymptomatic individuals [2]. The Central for Disease Control and Prevention (CDC) made similar recommendation, stating that only symptomatic persons should consider wearing facemask, while for asymptomatic individuals this practice is not recommended [31]. Consistent with the CDC, clinical scientists from Departments of Infectious Diseases and Microbiology in Australia counsel against facemasks usage for health-care workers, arguing that there is no justification for such practice while normal caring relationship between patients and medical staff could be compromised [32].

Moreover, the WHO repeatedly announced that “at present, there is no direct evidence (from studies on COVID-19) on the effectiveness face masking of healthy people in the community to prevent infection of respiratory viruses, including COVID-19” [2]. Despite these controversies, the potential harms and risks of wearing facemasks were clearly acknowledged. These including self-contamination due to hand practice or non-replaced when the mask is wet, soiled or damaged, development of facial skin lesions, irritant dermatitis or worsening acne and psychological discomfort. Vulnerable populations such as people with mental health disorders, developmental disabilities, hearing problems, those living in hot and humid environments, children and patients with respiratory conditions are at significant health risk for complications and harm [2].

Physiological effects of wearing facemasks

Wearing facemask mechanically restricts breathing by increasing the resistance of air movement during both inhalation and exhalation process [12,13]. Although, intermittent (several times a week) and repetitive (10–15 breaths for 2–4 sets) increase in respiration resistance may be adaptive for strengthening respiratory muscles [33,34], prolonged and continues effect of wearing facemask is maladaptive and could be detrimental for health [11–13]. In normal conditions at the sea level, air contains 20.93% O₂ and 0.03% CO₂, providing partial pressures of 100 mmHg and 40 mmHg for these gases in the arterial blood, respectively. These gas concentrations significantly altered when breathing occurs through facemask. A trapped air remaining between the mouth, nose and the facemask is rebreathed repeatedly in and out of the body, containing low O₂ and high CO₂ concentrations, causing hypoxemia and hypercapnia [11–13,35,36]. Severe hypoxemia may also provoke cardiopulmonary and neurological complications and is considered an important clinical sign in cardiopulmonary medicine [37–42]. Low oxygen content in the arterial blood can cause myocardial ischemia, serious arrhythmias, right or left ventricular dysfunction, dizziness, hypotension, syncope and pulmonary hypertension [43]. Chronic low-grade hypoxemia and hypercapnia as result of using facemask can cause exacerbation of existing cardiopulmonary, metabolic, vascular and neurological conditions [37–42]. Table 1 summarizes the physiological, psychological effects of wearing facemask and their potential long-term consequences for health.

In addition to hypoxia and hypercapnia, breathing through facemask residues bacterial and germs components on the inner and outside layer of the facemask. These toxic components are repeatedly rebreathed back

into the body, causing self-contamination. Breathing through facemasks also increases temperature and humidity in the space between the mouth and the mask, resulting a release of toxic particles from the mask's materials [1,2,19,26,35,36]. A systematic literature review estimated that aerosol contamination levels of facemasks including 13 to 202,549 different viruses [1]. Rebreathing contaminated air with high bacterial and toxic particle concentrations along with low O₂ and high CO₂ levels continuously challenge the body homeostasis, causing self-toxicity and immunosuppression [1,2,19,26,35,36].

A study on 39 patients with renal disease found that wearing N95 facemask during hemodialysis significantly reduced arterial partial oxygen pressure (from PaO₂ 101.7 to 92.7 mm Hg), increased respiratory rate (from 16.8 to 18.8 breaths/min), and increased the occurrence of chest discomfort and respiratory distress [35]. Respiratory Protection Standards from Occupational Safety and Health Administration, US Department of Labor states that breathing air with O₂ concentration below 19.5% is considered oxygen-deficiency, causing physiological and health adverse effects. These include increased breathing frequency, accelerated heart rate and cognitive impairments related to thinking and coordination [36]. A chronic state of mild hypoxia and hypercapnia has been shown as primarily mechanism for developing cognitive dysfunction based on animal studies and studies in patients with chronic obstructive pulmonary disease [44].

The adverse physiological effects were confirmed in a study of 53 surgeons where surgical facemask were used during a major operation. After 60 min of facemask wearing the oxygen saturation dropped by more than 1% and heart rate increased by approximately five beats/min [45]. Another study among 158 health-care workers using protective personal equipment primarily N95 facemasks reported that 81% (128 workers) developed new headaches during their work shifts as these become mandatory due to COVID-19 outbreak. For those who used the N95 facemask greater than 4 h per day, the likelihood for developing a headache during the work shift was approximately four times higher [Odds ratio = 3.91, 95% CI (1.35–11.31) $p = 0.012$], while 82.2% of the N95 wearers developed the headache already within ≤ 10 to 50 min [46].

With respect to cloth facemask, a RCT using four weeks follow up compared the effect of cloth facemask to medical masks and to no masks on the incidence of clinical respiratory illness, influenza-like illness and laboratory-confirmed respiratory virus infections among 1607 participants from 14 hospitals [19]. The results showed that there were no difference between wearing cloth masks, medical masks and no masks for incidence of clinical respiratory illness and laboratory-confirmed respiratory virus infections. However, a large harmful effect with more than 13 times higher risk [Relative Risk = 13.25 95% CI (1.74 to 100.97)] was observed for influenza-like illness among those who were wearing cloth masks [19]. The study concluded that cloth masks have significant health and safety issues including moisture retention, reuse, poor filtration and increased risk for infection, providing recommendation against the use of cloth masks [19].

Psychological effects of wearing facemasks

Psychologically, wearing facemask fundamentally has negative effects on the wearer and the nearby person. Basic human-to-human connectivity through face expression is compromised and self-identity is somewhat eliminated [47–49]. These dehumanizing movements partially delete the uniqueness and individuality of person who wearing the facemask as well as the connected person [49]. Social connections and relationships are basic human needs, which innately inherited in all people, whereas reduced human-to-human connections are associated with poor mental and physical health [50,51]. Despite escalation in technology and globalization that would presumably foster social connections, scientific findings show that people are becoming increasingly more socially isolated, and the prevalence of loneliness is increasing in last few decades [50,52]. Poor social connections are closely related to

Table 1

Physiological and Psychological Effects of Wearing Facemask and Their Potential Health Consequences.

Physiological Effects	Psychological Effect	Health Consequences
<ul style="list-style-type: none"> • Hypoxemia • Hypercapnia • Shortness of breath • Increase lactate concentration • Decline in pH levels • Acidosis • Toxicity • Inflammation • Self-contamination • Increase in stress hormones level (adrenaline, noradrenaline and cortisol) • Increased muscle tension • Immunosuppression 	<ul style="list-style-type: none"> • Activation of “fight or flight” stress response • Chronic stress condition • Fear • Mood disturbances • Insomnia • Fatigue • Compromised cognitive performance 	<ul style="list-style-type: none"> • Increased predisposition for viral and infection illnesses • Headaches • Anxiety • Depression • Hypertension • Cardiovascular disease • Cancer • Diabetes • Alzheimer disease • Exacerbation of existing conditions and diseases • Accelerated aging process • Health deterioration • Premature mortality

isolation and loneliness, considered significant health related risk factors [50–53].

A meta-analysis of 91 studies of about 400,000 people showed a 13% increased mortality risk among people with low compared to high contact frequency [53]. Another meta-analysis of 148 prospective studies (308,849 participants) found that poor social relationships was associated with 50% increased mortality risk. People who were socially isolated or felt lonely had 45% and 40% increased mortality risk, respectively. These findings were consistent across ages, sex, initial health status, cause of death and follow-up periods [52]. Importantly, the increased risk for mortality was found comparable to smoking and exceeding well-established risk factors such as obesity and physical inactivity [52]. An umbrella review of 40 systematic reviews including 10 meta-analyses demonstrated that compromised social relationships were associated with increased risk of all-cause mortality, depression, anxiety suicide, cancer and overall physical illness [51].

As described earlier, wearing facemasks causing hypoxic and hypercapnic state that constantly challenges the normal homeostasis, and activates “fight or flight” stress response, an important survival mechanism in the human body [11–13]. The acute stress response includes activation of nervous, endocrine, cardiovascular, and the immune systems [47,54–56]. These include activation of the limbic part of the brain, release stress hormones (adrenalin, neuro-adrenalin and cortisol), changes in blood flow distribution (vasodilation of peripheral blood vessels and vasoconstriction of visceral blood vessels) and activation of the immune system response (secretion of macrophages and natural killer cells) [47,48]. Encountering people who wearing facemasks activates innate stress-fear emotion, which is fundamental to all humans in danger or life threatening situations, such as death or unknown, unpredictable outcome. While acute stress response (seconds to minutes) is adaptive reaction to challenges and part of the survival mechanism, chronic and prolonged state of stress-fear is maladaptive and has detrimental effects on physical and mental health. The repeatedly or continuously activated stress-fear response causes the body to operate on survival mode, having sustain increase in blood pressure, pro-inflammatory state and immunosuppression [47,48].

Long-Term health consequences of wearing facemasks

Long-term practice of wearing facemasks has strong potential for devastating health consequences. Prolonged hypoxic-hypercapnic state compromises normal physiological and psychological balance, deteriorating health and promotes the developing and progression of existing chronic diseases [11–13,23,38,39,43,47,48,57]. For instance, ischemic heart disease caused by hypoxic damage to the myocardium is the most common form of cardiovascular disease and is a number one cause of death worldwide (44% of all non-communicable diseases) with 17.9 million deaths occurred in 2016 [57]. Hypoxia also playing an important role in cancer burden [58]. Cellular hypoxia has strong mechanistic feature in promoting cancer initiation, progression, metastasis, predicting clinical outcomes and usually presents a poorer survival in patients with cancer. Most solid tumors present some degree of hypoxia, which is independent predictor of more aggressive disease, resistance to cancer therapies and poorer clinical outcomes [59,60]. Worth note, cancer is one of the leading causes of death worldwide, with an estimate of more than 18 million new diagnosed cases and 9.6 million cancer-related deaths occurred in 2018 [61].

With respect to mental health, global estimates showing that COVID-19 will cause a catastrophe due to collateral psychological damage such as quarantine, lockdowns, unemployment, economic collapse, social isolation, violence and suicides [62–64]. Chronic stress along with hypoxic and hypercapnic conditions knocks the body out of balance, and can cause headaches, fatigue, stomach issues, muscle tension, mood disturbances, insomnia and accelerated aging [47,48,65–67]. This state suppressing the immune system to protect the body from viruses and bacteria, decreasing cognitive function, promoting the developing and

exacerbating the major health issues including hypertension, cardiovascular disease, diabetes, cancer, Alzheimer disease, rising anxiety and depression states, causes social isolation and loneliness and increasing the risk for premature mortality [47,48,51,56,66].

Conclusion

The existing scientific evidences challenge the safety and efficacy of wearing facemask as preventive intervention for COVID-19. The data suggest that both medical and non-medical facemasks are ineffective to block human-to-human transmission of viral and infectious disease such as SARS-CoV-2 and COVID-19, supporting against the usage of facemasks. Wearing facemasks has been demonstrated to have substantial adverse physiological and psychological effects. These include hypoxia, hypercapnia, shortness of breath, increased acidity and toxicity, activation of fear and stress response, rise in stress hormones, immunosuppression, fatigue, headaches, decline in cognitive performance, predisposition for viral and infectious illnesses, chronic stress, anxiety and depression. Long-term consequences of wearing facemask can cause health deterioration, developing and progression of chronic diseases and premature death. Governments, policy makers and health organizations should utilize proper and scientific evidence-based approach with respect to wearing facemasks, when the latter is considered as preventive intervention for public health.

CRediT authorship contribution statement

Baruch Vainshelboim: Conceptualization, Data curation, Writing - original draft.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Angela M. Birkett

From: Adam Dunn <rainjaeadam@gmail.com>
Sent: Wednesday, April 21, 2021 10:53 AM
To: Council Packet
Subject: Police Training

Good day. My name is Adam Dunn. I am a Nebraska, Lancaster County and City of Lincoln resident. I am writing you in hopes someone might look into the benefits of Brazilian Jujitsu training for our officers as laid out at the website <https://www.gracieuniversity.com/Pages/Public/Informationpages/graciesurvivaltactics2>. Much more info can be learned by listening to the most recent podcast by Sam Harris on the Making Sense podcast, where Harris interviews the head of Gracie University. There is a wealth of information and statistics concerning the safety of officers and the public at large available through these resources. Thank you for your time and consideration.

Concerned Citizen

Adam Dunn