



**PROPOSED AGENDA
REGULAR MEETING OF THE LAKE ODESSA VILLAGE COUNCIL
April 20, 2020 - 7:00 P.M.**

**DUE TO THE COVID-19 PANDEMIC AND GOVERNOR WHITMER’S EXECUTIVE ORDERS NO. 2020-42
AND 2020-48, THIS MEETING WILL BE HELD ELECTRONICALLY**

I. Call to Order

II. Roll Call

III. Approval of Agenda

IV. Citizen Comment on Agenda Items:

Under the Open Meetings Act, any citizen may come forward at this time and make comment on items that appear on the agenda. Comments will be limited to five minutes per person. Anyone who would like to speak shall state his/her name and address for the record. Remarks should be confined to the question at hand and addressed to the chair in a courteous tone. No person shall have the right to speak more than once on any particular subject until all other persons wishing to be heard on that subject have had the opportunity to speak.

V. Minutes: To approve regular meeting minutes for March 16, 2020 meeting minutes

VI. Bills:

- a) Approve bills equal to or less than \$3,000.00 each from 3/1//2020 to 3/31/2020
- b) Approve bills in excess of \$3,000.00 each, including:
 - 1. GEI Consultants, Inc. – Pearl, Pleasant, Ionia, and Emerson Improvements (2/1-2/28) - \$10,613.75
 - 2. GEI Consultants, Inc. – Pearl, Pleasant, Ionia, and Emerson Improvements (2/29-3/27) -- \$12,255.18
 - 3. Dixon Engineering – Asset Management Services (Water Tower) -- \$74,235.00

VII. Consent Agenda

The following consent agenda will normally be adopted without discussion; however, at the request of any council member, any item may be removed from the consent agenda for discussion.

Reports and Minutes: To accept and file the following:

- a) Lake Odessa Zoning Administrator Monthly Report
- b) Village Monthly Fuel Purchases

VIII. Departmental Reports:

- a) Village Manager's Report
- b) Police Department
- c) Department of Public Works
- d) Finance Report

IX. Committee Reports

- a) Personnel / Finance Committee
- b) Recreation / Special Projects Committee

X. Presentations

- a) Ken Bowen – Ionia County Health Department: COVID-19 Update

XI. Discussion Items

- a) None

XII. Public Hearing

- a) None

XIII. Unfinished Business

- a) None

XIV. New Business:

- a) Ordinance 2020-1: An Ordinance to Amend the Code of Ordinances of the Village of Lake Odessa by Amending Section 32-59

XV. Miscellaneous Correspondence:

- a) Ionia County Health Department: National Coronavirus Response: A Road Map to Reopening

XVI. Trustee Comments

XVII. Public Comment

XVIII. Adjournment

ZOOM Login Information for this meeting

Connect to Zoom from a computer, tablet, or smartphone:

Website: <https://zoom.us/join>

Meeting ID: 854 3616 5739

Password: 345604

or

Call in by telephone:

Phone number: 1 (929) 205-6099

Meeting ID: 854 3616 5739

Password: 345604

VILLAGE OF LAKE ODESSA

MINUTES
REGULAR COUNCIL MEETING
March 16, 2020 (DRAFT)
PAGE MEMORIAL BUILDING

Meeting called to order at 7:00 pm by President Banks.

Pledge of Allegiance.

Council present: Karen Banks, Mike Brighton, Brandy Walkington, Kay Hartzler

Absent: Charles Jaquays, Mike Rudisill, Mel McCloud

Staff present: Patrick Reagan, Jesse Trout, Kendra Backing

Visitors present: Jessica Cowbright of J-Ad Graphics

Motion by Walkington, support by Brighton to excuse the absences of Rudisill, McCloud and Jaquays. Motion carried.

Motion by Walkington, support by Brighton to approve the agenda as presented. Motion carried.

PUBLIC COMMENT

There was no public comments.

MINUTES

Motion by Brighton, support by Walkington to approve minutes of February 17, 2020. Motion carried.

BILLS

Motion by Brighton, support by Hartzler to approve expenditures equal to or less than \$3,000.00 for the period 2/1/2020 thru 2/29/2020. Motion carried.

Motion by Brighton, support by Hartzler to approve payment of invoices in excess of \$3,000.00 items as follows:

- a) GEI Consultants – Street Project Engineering -- \$26,059.93 (*Paid*)
- b) Motorola Solutions – Police Radios -- \$19,089.00 (*Paid*)
- c) USDA – Bond Payment -- \$36,813.47 (*Paid*)
- d) ProComm – Police Vehicle Outfitting -- \$18,047.50 (*Paid*)
- e) Miller Johnson – Legal Services -- \$6,349.51 (*Paid*)

Motion carried.

CONSENT AGENDA

Motion by Brighton, support by Walkington to approve the consent agenda, as follows:

- a) Lake Odessa Zoning Administrator Monthly Report
- b) Lake Odessa DDA Minutes – January 2020
- c) LOAAC Minutes – January 2020
- d) Village Monthly Fuel Purchases

Motion carried.

DEPARTMENTAL REPORTS

Manager’s Report: Reagan discussed new business items.

Finance: Ward had nothing additional to report.

DPW: Trout had nothing additional to report.

Police: Backing had nothing additional to report.

COMMITTEE REPORTS:

Personnel/Finance Committee: There was no update.

Recreation/Special Projects Committee: There was no update.

DISCUSSION ITEMS

There were no discussion items.

NEW BUSINESS

Motion made by Walkington, supported by Brighton to adopt Resolution 2020-16: Approval to Adopt the Schedule of Fines for Parking Violations in the Village of Lake Odessa. Motion carried with the following roll call vote: Yes: Hartzler, Brighton, Walkington, Banks; No: None; Absent: Rudisill, McCloud, Jaquays.

Motion made by Brighton support by Hartzler to adopt Resolution 2020-17: Approval to Accept the Resignation of Lindsay Farrell from the Lake Odessa Area Arts Commission. Motion carried with the following roll call vote: Yes: Hartzler, Brighton, Walkington, Banks; No: None; Absent: Rudisill, McCloud, Jaquays.

Motion made by Walkington support by Brighton to adopt Resolution 2020-18: Approval to Establish Rates, Fees, and Schedules for Water Service Pursuant to Section 34-54 of the Code of Ordinances, Village of Lake Odessa, Michigan. Motion carried with the following roll call vote: Yes: Hartzler, Brighton, Walkington, Banks; No: None; Absent: Rudisill, McCloud, Jaquays.

Motion made by Brighton support by Walkington to adopt Resolution 2020-19: Approving the Quote from Peerless Midwest, Inc for the Rebuilding of Two (2) High-Service Pumps for the Village Water Treatment Plant. Motion carried with the following roll call vote: Yes: Hartzler, Brighton, Walkington, Banks; No: None; Absent: Rudisill, McCloud, Jaquays.

Motion made by Walkington support by Hartzler to adopt Resolution 2020-20: Approving the Quote from Peerless Midwest, Inc for the Installation of New Water Filtration Media for the Village Water Treatment Plant. Motion carried with the following roll call vote: Yes: Hartzler, Brighton, Walkington, Banks; No: None; Absent: Rudisill, McCloud, Jaquays.

MISCELLANEOUS CORRESPONDENCE

A memo from Representative Julie Calley was received regarding the US Census.

Interim recommendations for COVID-19 Community Mitigation Strategies was received from the Michigan Department of Health and Human Services.

TRUSTEE COMMENTS

Hartzler commented she was glad to be back.

Brighton had no comment.

Walkington had no comment.

Banks complimented staff on the Water Rate Study and complimented Reagan for leading the community during the COVID-19 outbreak.

PUBLIC COMMENT

There was no public comment.

Motion by Walkington to adjourn the meeting at 7:25pm.

Respectfully submitted,

Pearl Ward
Village Clerk / Treasurer



PLEASE REMIT TO:
 PO Box 843005
 Boston, MA 02284-3005

Attention: Mr. Patrick Reagan
Village of Lake Odessa
manager@lakeodessa.org
839 Fourth Avenue
Lake Odessa, MI 48849
United States

Invoice: 5009170
Invoice Date: 3/17/2020
Project: 1904446
Project Name: Ionia, Pearl, Pleasant, Emerson
 Improvements

For Professional Services Rendered For 2/1/2020 Through 2/28/2020

	Fee	Available	Billings		
			To Date	Previous	Current
1904446 - Ionia, Pearl, Pleasant, Emerson Improvements					
1 - Engineering Services	158,500.00	126,790.07	42,323.68	31,709.93	10,613.75
Rate Labor	8,486.25				
Expenses	2,127.50				

Current Billings 10,613.75
Amount Due This Bill 10,613.75

50% - 591-000-158.001 = 5,306.88
 15% - 203-449-988.001 = 1,592.06
 20% - 202-449-988.001 = 2,122.75

Total Fee: 15% - 204-446-988.001 = 1,592.06
 158,500.00
To Date Billings: 42,323.68
Total Remaining: 116,176.32

Mark F. Stoor

Outstanding Receivables	Invoice Number	Date	Amount	Balance Due
	5009014	2/19/2020	26,059.93	<u>26,059.93</u>
				26,059.93

1 - Design

Rate Labor

Class / Employee

	<i>Hours</i>	<i>Rate</i>	<i>Amount</i>
SENIOR PROFESSIONAL-GRADE 6			
Mark F. Stoor	36.75	155.000	5,696.25
STAFF PROFESSIONAL-GRADE 2			
Christopher A Harrington	31.00	90.000	2,790.00
Total Rate Labor			8,486.25
Total Bill Task: 1 - Design			8,486.25

2 - Construction

Expenses

Account / Vendor

Outside Services

	<i>Cost</i>	<i>Multiplier</i>	<i>Amount</i>
JOB SITE SERVICES INC	1,850.00	1.1500	2,127.50
Total Expenses			2,127.50

Total Project: 1904446 - Ionia, Pearl, Pleasant, Emerson Improvements

10,613.75



PLEASE REMIT TO:
 PO Box 843005
 Boston, MA 02284-3005

Attention: Mr. Patrick Reagan
 Village of Lake Odessa
 manager@lakeodessa.org
 839 Fourth Avenue
 Lake Odessa, MI 48849
 United States

Invoice : 5009387
 Invoice Date : 4/6/2020
 Project : 1904446
 Project Name : Ionia, Pearl, Pleasant, Emerson
 Improvements

For Professional Services Rendered For 2/29/2020 Through 3/27/2020

	Fee	Available	Billings		
			To Date	Previous	Current
1904446 - Ionia, Pearl, Pleasant, Emerson Improvements					
1 - Engineering Services	158,500.00	116,176.32	54,578.86	42,323.68	12,255.18
Rate Labor	11,886.25				
Unit Rate Labor	320.00				
Total Labor	12,206.25				
Expenses	48.93				
			Current Billings		<u>12,255.18</u>
			Amount Due This Bill		<u>12,255.18</u>

50% - 591-000-158,001 = \$6,127.59
 15% - 203-449-988,001 = \$1,838.28
 20% - 202-449-888,001 = \$2,451.04
 15% - 204-446-988,001 = \$1,838.27

Total Fee : 158,500.00
 To Date Billings : 54,578.86
 Total Remaining : 103,921.14

Mark F. Stoor

Outstanding Receivables	Invoice Number	Date	Amount	Balance Due
	5009014	2/19/2020	26,059.93	26,059.93
	5009170	3/17/2020	10,613.75	10,613.75
				<u>36,673.68</u>

1 - Design

Rate Labor

Class / Employee

	<i>Hours</i>	<i>Rate</i>	<i>Amount</i>
SENIOR CONSULTANT-GRADE 8			
Christopher R. Abraham	2.50	235.000	587.50
SENIOR PROFESSIONAL-GRADE 6			
Mark F. Stoor	37.50	155.000	5,812.50
STAFF PROFESSIONAL-GRADE 1			
Kyle R Smith	0.50	85.000	42.50
STAFF PROFESSIONAL-GRADE 2			
Christopher A Harrington	58.50	90.000	5,265.00
WORD PROCESSOR			
Linda J. Engels	2.75	65.000	178.75
Total Rate Labor			11,886.25

Expenses

Account / Vendor

	<i>Cost</i>	<i>Multiplier</i>	<i>Amount</i>
Travel			
Mark F. Stoor	42.55	1.1500	48.93
Total Expenses			48.93

Total Bill Task: 1 - Design

11,935.18

2 - Construction

Unit Rate Labor

Unit / Employee

	<i>Quantity</i>	<i>Rate</i>	<i>Amount</i>
Loss-On Ignition			
Unit (s)	4.00	24.000	96.00
Water Content Test			
Unit (s)	28.00	8.000	224.00
Total Unit Rate Labor			320.00

Total Bill Task: 2 - Construction

320.00

Total Project: 1904446 - Ionia, Pearl, Pleasant, Emerson Improvements

12,255.18

DIXON ENGINEERING, INC.

1104 Third Avenue, Lake Odessa, MI 48849 • Tel: 616-374-3221 • Fax: 616-374-7116

Village of Lake Odessa
Attn: Jesse Trout
839 Fourth Avenue
Lake Odessa, MI 48849

Invoice number 20-6446
Date 03/18/2020

Project MI2019EVB-0243 LAKE ODESSA MI
300,000 GALLON SPHEROIDS
FAIRGROUND & M50

Description	Contract Amount	Prior Billed	Current Billed
2020 Asset Management Services.....	74,235.00	0.00	74,235.00
Total	74,235.00	0.00	74,235.00

Invoice total 74,235.00

591-536-931.010 - ST

Lake Odessa Village
Zoning Administrator Report
March 2020

Permits:

On 3-5-20 I approved a zoning permit to Kevin Stowell (builder) to demo an older home and construct a new home of 60' by 62' to be located at 664 Lakeview Dr.

Supplemental:

None

Miscellaneous

Phone calls involved various appraisers checking on the zoning classification of assorted parcels. Other questions involved various questions regarding setbacks, fences, pools and permits.

The owners of 1015 First Ave have applied for a variance to replace their front porch with a larger porch. I have met with them several times and tried to find a way for them to do this but none of the flexible methods will work as the porch is in the setback and the street is not in the center of the right of way. A meeting date is being worked out. Information is being gathered.

WEX

Dept	Code	Amount
Manager	101-172-751	
Office	101-101-725	
Police	101-301-751	\$325.06
DPW	101-441-751	\$201.32
Water	591-536-751	\$131.97
Major	202-867	
Major	202-869	
Local	203-867	
Local	203-869	
Misc		
Car Wash		\$0.00
Total Wex		\$658.35

REPORT TO THE VILLAGE OF LAKE ODESSA COUNCIL

DATE Monday, April 20, 2020

TO: President Karen Banks; Vice-President Mel McCloud; Trustee Brighton; Trustee Rudisill; Trustee Jaquays; Trustee Walkington; Trustee Hartzler

FROM: Patrick Reagan, Village Manager

RE: Manager's Report to Village Council

President Banks and Village Council Members,

Please find below my report on the Council agenda before you tonight.

To say that this meeting finds us all in a “strange” time in our collective history is quite an understatement – this pandemic, this crisis, has everyone wondering, “how will this thing end?” or “will it come back?” or “what will happen to our community?” And, the short answer is this – there are lots of theories and scenarios, but the truth is that all we have to work with, at the moment I am writing this, is speculative answers and educated guesses.

However, here are things we do know:

- The Page Building has been closed to the public and will continue to be closed until we received word otherwise from the State of Michigan.
- The Clerk/ Treasurer and I have been working from home as much as possible.
- The DPW has been working staggered shifts.
- Water and Sewer service has continued at the high standards that residents and customers have come to expect and rely upon.
- Our police department has continued working their shifts, switching from 8 hour shifts to 12-hour shifts.
- The police department has been performing exceptionally – I strongly encourage you to read the report from Chief Backing for further information. I commend them on their dedication, their

professionalism, and their commitment to the community.

- We have discouraged using the playground equipment at Village Park. Furthermore, we have not opened the bathrooms at both the park and the beach.
- Jesse and I have spoken a number of times about the spring cleanup. Normally held early in May, this will be pushed back to June 11, 12, and 13 this year. This is due to the Governor's Executive Orders and to the availability of dumpsters from Les's Sanitary Service.
- The police have been working with a finite number of gloves, N-95 masks, and disinfectants for cleaning their work areas and patrol vehicles. These materials have been maintained due to the Village receiving supplies from Ionia County and we appreciate the county's assistance.
- Jesse and I have been working with GEI Consultants on the Pearl, Pleasant, Ionia, and Emerson Water project – at this time, we have decided to hold off on bidding this project at this time. We will be monitoring the overall construction environment, along with the Village's water fund, on a monthly basis to determine if this project is feasible to perform during this fiscal year.
- In short, my staff and I have been operating from the viewpoint of preserving the health and safety of the employees, residents, and the community as a whole.

Presentations

Ken Bowen, from the Ionia County Health Department, will give a brief update on COVID-19, it's effect on Ionia County, and will be able to answer your questions.

New Business

Ordinance 2020-1: An Ordinance to Amend the Code of Ordinances of the Village of Lake Odessa by Amending Section 32-59

This proposed ordinance is a housekeeping measure that will allow Village Ordinance to meet historic practice – currently, Village Ordinance 32-59 states that no parking is allowed on the north side of any part of Lakeview Drive. However, the only area where this has been traditionally enforced and signed is between 4th Avenue and 6th Avenue, where the road is quite narrow, with homes/ buildings predominantly encroaching on both sides of the street. By not allowing parking on

the north side of the street between 4th and 6th, this traditional practice has allowed for less congestion for motorists, pedestrians, and emergency vehicles.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'P. Reagan', with a long horizontal flourish extending to the right.

Patrick Reagan, Village Manager
Village of Lake Odessa

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Website: <https://zoom.us/join>

Meeting ID: 854 3616 5739

Password: 345604

or

Call in by telephone:

Phone number: 1 (929) 205-6099

Meeting ID: 854 3616 5739

Password: 345604



MARCH 2020 COUNCIL REPORT



The Lake Odessa Police Department responded to **47** Calls for Service for the month of March **2020**; **15** Traffic Stops were conducted; **10** Arrest(s) were made, **3** Parking Citations Issued, **0** Use of Force, **83122** Miles 2012 Impala, **53403** Miles 2016 Tahoe.

Our stats reflect a reduction in calls, incidents and self-initiated activity. I attribute this to the following; (1) the safety of officers and citizens is driving this, (2) the officers are filling this time with other activities such as community policing, investigation and directed patrols, and (3) that this is a temporary lull, it won't last. We have experienced a rise in domestic and alcohol related offense type of calls for service this month.

March 2020 Calls For Service

(7) Suspicious Situation
(2) Lock Out
(2) Found Dog
Resisting and Obstructing
Found Property
(2) Check Well Being
(4) Alarm
Personal Injury Accident
Larceny
(3) Traffic Offenses
Abandon 911 Call
(2) Assault
Embezzlement
Assist Kent County Sheriff Dept
Disorderly Juvenile
Open Door
Felony Assault/Violation of Controlled Substance Act
(4) Noise Complaint
(3) Domestic Assault
Private Property Damage Accident
Civil Dispute
Neglect Child
Parking Violation
Threats
Minor In Possession of Alcohol
Disturbance
Probation Violation

DEPARTMENT TRAINING

Officer Rader and Boot attended Felony Traffic Stops and Building Searches training. Officer Rader was re-certified in CPR and Basic First Aid Training. This training will be offered to all Village staff in the near future. Scheduling plans were canceled due to the COVID19 pandemic but will resume to offer this certification to all who need it in the near future. Certification is valid for two years and all LOPD officers are current with their certification at this time.

Officer Boot attended evidence collection, defensive tactics and a legal update on Medical Marijuana training.

All officers attended a sexual assault training held at the Page building hosted by Prosecuting Attorneys Association of Michigan.

PUBLIC RELATIONS MEDIA RELEASE:

The COVID-19 pandemic is proving to be a trying time for all of us. We recognize this is especially confusing to children whose birthday plans have been canceled or postponed. We feel for the families that have to break this disappointing news 😞

If your child's birthday falls during the Stay At Home order, send us a Facebook Private Message with your address and your child's birthday. We will bring a fire truck 🚒 and/or a police cruiser 🚓 to your residence and activate our emergency lights to wish your child a Happy Birthday.

We will not be able to allow tours of our vehicles or pass out stickers but we would like to do what we can to brighten your child's day 🙏 We are still actively focused on serving our community and hope this small gesture can help ❤️

*This is available to residents of the Village of Lake Odessa 📍

*Emergency calls for service may affect our ability to stop by at a specific day and time but we will try our best 🚒 🚓





Response to COVID-19:

WHEN REQUESTING EMERGENCY SERVICES

IF YOU HAVE FLU-LIKE SYMPTOMS, ARE QUARANTINED, OR UNDER SELF-QUARANTINE AND NEED EMERGENCY SERVICES, PLEASE LET THE DISPATCHER KNOW.

SHARING THIS INFORMATION WITH 911 DISPATCHERS WILL HELP OUR FIRST RESPONDERS TAKE THE NECESSARY PRECAUTIONS TO AVOID SPREAD OF THE CORONAVIRUS.

During the month of March the COVID-19 pandemic continued to evolve and we were learning more everyday about the severity, preparation, and response to this unprecedented situation. What we do know is every contact law enforcement has with any member of the public has the potential to result in exposure to COVID-19. We have made and will continue to make necessary adjustments in daily operations at the Lake Odessa Police Department to limit exposure to the best of our ability. At the direction of health care professionals, the officers are checking their temperatures before reporting and returning to duty, cleaning shared work spaces throughout the duration of their shifts and have been issued Personal Protection Equipment for their safety.

The Officers have been keeping up to date on the Governors Order which is up to Law Enforcement to enforce. I am happy to announce the department has seen the overall majority of the Village residents voluntarily complying with the Stay Home Stay Safe Order. The Order has resulted in many questions and concerns from residents as to be expected. The Officers are fielding these calls and taking this opportunity to approach potential violation complaints by warning and educating citizens. Only as a last resort option would officers be forced to issue citations for non-compliance. This approach is being done in collaboration with the Ionia County Prosecuting Attorneys office.

We have a beautiful and walkable community and we are seeing more citizens outside while on our regular patrols. We are thankful for all professions working hard to get through this unsettling time. We see you. We appreciate you. We are here for you.

Department of Public Works

March 13th 2020 to April 15th 2020

Council Report

Parks & Beach

We restored areas where we had previously ground stumps. Rolled the grounds and picked up downed limbs. We placed signs throughout the parks and beach areas, warning against the use of non-sanitized equipment during the covid19 outbreak.

Streets

We restored areas along the right of ways where we had previously ground stumps. More street sweeping was done.

Water

The day prior to the governor stay at home orders, EGLE performed an in-depth inspection of our water system and did a sanitary survey. This in-depth survey is done every three years. No issues were found and we received praise for our proactive maintenance schedules and cleanliness. Nonpayment water shut offs and turn on went without issue. Peerless Midwest began the filter media replacement project and pump/motor overhaul. I am hopeful to have this filter back into operation by the May council meeting.

DPW

We installed spring banners. We made the first scheduled collection of brush and will be doing it again on the 21st. We are also continuing to collect bags each Monday as scheduled.

Purchase Recommendation

None at this time.

Additional Comments

During these trying times, we have limited our hours to reduce exposure of our small workforce. We are and will continue providing services as needed. We are beginning to increase hours as more essential duties arise. I receive multiple calls and questions each day from community members regarding billing, scheduled brush/bag collections, water turn off for repairs, etc. We have still provided any service requested and will continue to do so. Each person I have spoken with have been very understanding and several have praised the village for allowing a reduced workforce during these times. I truly appreciate the understanding by management and council for allowing us to be cautious and keep public health, our health and families health in mind throughout this. I hope everyone is staying healthy and not getting cabin fever too bad. My wife and son have not left our property for over a month now. Like everyone, they are ready for a more normal routine again! We have made lasting memories and look forward to seeing what the "new normal" is that the future holds for us.

04/13/2020 05:48 PM
User: PEARL
DB: Lake Odessa Vill:

CHECK REGISTER FOR VILLAGE OF LAKE ODESSA
CHECK DATE FROM 03/01/2020 - 03/31/2020

Page: 1/3

Check Date	Bank	Check	Vendor Name	Amount
Bank ARTS				
03/12/2020	ARTS	3105	CROSSROADS PORTABLES	252.00
ARTS TOTALS:				
Total of 1 Checks:				252.00
Less 0 Void Checks:				0.00
Total of 1 Disbursements:				252.00
Bank DDA 6015 DOWNTOWN DEVELOPMENT AUTHORITY				
03/05/2020	DDA	1439	LAKWOOD AREA CHAMBER OF COMMERCE	160.58
03/06/2020	DDA	1440	CONSORT DISPLAY GROUP	4,060.56
DDA TOTALS:				
Total of 2 Checks:				4,221.14
Less 0 Void Checks:				0.00
Total of 2 Disbursements:				4,221.14
Bank GEN 1447 GENERAL FUND				
03/03/2020	GEN	40897	AMAZON CAPITAL SERVICES, INC.	14.08
03/03/2020	GEN	40898	CITY OF FARMINGTON HILLS	175.00
03/03/2020	GEN	40899	MICHIGAN STATE POLICE	126.00
03/03/2020	GEN	40900	STATE OF MICHIGAN	175.00
03/03/2020	GEN	40901	VILLAGE TRUE VALUE LUMBER	1.36
03/03/2020	GEN	40902	VERIZON WIRELESS	146.21
03/05/2020	GEN	40903	AMAZON CAPITAL SERVICES, INC.	453.64
03/05/2020	GEN	40904	CONSUMERS ENERGY	2,186.21
03/05/2020	GEN	40905	KENDRA BACKING	90.00
03/05/2020	GEN	40906	LAKWOOD NEWS	119.52
03/05/2020	GEN	40907	NAPA OF IONIA	33.10
03/05/2020	GEN	40908	VILLAGE TRUE VALUE LUMBER	20.94
03/06/2020	GEN	40909	MICHIGAN MUNICIPAL LEAGUE	250.00
03/12/2020	GEN	40910	AMAZON CAPITAL SERVICES, INC.	91.05
03/12/2020	GEN	40911	BLUE CROSS BLUE SHIELD OF MICHIGAN	2,353.96
03/12/2020	GEN	40912	CONSUMERS ENERGY	262.66
03/12/2020	GEN	40913	JOHN DEERE FINANCIAL	1,086.21
03/12/2020	GEN	40914	NAPA OF IONIA	1,276.52
03/12/2020	GEN	40915	THE SBAM PLAN	459.48
03/12/2020	GEN	40916	VILLAGE TRUE VALUE LUMBER	8.99
03/13/2020	GEN	40917	CONSUMERS ENERGY	608.52
03/18/2020	GEN	40918	AMAZON CAPITAL SERVICES, INC.	237.33
03/18/2020	GEN	40919	CARDMEMBER SERVICE	263.54
03/18/2020	GEN	40920	CARL'S SUPERMARKET	9.58
03/18/2020	GEN	40921	IT RIGHT	2,150.00
03/18/2020	GEN	40922	IT RIGHT	910.00
03/18/2020	GEN	40923	MILLER, JOHNSON, SNELL & CUMMISKI	6,349.51
03/18/2020	GEN	40924	MILLER, JOHNSON, SNELL & CUMMISKI	2,525.35
03/18/2020	GEN	40925	WOW! BUSINESS	67.41
03/23/2020	GEN	40926	IT RIGHT	439.00
03/23/2020	GEN	40927	LAKE ODESSA PARTS PLUS	109.83
03/23/2020	GEN	40928	STATE CHEMICAL SOLUTIONS	304.36
03/23/2020	GEN	40929	VERIZON WIRELESS	271.02
03/23/2020	GEN	40930	WOW! BUSINESS	125.02
03/23/2020	GEN	40931	WOW! BUSINESS	91.25
03/31/2020	GEN	40932	AMAZON CAPITAL SERVICES, INC.	218.37
03/31/2020	GEN	40933	KATHY'S CLEANING	180.00

04/13/2020 05:48 PM
User: PEARL
DB: Lake Odessa Vill:

CHECK REGISTER FOR VILLAGE OF LAKE ODESSA
CHECK DATE FROM 03/01/2020 - 03/31/2020

Page: 2/3

Check Date	Bank	Check	Vendor Name	Amount
03/31/2020	GEN	40934	LAKWOOD WASTEWATER AUTHORITY	114.56
GEN TOTALS:				
Total of 38 Checks:				24,304.58
Less 0 Void Checks:				0.00
Total of 38 Disbursements:				24,304.58
Bank HWY 6659 GENERAL HWY				
03/12/2020	HWY	1961	BLUE CROSS BLUE SHIELD OF MICHIGI	93.37
03/12/2020	HWY	1962	THE SBAM PLAN	68.79
HWY TOTALS:				
Total of 2 Checks:				162.16
Less 0 Void Checks:				0.00
Total of 2 Disbursements:				162.16
Bank LOC 6646 LOCAL STREETS				
03/12/2020	LOC	2225	BLUE CROSS BLUE SHIELD OF MICHIGI	27.76
03/12/2020	LOC	2226	THE SBAM PLAN	10.05
LOC TOTALS:				
Total of 2 Checks:				37.81
Less 0 Void Checks:				0.00
Total of 2 Disbursements:				37.81
Bank MAJ 6633 MAJOR STREETS				
03/12/2020	MAJ	2292	BLUE CROSS BLUE SHIELD OF MICHIGI	47.80
03/12/2020	MAJ	2293	THE SBAM PLAN	10.20
MAJ TOTALS:				
Total of 2 Checks:				58.00
Less 0 Void Checks:				0.00
Total of 2 Disbursements:				58.00
Bank WATER 6620 WATER				
03/03/2020	WATER	4852	BADGER METER	761.84
03/03/2020	WATER	4853	ETNA SUPPLY - GRAND RAPIDS	810.00
03/03/2020	WATER	4854	H2O COMPLIANCE SERVICES INC.	150.00
03/03/2020	WATER	4855	VERIZON WIRELESS	34.35
03/05/2020	WATER	4856	STATE OF MICHIGAN	20.00
03/12/2020	WATER	4857	BLUE CROSS BLUE SHIELD OF MICHIGI	3,916.75
03/12/2020	WATER	4858	CONSUMERS ENERGY	717.38
03/12/2020	WATER	4859	THE SBAM PLAN	292.37
03/12/2020	WATER	4860	WSOS CAC INC	1,552.00
03/13/2020	WATER	4861	AT&T	118.11
03/13/2020	WATER	4862	CONSUMERS ENERGY	838.82
03/18/2020	WATER	4863	CARDMEMBER SERVICE	22.01
03/18/2020	WATER	4864	CLORWELL ELECTRICAL CONTRACTORS	539.00
03/18/2020	WATER	4865	EUROFINS EATON ANALYTICAL LLC	630.00
03/18/2020	WATER	4866	IT RIGHT	2,150.00
03/23/2020	WATER	4867	CITY OF IONIA	44.00
03/23/2020	WATER	4868	VERIZON WIRELESS	149.22
03/23/2020	WATER	4869	WOW! BUSINESS	62.51

04/13/2020 05:48 PM
User: PEARL
DB: Lake Odessa Vill:

CHECK REGISTER FOR VILLAGE OF LAKE ODESSA
CHECK DATE FROM 03/01/2020 - 03/31/2020

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Check Date	Bank	Check	Vendor Name	Amount
03/31/2020	WATER	4870	BADGER METER	763.62
03/31/2020	WATER	4871	HAVILAND	715.00
03/31/2020	WATER	4872	HOMEWORKS	2,490.94

WATER TOTALS:

Total of 21 Checks:	16,777.92
Less 0 Void Checks:	0.00
Total of 21 Disbursements:	16,777.92

REPORT TOTALS:

Total of 68 Checks:	45,813.61
Less 0 Void Checks:	0.00
Total of 68 Disbursements:	45,813.61

PERIOD ENDING 03/31/2020

GL NUMBER	DESCRIPTION	END BALANCE	YTD BALANCE	2020-21	2020-21	AVAILABLE	% BDGT USED
		02/29/2020 NORM (ABNORM)	03/31/2020 NORM (ABNORM)	ORIGINAL BUDGET	AMENDED BUDGET	BALANCE NORM (ABNORM)	
Fund 101 - GENERAL FUND							
Revenues							
UNCLASSIFIED	Unclassified	789,472.93	6,975.22	879,660.00	879,660.00	872,684.78	0.79
TOTAL REVENUES		<u>789,472.93</u>	<u>6,975.22</u>	<u>879,660.00</u>	<u>879,660.00</u>	<u>872,684.78</u>	<u>0.79</u>
Expenditures							
101	GOVERNING BODY	78,589.11	3,541.25	86,365.00	86,365.00	82,823.75	4.10
172	MANAGERS	35,765.55	3,030.00	45,526.00	45,526.00	42,496.00	6.66
265	PAGE MEMORIAL BUILDING	11,932.66	163.96	32,930.00	32,930.00	32,766.04	0.50
301	POLICE	323,014.72	20,597.67	347,408.00	347,408.00	326,810.33	5.93
336	FIRE	0.00	0.00	0.00	0.00	0.00	0.00
441	PUBLIC WORKS	289,849.00	9,686.39	201,890.00	201,890.00	192,203.61	4.80
448	PUBLIC UTILITIES-STREET LIGHTING	30,548.36	309.39	32,000.00	32,000.00	31,690.61	0.97
536	WATER/SEWER	4,224.60	0.00	4,400.00	4,400.00	4,400.00	0.00
722	ZONING	6,948.62	541.10	7,625.00	7,625.00	7,083.90	7.10
728	ECONOMIC DEVELOPMENT	1,749.00	0.00	2,000.00	2,000.00	2,000.00	0.00
751	PARKS AND RECREATION	34,145.67	1,227.25	23,550.00	23,550.00	22,322.75	5.21
790	LIBRARY	0.00	0.00	0.00	0.00	0.00	0.00
999		0.00	0.00	0.00	0.00	0.00	0.00
TOTAL EXPENDITURES		<u>816,767.29</u>	<u>39,097.01</u>	<u>783,694.00</u>	<u>783,694.00</u>	<u>744,596.99</u>	<u>4.99</u>
Fund 101 - GENERAL FUND:							
TOTAL REVENUES		789,472.93	6,975.22	879,660.00	879,660.00	872,684.78	0.79
TOTAL EXPENDITURES		816,767.29	39,097.01	783,694.00	783,694.00	744,596.99	4.99
NET OF REVENUES & EXPENDITURES		(27,294.36)	(32,121.79)	95,966.00	95,966.00	128,087.79	33.47

PERIOD ENDING 03/31/2020

GL NUMBER	DESCRIPTION	END BALANCE	YTD BALANCE	2020-21	2020-21	AVAILABLE	% BDGT USED
		02/29/2020 NORM (ABNORM)	03/31/2020 NORM (ABNORM)	ORIGINAL BUDGET	AMENDED BUDGET	BALANCE NORM (ABNORM)	
Fund 202 - MAJOR STREET FUND							
Revenues							
UNCLASSIFIED	Unclassified	232,582.83	380.80	218,731.00	218,731.00	218,350.20	0.17
TOTAL REVENUES		<u>232,582.83</u>	<u>380.80</u>	<u>218,731.00</u>	<u>218,731.00</u>	<u>218,350.20</u>	<u>0.17</u>
Expenditures							
449	STREET DEPT (ACT 51)	181,932.82	335.16	354,789.00	354,789.00	354,453.84	0.09
450	MAINTENANCE / CONSTRUCTION	4,036.51	324.99	4,260.00	4,260.00	3,935.01	7.63
869	SNOW REMOVAL	2,841.86	0.00	3,710.00	3,710.00	3,710.00	0.00
TOTAL EXPENDITURES		<u>188,811.19</u>	<u>660.15</u>	<u>362,759.00</u>	<u>362,759.00</u>	<u>362,098.85</u>	<u>0.18</u>
Fund 202 - MAJOR STREET FUND:							
TOTAL REVENUES		232,582.83	380.80	218,731.00	218,731.00	218,350.20	0.17
TOTAL EXPENDITURES		<u>188,811.19</u>	<u>660.15</u>	<u>362,759.00</u>	<u>362,759.00</u>	<u>362,098.85</u>	<u>0.18</u>
NET OF REVENUES & EXPENDITURES		43,771.64	(279.35)	(144,028.00)	(144,028.00)	(143,748.65)	0.19

PERIOD ENDING 03/31/2020

GL NUMBER	DESCRIPTION	END BALANCE	YTD BALANCE	2020-21		AVAILABLE	% BDGT USED
		02/29/2020 NORM (ABNORM)	03/31/2020 NORM (ABNORM)	ORIGINAL BUDGET	2020-21 AMENDED BUDGET	BALANCE NORM (ABNORM)	
Fund 203 - LOCAL STREET FUND							
Revenues							
UNCLASSIFIED	Unclassified	66,891.34	141.17	110,876.00	110,876.00	110,734.83	0.13
TOTAL REVENUES		<u>66,891.34</u>	<u>141.17</u>	<u>110,876.00</u>	<u>110,876.00</u>	<u>110,734.83</u>	<u>0.13</u>
Expenditures							
449	STREET DEPT (ACT 51)	21,818.65	134.03	242,179.00	242,179.00	242,044.97	0.06
450	MAINTENANCE / CONSTRUCTION	6,458.07	519.93	6,800.00	6,800.00	6,280.07	7.65
869	SNOW REMOVAL	1,408.14	0.00	3,710.00	3,710.00	3,710.00	0.00
TOTAL EXPENDITURES		<u>29,684.86</u>	<u>653.96</u>	<u>252,689.00</u>	<u>252,689.00</u>	<u>252,035.04</u>	<u>0.26</u>
Fund 203 - LOCAL STREET FUND:							
TOTAL REVENUES		66,891.34	141.17	110,876.00	110,876.00	110,734.83	0.13
TOTAL EXPENDITURES		<u>29,684.86</u>	<u>653.96</u>	<u>252,689.00</u>	<u>252,689.00</u>	<u>252,035.04</u>	<u>0.26</u>
NET OF REVENUES & EXPENDITURES		37,206.48	(512.79)	(141,813.00)	(141,813.00)	(141,300.21)	0.36

PERIOD ENDING 03/31/2020

GL NUMBER	DESCRIPTION	END BALANCE	YTD BALANCE	2020-21		AVAILABLE	% BDGT USED
		02/29/2020 NORM (ABNORM)	03/31/2020 NORM (ABNORM)	ORIGINAL BUDGET	2020-21 AMENDED BUDGET	BALANCE NORM (ABNORM)	
Fund 204 - GENERAL HWY							
Revenues							
UNCLASSIFIED	Unclassified	218,922.58	528.91	218,405.00	218,405.00	217,876.09	0.24
TOTAL REVENUES		<u>218,922.58</u>	<u>528.91</u>	<u>218,405.00</u>	<u>218,405.00</u>	<u>217,876.09</u>	<u>0.24</u>
Expenditures							
000	BALANCE SHEET / GENERAL	0.00	0.00	0.00	0.00	0.00	0.00
446	HIGHWAYS, STREETS (NOT ACT 51)	139,005.40	770.79	353,593.00	353,593.00	352,822.21	0.22
450	MAINTENANCE / CONSTRUCTION	24,012.55	1,933.58	24,660.00	24,660.00	22,726.42	7.84
TOTAL EXPENDITURES		<u>163,017.95</u>	<u>2,704.37</u>	<u>378,253.00</u>	<u>378,253.00</u>	<u>375,548.63</u>	<u>0.71</u>
Fund 204 - GENERAL HWY:							
TOTAL REVENUES		218,922.58	528.91	218,405.00	218,405.00	217,876.09	0.24
TOTAL EXPENDITURES		<u>163,017.95</u>	<u>2,704.37</u>	<u>378,253.00</u>	<u>378,253.00</u>	<u>375,548.63</u>	<u>0.71</u>
NET OF REVENUES & EXPENDITURES		55,904.63	(2,175.46)	(159,848.00)	(159,848.00)	(157,672.54)	1.36

PERIOD ENDING 03/31/2020

GL NUMBER	DESCRIPTION	END BALANCE	YTD BALANCE	2020-21	2020-21	AVAILABLE	% BDGT USED
		02/29/2020 NORM (ABNORM)	03/31/2020 NORM (ABNORM)	ORIGINAL BUDGET	AMENDED BUDGET	BALANCE NORM (ABNORM)	
Fund 248 - DOWNTOWN DEVELOPMENT AUTHORITY							
Revenues							
UNCLASSIFIED	Unclassified	18,974.64	7.59	30,950.00	30,950.00	30,942.41	0.02
TOTAL REVENUES		<u>18,974.64</u>	<u>7.59</u>	<u>30,950.00</u>	<u>30,950.00</u>	<u>30,942.41</u>	<u>0.02</u>
Expenditures							
275	DDA	13,104.67	0.00	37,700.00	37,700.00	37,700.00	0.00
TOTAL EXPENDITURES		<u>13,104.67</u>	<u>0.00</u>	<u>37,700.00</u>	<u>37,700.00</u>	<u>37,700.00</u>	<u>0.00</u>
Fund 248 - DOWNTOWN DEVELOPMENT AUTHORITY:							
TOTAL REVENUES		18,974.64	7.59	30,950.00	30,950.00	30,942.41	0.02
TOTAL EXPENDITURES		<u>13,104.67</u>	<u>0.00</u>	<u>37,700.00</u>	<u>37,700.00</u>	<u>37,700.00</u>	<u>0.00</u>
NET OF REVENUES & EXPENDITURES		5,869.97	7.59	(6,750.00)	(6,750.00)	(6,757.59)	0.11

PERIOD ENDING 03/31/2020

GL NUMBER	DESCRIPTION	END BALANCE	YTD BALANCE	2020-21		AVAILABLE	% BDGT USED
		02/29/2020 NORM (ABNORM)	03/31/2020 NORM (ABNORM)	ORIGINAL BUDGET	2020-21 AMENDED BUDGET	BALANCE NORM (ABNORM)	
Fund 290 - ARTS							
Revenues							
UNCLASSIFIED	Unclassified	16,747.00	180.00	9,472.00	9,472.00	9,292.00	1.90
TOTAL REVENUES		<u>16,747.00</u>	<u>180.00</u>	<u>9,472.00</u>	<u>9,472.00</u>	<u>9,292.00</u>	<u>1.90</u>
Expenditures							
752	ARTS	11,819.23	301.74	9,472.00	9,472.00	9,170.26	3.19
TOTAL EXPENDITURES		<u>11,819.23</u>	<u>301.74</u>	<u>9,472.00</u>	<u>9,472.00</u>	<u>9,170.26</u>	<u>3.19</u>
Fund 290 - ARTS:							
TOTAL REVENUES		16,747.00	180.00	9,472.00	9,472.00	9,292.00	1.90
TOTAL EXPENDITURES		11,819.23	301.74	9,472.00	9,472.00	9,170.26	3.19
NET OF REVENUES & EXPENDITURES		4,927.77	(121.74)	0.00	0.00	121.74	100.00

PERIOD ENDING 03/31/2020

GL NUMBER	DESCRIPTION	END BALANCE	YTD BALANCE	2020-21		AVAILABLE	% BDGT USED
		02/29/2020 NORM (ABNORM)	03/31/2020 NORM (ABNORM)	ORIGINAL BUDGET	2020-21 AMENDED BUDGET	BALANCE NORM (ABNORM)	
Fund 291 - CAR SHOW							
Revenues							
UNCLASSIFIED	Unclassified	3,420.39	0.80	3,030.00	3,030.00	3,029.20	0.03
TOTAL REVENUES		<u>3,420.39</u>	<u>0.80</u>	<u>3,030.00</u>	<u>3,030.00</u>	<u>3,029.20</u>	<u>0.03</u>
Expenditures							
753	CAR SHOW	4,224.90	0.00	3,270.00	3,270.00	3,270.00	0.00
TOTAL EXPENDITURES		<u>4,224.90</u>	<u>0.00</u>	<u>3,270.00</u>	<u>3,270.00</u>	<u>3,270.00</u>	<u>0.00</u>
Fund 291 - CAR SHOW:							
TOTAL REVENUES		3,420.39	0.80	3,030.00	3,030.00	3,029.20	0.03
TOTAL EXPENDITURES		<u>4,224.90</u>	<u>0.00</u>	<u>3,270.00</u>	<u>3,270.00</u>	<u>3,270.00</u>	<u>0.00</u>
NET OF REVENUES & EXPENDITURES		(804.51)	0.80	(240.00)	(240.00)	(240.80)	0.33

PERIOD ENDING 03/31/2020

GL NUMBER	DESCRIPTION	END BALANCE	YTD BALANCE	2020-21		AVAILABLE	% BDGT USED
		02/29/2020 NORM (ABNORM)	03/31/2020 NORM (ABNORM)	ORIGINAL BUDGET	2020-21 AMENDED BUDGET	BALANCE NORM (ABNORM)	
Fund 591 - WATER FUND							
Revenues							
UNCLASSIFIED	Unclassified	996,545.96	1,530.35	979,110.00	979,110.00	977,579.65	0.16
TOTAL REVENUES		<u>996,545.96</u>	<u>1,530.35</u>	<u>979,110.00</u>	<u>979,110.00</u>	<u>977,579.65</u>	<u>0.16</u>
Expenditures							
536	WATER/SEWER	983,541.82	33,429.64	1,561,277.00	1,561,277.00	1,527,847.36	2.14
TOTAL EXPENDITURES		<u>983,541.82</u>	<u>33,429.64</u>	<u>1,561,277.00</u>	<u>1,561,277.00</u>	<u>1,527,847.36</u>	<u>2.14</u>
Fund 591 - WATER FUND:							
TOTAL REVENUES		996,545.96	1,530.35	979,110.00	979,110.00	977,579.65	0.16
TOTAL EXPENDITURES		983,541.82	33,429.64	1,561,277.00	1,561,277.00	1,527,847.36	2.14
NET OF REVENUES & EXPENDITURES		<u>13,004.14</u>	<u>(31,899.29)</u>	<u>(582,167.00)</u>	<u>(582,167.00)</u>	<u>(550,267.71)</u>	<u>5.48</u>
TOTAL REVENUES - ALL FUNDS		2,343,557.67	9,744.84	2,450,234.00	2,450,234.00	2,440,489.16	0.40
TOTAL EXPENDITURES - ALL FUNDS		<u>2,210,971.91</u>	<u>76,846.87</u>	<u>3,389,114.00</u>	<u>3,389,114.00</u>	<u>3,312,267.13</u>	<u>2.27</u>
NET OF REVENUES & EXPENDITURES		<u>132,585.76</u>	<u>(67,102.03)</u>	<u>(938,880.00)</u>	<u>(938,880.00)</u>	<u>(871,777.97)</u>	<u>7.15</u>

**VILLAGE OF LAKE ODESSA
IONIA COUNTY, MICHIGAN**

Trustee _____, supported by Trustee _____, moved the adoption of the following ordinance:

ORDINANCE NO. 2020-1

**AN ORDINANCE TO AMEND THE CODE OF
ORDINANCES OF THE VILLAGE OF LAKE ODESSA BY
AMENDING SECTION 32-59**

THE VILLAGE OF LAKE ODESSA ORDAINS:

Section 1. That the Code of Ordinances, Village of Lake Odessa, Michigan, is hereby amended to read as follows:

Sec. 32-59. - Parking prohibited in certain areas.

- (a) No motor vehicle, camper, motor home or trailer shall be parked on the north side of Lakeview Drive **between Fourth Avenue and Sixth Avenue, or where “No Parking” signs have been installed by the Village.**
- (b) A person who violates this section shall be responsible for a parking violation, subject to payment of a fine as established by resolution of the village council.

Section 2. Conflict and Repeal. All ordinances or parts of ordinances in conflict with this ordinance are repealed.

Section 3. Effective Date. This ordinance shall take effect immediately upon its publication in a newspaper circulated within the Village.

Section 4. Publication. After its adoption, this ordinance or a summary thereof, as permitted by law, shall be published by the Village Clerk in a newspaper of general circulation in the Village.

Ayes:
Nays:
Abstain:
Absent:

ORDINANCE DECLARED ADOPTED.

Dated: _____, 2020

Karen L. Banks, Village President

Pearl Goodemoot, Village Clerk

CERTIFICATION

I, the undersigned duly appointed Village Clerk of the Village of Lake Odessa, Ionia County, Michigan, do hereby certify that the above ordinance, or a summary thereof, was published in the Lakewood News, a newspaper of general circulation in the Village, on _____, 2020, and that such ordinance was entered into the Ordinance Book of the Village on _____, 2020.

Date: _____

Pearl Goodemoot, Village Clerk



National Coronavirus Response

A ROAD MAP TO REOPENING

Scott Gottlieb, MD

Caitlin Rivers, PhD, MPH

Mark B. McClellan, MD, PhD

Lauren Silvis, JD

Crystal Watson, DrPh, MPH

MARCH 28, 2020

National Coronavirus Response

A ROAD MAP TO REOPENING

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MARCH 28, 2020

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Executive Summary

This report provides a road map for navigating through the current COVID-19 pandemic in the United States. It outlines specific directions for adapting our public-health strategy as we limit the epidemic spread of COVID-19 and are able to transition to new tools and approaches to prevent further spread of the disease. We outline the steps that can be taken as epidemic transmission is brought under control in different regions. These steps can transition to tools and approaches that target those with infection rather than mitigation tactics that target entire populations in regions where transmission is widespread and not controlled. We suggest measurable milestones for identifying when we can make these transitions and start reopening America for businesses and families.

In each phase, we outline the steps that the federal government, working with the states and public-health and health care partners, should take to inform the response. This will take time, but planning for each phase should begin now so the infrastructure is in place when it is time to transition.

The specific milestones and markers included in the report for transitioning our responses are judgments based on our current understanding, with the goal of facilitating an effective path forward. The epidemic is evolving rapidly, and our understanding of best responses will evolve as well. The broad set of tasks described here requires and will receive high-level, ongoing attention, and it should be updated and refined as additional evidence, context, and insights about the epidemic become available.

To gradually move away from a reliance on physical distancing as our primary tool for controlling future spread, we need:

- 1) Better data to identify areas of spread and the rate of exposure and immunity in the population;
- 2) Improvements in state and local health care system capabilities, public-health infrastructure for early outbreak identification, case containment, and adequate medical supplies; and
- 3) Therapeutic, prophylactic, and preventive treatments and better-informed medical interventions that give us the tools to protect the most vulnerable people and help rescue those who may become very sick.

Our stepwise approach depends on our ability to aggregate and analyze data in real time. To strengthen our public-health surveillance system to account for the unprecedented spread of COVID-19, we need to harness the power of technology and drive additional resources to our state and local public-health departments, which are on the front lines of case identification and contact tracing. Finally, we must expand our investments in pharmaceutical research and development into COVID-19 and promote the rapid deployment of effective diagnostics, therapies, and eventually a vaccine.

Slow the Spread in Phase I. This is the current phase of response. The COVID-19 epidemic in the United States is growing, with community transmission occurring in every state. To slow the spread in this period,¹ schools are closed across the country, workers are being asked to do their jobs from home when possible, community gathering spaces such as malls and gyms are closed, and restaurants are being asked to limit their services. These measures will need to be in place in each state until transmission has measurably slowed down and health infrastructure can be scaled up to safely manage the outbreak and care for the sick.

State-by-State Reopening in Phase II. Individual states can move to Phase II when they are able to safely diagnose, treat, and isolate COVID-19 cases and their contacts. During this phase, schools and businesses can reopen, and much of normal life can begin to resume in a phased approach. However, some physical distancing measures and limitations on gatherings will still need to be in place to prevent transmission from accelerating again. For older adults (those over age 60), those with underlying health conditions, and other populations at heightened risk from COVID-19, continuing to limit time in the community will be important.

Public hygiene will be sharply improved, and deep cleanings on shared spaces should become more routine. Shared surfaces will be more frequently sanitized, among other measures. In addition to case-based interventions that more actively identify and isolate people with the disease and their contacts, the public will initially be asked to limit gatherings, and people will initially be asked to wear fabric nonmedical face masks while in the community to reduce their risk of asymptomatic spread. Those who are sick will be asked to stay home and seek testing for COVID-19. Testing should become more widespread and routine as point-of-care diagnostics are fully deployed in doctors' offices.

While we focus on state-by-state reopening of activities in a responsible manner and based on surveillance data, we note that states may move forward at a county or regional level if these conditions vary within the state and that coordination on reopening among states that share metropolitan regions will be necessary.

Establish Immune Protection and Lift Physical Distancing During Phase III. Physical distancing restrictions and other Phase II measures can be lifted when safe and effective tools for mitigating the risk of COVID-19 are available, including broad surveillance, therapeutics that can rescue patients with significant disease or prevent serious illness in those most at risk, or a safe and effective vaccine.

Rebuild Our Readiness for the Next Pandemic in Phase IV. After we successfully defeat COVID-19, we must ensure that America is never again unprepared to face a new infectious disease threat. This will require investment into research and development initiatives, expansion of public-health and health care infrastructure and workforce, and clear governance structures to execute strong preparedness plans. Properly implemented, the steps described here also provide the foundation for containing the damage that future pathogens may cause.

Phase I: Slow the Spread

Goals

The goal of Phase I is to save lives by:

- 1) Slowing the transmission of SARS-CoV-2 across the United States by reducing the effective reproduction number of infections,
- 2) Increasing testing capacity to accommodate the ability to test everyone with symptoms and their close contacts, and
- 3) Ensuring the health care system has the capacity to safely treat both COVID-19 patients and others requiring care.

A successful Phase I will allow for a significant relaxation of physical distancing measures and a progression to Phase II, when more targeted, case-based interventions are possible.

Thresholds for Action

Trigger to Begin to “Slow the Spread.” The trigger to implement nationwide “slow the spread” measures² in Phase I is the existence in multiple geographic locations around the country of confirmed cases that cannot be traced back to other known cases (“community spread”).³ This trigger has already been reached in the United States.

Trigger to Move to Phase II. To guard against the risk that large outbreaks or epidemic spread could reignite once we lift our initial efforts to “slow the spread,” the trigger for a move to Phase II should be when a state reports a sustained reduction in cases for at least 14 days (i.e., one incubation period); *and*

Stay-at-Home Advisories

The trigger for issuing a stay-at-home advisory⁶ in a US state is when case counts are doubling every three to five days⁷ (based on the current New York experience) or when state and local officials recommend it based on the local context (for example, growth on track to overwhelm the health system’s capacity).

The trigger for issuing a recommendation to step down from a stay-at-home-advisory back to “slow the spread” is when the number of new cases reported in a state has declined steadily for 14 days (i.e., one incubation period) and the jurisdiction is able to test everyone seeking care for COVID-19 symptoms.

local hospitals are safely able to treat all patients requiring hospitalization without resorting to crisis standards of care⁴; *and* the capacity exists in the state to test all people with COVID-19 symptoms, along with state capacity to conduct active monitoring of all confirmed cases and their contacts.⁵

Steps Required in Phase I

Maintain Physical Distancing. Each state must maintain community-level physical distancing measures⁸ until the threshold for moving to Phase II is met. These Phase I measures include:

- Closing community gathering spaces such as schools, shopping centers, dining areas,

museums, and gyms statewide (places where people congregate indoors);

- Promoting telework for nonessential employees statewide;
- Urging the public to limit unnecessary domestic or international travel;
- Canceling or postponing meetings and mass gatherings;
- Shutting dining areas but encouraging restaurants to provide takeout and delivery services if possible;
- Issuing stay-at-home advisories in hot spots where transmission is particularly intense (i.e., when case counts are doubling in a city or locality every three to five days); and
- Monitoring community adherence to physical distancing and stay-at-home advisories, adjusting risk messaging as appropriate, and identifying alternative incentives for compliance if needed.

Increase Diagnostic Testing Capacity and Build Data Infrastructure for Rapid Sharing of Results.

Same-day, point-of-care diagnostic testing (widely available in outpatient settings) is crucial for identifying cases, including those with asymptomatic and mild infections. To move from community-wide interventions that focus on large populations to case-based interventions that target and isolate individual people who are infected, capacity should be sufficient to test:

- 1) Hospitalized patients (rapid diagnostics are needed for this population);
- 2) Health care workers and workers in essential roles (those in community-facing roles in health and public safety);

3) Close contacts of confirmed cases; and

- 4) Outpatients with symptoms. (This is best accomplished with point-of-care diagnostics in doctors' offices with guidelines that encourage widespread screening and mandated coverage for testing.)

We estimate that a national capacity of at least 750,000 tests per week would be sufficient to move to case-based interventions when paired with sufficient capacity in supportive public-health infrastructure (e.g., contact tracing).⁹ In conjunction with more widespread testing, we need to invest in new tools to make it efficient for providers to communicate test results and make data easily accessible to public-health officials working to contain future outbreaks.

Ensure Functioning of the Health Care System.

Ensure sufficient critical-care capacity¹⁰ in hospitals to be able to immediately expand capacity from 2.8 critical-care beds per 10,000 adults to 5–7 beds per 10,000 adults in the setting of an epidemic or other emergency, allowing for regional variation.¹¹ This target is a minimum, must be adequate for the current and forecasted level of demand, and must be accompanied by adequate staffing. Regional variation in capacity reflecting local needs is acceptable.

Expand access to ventilators in hospitals from 3 per 10,000 adults to a goal of 5–7 ventilators per 10,000 adults.¹² This target does not include transport or anesthesia machines. This target is a minimum, must be adequate for the current and forecasted level of demand, and must be accompanied by adequate staffing. Regional variation in capacity reflecting local needs is acceptable.

Maintain access to acute-care hospital beds of at least 30 per 10,000 adults.¹³ Facilities should have a plan, in the case of a surge in hospital demand, for how the beds would be rapidly flexed from more discretionary uses (e.g., elective procedures) and adequately staffed, with access to adequate supplies of oxygen and other medical supplies.

This health care functioning target would also be met if critical-care and ventilator capacity does not expand to that level but COVID-19 incidence is maintained or falls meaningfully below the state's capacity to meet critical-care demand. These capacity targets can also be partially met through the availability of ample mobile health care infrastructures (supported and perhaps maintained by federal or state governments) that can be distributed and set up on short notice to hot areas with surge capacity needs.

Increase Supply of Personal Protective Equipment. The Centers for Disease Control and Prevention (CDC) recommends, at a minimum, N95 respirators for hospital staff expected to have direct contact with COVID-19 patients, plus disposable procedural or surgical masks for all other clinical personnel in any health care setting.¹⁴ The supply chain should be able to reliably distribute sufficient N95 masks, gloves, and other personal protective equipment to protect health care workers from infection.

Implement Comprehensive COVID-19 Surveillance Systems. The move toward less restrictive physical distancing could precipitate another period of acceleration in case counts. Careful surveillance will be needed to monitor trends in incidence. A high-performing disease surveillance system should be established that leverages:

- 1) Widespread and rapid testing at the point of care using cheaper, accessible, and sensitive point-of-care diagnostic tools that are authorized by the Food and Drug Administration (FDA);
- 2) Serological testing to gauge background rates of exposure and immunity to inform public-health decision-making about the level of population-based mitigation required to prevent continued spread in the setting of an outbreak; and
- 3) A comprehensive national sentinel surveillance system, supported by and coordinated with local public-health systems and health care providers,

to track the background rate of infection across states and identify community spread while an outbreak is still small and at a stage in which case-based interventions can prevent a larger outbreak.

ILINet, the surveillance system for influenza-like illness in the United States, is a potential model for SARS-CoV-2 surveillance. To enable rapid and more effective detection and case management, SARS-CoV-2 surveillance will also benefit from data sharing and coordination with health care providers and payers. The CDC should convene an intergovernmental task force, with outside experts as needed and input from states and the health care community, to develop and support a new national surveillance system and data infrastructure for tracking and analyzing COVID-19.

Massively Scale Contact Tracing and Isolation and Quarantine. When a new case of COVID-19 is diagnosed, the patient should be isolated either at home or in a hospital, depending on the level of care he or she requires. Current CDC guidelines recommend seven days of isolation.¹⁵ Home isolation can be enforced using technology such as GPS tracking on cell phone apps. Also, the close contacts of confirmed cases (as defined by the CDC¹⁶) should be quarantined and monitored daily for 14 days. Monitoring of international travelers is also recommended.¹⁷

To scale these interventions to accommodate thousands of daily cases and tens of thousands of daily contacts, public-health infrastructure will need to be dramatically scaled up throughout the country, in coordination with the improving capacity of health care providers to prevent, diagnose, and treat COVID-19 cases.

The task force should also be charged with developing and overseeing an initiative to:

- 1) Surge the existing public-health workforce to conduct case finding and contact tracing;
- 2) Enable rapid reporting to state, local, and federal health authorities, through the public-health

workforce and electronic data sharing from health care providers and labs; and

- 3) Develop and field a technological approach to enable rapid data entry, reporting, and support for isolation, quarantine, and safe community-based treatment of affected individuals.

Offer Voluntary Local Isolation and Quarantine. Comfortable, free facilities should be provided for cases and their contacts who prefer local isolation, quarantine, and treatment away from home. For example, a member of a large household may wish to recover in a hotel room that has been repurposed rather than risk infecting family members. Isolation and quarantine away from home should not be mandatory or compelled by force.

The Federal Emergency Management Agency is the lead agency tasked with coordinating with state and local jurisdictions to stand up appropriate isolation and quarantine facilities. Field hospitals, dormitories, hotels, and military barracks may be appropriated for this purpose.

Encourage the Public to Wear Masks. There is emerging evidence that asymptomatic and presymptomatic transmission of COVID-19 is possible,¹⁸ which complicates efforts to pursue case-based interventions. To reduce this risk during Phase I, everyone, including people without symptoms, should be encouraged to wear nonmedical fabric face masks while in public.¹⁹

Face masks will be most effective at slowing the spread of SARS-CoV-2 if they are widely used, because they may help prevent people who are asymptotically infected from transmitting the

disease unknowingly. Face masks are used widely by members of the public in some countries that have successfully managed their outbreaks, including South Korea and Hong Kong.²⁰ The World Health Organization (WHO) recommended members of the public use face masks in the event of a severe influenza pandemic.²¹

However, personal protective equipment should continue to be reserved for health care workers until supplies are sufficient for them and abundant. For this reason, right now members of the general public should opt to wear nonmedical fabric face masks when going out in public. The CDC should issue guidelines on the proper design of such nonmedical fabric face masks. Consumers may be able to fashion these masks themselves using available washable materials, or they may become available in the consumer marketplace.

Trigger for Moving to Phase II

A state can safely proceed to Phase II when it has achieved all the following:

- A sustained reduction in cases for at least 14 days,
- Hospitals in the state are safely able to treat all patients requiring hospitalization without resorting to crisis standards of care,²²
- The state is able to test all people with COVID-19 symptoms, *and*
- The state is able to conduct active monitoring of confirmed cases and their contacts.²³

Phase II: Reopen, State by State

In Phase II, the majority of schools, universities, and businesses can reopen. Teleworking should continue where convenient; social gatherings should continue to be limited to fewer than 50 people wherever possible. Other local restrictions should be considered, such as those that limit people from congregating in close proximity.

High-contact settings such as schools should continue to review and implement physical distancing measures with guidance from the CDC and input from local officials. Health officials should recommend increased social hygiene measures and cleaning of shared surfaces.

For older adults (those over 60 years old), those with underlying health conditions, and other populations at heightened risk from COVID-19, it should still be recommended that they limit time in the community during Phase II. This recommendation may change if an effective therapeutic becomes available.

We need to consider these activities on a coordinated, regional basis through multistate cooperation. While state and local governments maintain sovereignty over issues related to their public-health response, coordination based on regions that cross state boundaries will be crucial. Large states with multiple urban areas and rural regions may implement reopening at a regional level. States that share major metropolitan areas (for example, New York, New Jersey, and Connecticut) should assure that the conditions for reopening these areas are met across the relevant state boundaries.

Goals

The goals of Phase II are to:

- 1) Lift strict physical distancing measures in a concerted and careful fashion,

- 2) Allow the vast majority of businesses and schools to open, and

- 3) Continue to control SARS-CoV-2 transmission so we do not revert back to Phase I.

The adoption of these Phase II measures will require a careful balance. We will need to constantly reevaluate the implementation of these measures based on available surveillance data, and we will need to be ready to adjust our approach over time according to the epidemiology of local, national, and global spread. This is especially true as we transition from one phase to the next.

Thresholds for Action

Trigger to Lift Physical Distancing Measures.

Once the criteria for the transition from Phase I to Phase II have been met and we begin to move away from the “slow the spread” period, leaders at the state level should begin an incremental easing of physical distancing measures. This should be done gradually and should be paired with increased surveillance for new cases. State officials should make decisions about the selection and timing of restrictions to lift based on their local contexts. Restrictions should be eased gradually, with sufficient time between each adjustment to carefully monitor for resurgence of transmission.

Trigger for Returning to Phase I, “Slow the Spread.”

As physical distancing is gradually eased, surveillance will be essential for quickly identifying an increase in cases in the state. A state should revert to Phase I and continue “slow the spread” if a substantial number of cases cannot be traced back to known cases, if there is a sustained rise in new cases for five

days, or if hospitals in the state are no longer able to safely treat all patients requiring hospitalization.

Trigger for Moving to Phase III. Once a vaccine has been developed, has been tested for safety and efficacy, and receives FDA emergency use authorization,²⁴ or there are other therapeutic options that can be used for preventive or treatment indications and that have a measurable impact on disease activity and can help rescue very sick patients, states can move to Phase III.

Steps Required in Phase II

Implement Case-Based Interventions. Using the public-health capacities developed in Phase I, every confirmed case should be isolated either at home, in a hospital, or (voluntarily) in a local isolation facility for at least seven days, or according to the latest CDC guidance. People awaiting test results should be advised to quarantine until their results are returned.

The close contacts of confirmed cases should be traced and placed under home or central quarantine, with active daily monitoring for at least 14 days, or according to the latest CDC guidance. Diagnostic tests should be immediately administered to any close contacts who develop symptoms.

Begin to Relax Physical Distancing Measures. General physical distancing precautions should still be the norm during Phase II, including teleworking (as much as possible), maintaining hand hygiene and respiratory etiquette, wearing a mask in public, regularly disinfecting high-touch surfaces, and initially limiting social gatherings to fewer than 50 people. These recommendations should be augmented through technological solutions to understand physical distancing behaviors and adjust risk messaging as needed. This should be accomplished through partnerships with the private sector, with careful attention paid to preserving privacy and avoiding coercive means to encourage compliance.

As children return to school and daycare (i.e., high-contact settings) and people return to high-density workplaces, leaders of these organizations should continue to review and implement physical distancing measures based on guidance from the CDC for schools and businesses.²⁵

Special Care for Vulnerable Populations. While easing of physical distancing is taking place, highly vulnerable populations,²⁶ such as individuals older than age 60 and those with compromised immune systems or compromised lung and heart function, should continue to engage in physical distancing as much as possible until a vaccine is available, an effective treatment is available, or there is no longer community transmission. Special attention should be paid to long-term-care facilities and nursing homes.²⁷ These facilities will need to maintain high levels of infection prevention and control efforts and limit visitors to prevent outbreaks.

If a treatment or prophylactic, such as a monoclonal antibody,²⁸ becomes available, high-risk and vulnerable populations should be prioritized to receive it, to both protect those individuals and reduce the likelihood of an increase in severe illnesses and additional patient surge in hospital intensive care units (ICUs).

Accelerate the Development of Therapeutics. Therapeutics play an important role in caring for those who are sick. Accelerating the research, development, production, and distribution of safe and effective therapeutics is a top priority. With effective development strategies and early investments in commercial-scale manufacturing, a successful therapeutic could receive emergency use authorization or approval as early as the summer or fall, if trials demonstrate that it meets either standard.

Therapeutics can serve a number of roles. First, they can serve as a prophylaxis to help prevent infection in those at greatest risk of infection, such as front-line health care workers, or those at risk of bad outcomes, such as individuals with preexisting health conditions and those who are immunocompromised. Such a treatment could include a recombinant

antibody that can target the virus surface antigens. As an example, researchers successfully developed such a therapeutic against Ebola. These antibody drugs can also be used to treat early infection or as a postexposure prophylaxis.

Other therapeutics might include antiviral drugs that target features of how the virus replicates. These drugs can be used to treat people who are critically ill or earlier in the course of disease for those at risk of developing a complication. Antiviral drugs can also be used as postexposure prophylaxis, depending on their safety profile. Postexposure prophylaxis and products that shorten the duration and intensity of viral shedding may affect the effective reproduction number only modestly. In addition, immune-modulating treatments may prove to be helpful in mitigating severe lung complications in some patients. A number of promising drugs are in early and mid-stage development.

At a minimum, the optimal profile for a therapeutic that will affect the risk from future spread is one that meaningfully reduces the risk of death or severe disease and perhaps prevents the onset of symptoms or progression to severe disease in those exposed. Oral administration at the outpatient level would be ideal, but alternative administration requirements (e.g., infusion and jet injections) could also be scaled, with sufficient planning.

While private industry has already organized a large task force to share information and capabilities to rapidly advance promising therapies, we need a commensurate focus by federal agencies to make sure the best possible resources are brought to this mission. Federal agencies should join organized efforts already underway in the private sector.

Identify Those Who Are Immune. Serology is a method used to identify evidence of immunity in someone who has recovered from infection. With accurate and widely available serological testing, we

can identify people who are immune and therefore no longer vulnerable to infection. While we need to better understand the strength of the immune response in mild cases and how long people remain immune from reinfection, we know there is a period where most people will have sufficient antibodies to offer protection. People who are immune could:

- 1) Return to work,
- 2) Serve in high-risk roles such as those at the front lines of the health care system, and
- 3) Serve in roles that support community functioning for people who are still physically distancing (e.g., the elderly who continue to quarantine at home).

To use serology in this way, serological assays are needed and should be widely available, accurate, rapid, and low cost. Such assays have already been developed by researchers, but they have not yet been fully validated and are not available at scale.

A task force comprised of senior leaders from the CDC, the Biomedical Advanced Research and Development Authority, the National Institute of Allergy and Infectious Diseases, the Department of Defense (DOD), the FDA, academia, and key private-sector groups (e.g., serological manufacturing companies) should be tasked to oversee the development, production, distribution, data collection, serological survey designs, and analytics for use of serology at scale.²⁹

Trigger for Moving to Phase III

Once a vaccine has been developed, has been tested for safety and efficacy, and receives FDA emergency use authorization,³⁰ states can move to Phase III.

Phase III: Establish Protection Then Lift All Restrictions

Once a robust surveillance sentinel system is in place, coupled with widespread point-of-care testing and a robust ability to implement tracing, isolation, and quarantines—and this is supported by the availability of therapeutics that can help mitigate the risk of spread or reduce serious outcomes in those with infections—or alternatively a vaccine has been developed and tested for safety and efficacy, we can enter Phase III. The availability of these technologies (and eventually a safe and effective vaccine) will have economic and social benefits, in addition to health benefits.

Goals

The goals of safe and effective technologies for controlling transmission are to:

- 1) Prevent infection;
- 2) Treat those with early disease to prevent bad outcomes;
- 3) Provide a prophylaxis for those exposed to infection to prevent them from developing disease or reduce its severity;
- 4) In the case of a vaccine, build population-level immunity to the virus in order to reduce illness and death and stop or greatly slow spread; and
- 5) Enable the lifting of all physical distancing measures.

Thresholds for Action

Trigger to Begin Manufacturing Scale-Up and Vaccine or Therapeutic Prioritization Planning.

As soon as a vaccine or therapeutic looks promising in pivotal clinical trials (i.e., it has been shown to be safe and looks like it will also be effective),³¹ the US government should work with industry to begin planning for mass manufacturing, distribution, and administration. New provisions enacted under the recently passed Coronavirus Aid, Relief, and Economic Security Act allow for large-scale manufacturing of promising therapies, in advance of approval, to help make sure there will be adequate supply available for mass distribution, should a product demonstrate that it is safe and effective and win regulatory approval.

Trigger for Switch Toward Mass Vaccination.

Once availability of a vaccine or therapeutic is able to meet demand, vaccination can expand beyond priority groups. The CDC, state public-health agencies, and vaccine developers should work together to plan for and execute mass vaccination of large populations in the US. This planning can begin before Phase III because preparation can be made regardless of vaccine availability.

Steps to Take in Phase III

Vaccine or Therapeutic Production. Once a safe and effective vaccine or therapeutic has been licensed, it will need to be quickly manufactured at scale. The Public Health Emergency Medical Countermeasures enterprise,³² in coordination with pharmaceutical

companies and other private-sector stakeholders, should continue to plan for and implement mass production capable of quickly meeting US demand.

Vaccine or Therapeutic Prioritization—When Supply Is Still Limited. The CDC, the National Institutes of Health, the Office of the Assistant Secretary for Preparedness and Response, the DOD, and other stakeholders should revise prior influenza vaccine prioritization guidance to apply specifically to COVID-19.³³ The new prioritization guidance for the COVID-19 vaccine should identify priority groups for targeted distribution when a safe and effective vaccine starts to become available. The guidance should be transparent and explain the reasoning for priorities, including the populations in which the vaccine was studied, and should be a phased approach that expands to additional priority groups as vaccine availability expands. The guidance should be reflected in COVID-19 payment policies implemented by the Centers for Medicare & Medicaid Services (CMS) and private insurers, with treatment available at no cost to individuals who meet the priority guidance and a mechanism for reimbursement for individuals who are uninsured.

Mass Vaccination or Therapeutic Distribution—When Supply Is Abundant. The CDC should work with state and local health officials, health care providers, CMS and health insurers, and other public-health stakeholders to create a national plan for how mass vaccination will be carried out across the country. This plan should identify who

will administer vaccinations, where vaccines will be offered, and how data will be collected on vaccination rates, as well as possible adverse events from the vaccine. Indemnification of vaccine developers and manufacturers should also be considered. Congress could enact legislation to support a process for compensation of any individual who has an adverse event from the vaccine, which requires medical care.

Global Vaccine Scale-Up and Vaccination. The CDC, the US Agency for International Development, the State Department, and other US stakeholders should continue to work with WHO and other international organizations and national leaders to plan for how the US will assist other countries (particularly low- and middle-income countries) with obtaining vaccine and implementing mass vaccination. Support from the United States and higher-income nations will be critical for controlling the virus globally and saving lives around the world, as well as reducing the impact that future waves of the pandemic may have on the US population.

Serological Surveys to Determine Population Immunity. One key input for understanding the population at risk is the fraction of the population who have recovered and are protected against reinfection. If a sufficiently high fraction of the population has become immune either through natural recovery or vaccination, remaining restrictions can be lifted. The CDC should be the lead agency for coordinating ongoing serological surveys.

Phase IV: Rebuild Our Readiness for the Next Pandemic

The COVID-19 pandemic has exposed serious gaps in our nation's pandemic preparedness. COVID-19 will not be the last public-health emergency to threaten American society. We must invest in the scientific, public-health, and medical infrastructure needed to prevent, detect, and respond to the next infectious disease threat.

Develop Vaccines for Novel Viruses in Months, Not Years. In response to COVID-19 and in preparation for the next previously unidentified health threat (“Disease X”³⁴), the United States should lead the way by setting an ambitious goal of rapidly developing medical countermeasures for novel or unknown threats in months, not years. A dedicated strategy, program, and funding will be needed to create the ability at existing agencies within the US Department of Health and Human Services and DOD to quickly develop flexible platforms and countermeasures for any type of novel pathogen.³⁵ This strategy should include supporting flexible manufacturing capacity to scale up production to a global level in an emergency.

Modernize and Fortify the Health Care System. We must improve our hospital-bed and ICU capacity to accommodate large surges of patients through public-private partnerships, for example, by enhancing the Hospital Preparedness Program³⁶ and the Public Health Emergency Preparedness Cooperative Agreement³⁷ and emphasizing preparedness in federal health care programs (e.g., the CMS³⁸ and the Department of Veterans Affairs³⁹). We must also expand the supply chain of personal protective equipment and further the development of crisis standards of care. To reduce future burdens on our critical-care systems, we must also support our primary and community care capabilities to identify populations at elevated risk, detect cases early, and manage them at home or

in the community more effectively. Health care payers have been implementing payment reforms to support better screening and population health management. Emergency supplemental payments to health care providers in the current pandemic and future health care payments should be linked to establishing better surge capacity for severe cases and stronger capabilities to partner with public-health authorities to contain outbreaks and reduce the burden on hospitals.

Establish a National Infectious Disease Forecasting Center. Given the important role of infectious disease modeling in supporting public-health decision-making, we should increase our nation's capacity to use infectious disease modeling⁴⁰ to support public-health decision-making by establishing a national infectious disease forecasting center. This permanent federal institution would function similarly to the National Weather Service, providing a centralized capability for both producing models and undertaking investigations to improve methods used to advance basic science, data science, and visualization capabilities. It would also provide decision support to public-health agencies based on modeling and analytic results.

Governance. We need to move away from a decentralized system that promotes unequal implementation of preparedness measures across the nation and toward a more coordinated execution of response. We should develop clear and effective plans for the implementation of public-health measures such as quarantine and the unification of actions made by state and local health departments. Outbreaks are matters of regional—and more typically national—concern. Preparedness for public-health emergencies should be elevated as a function in the White House, with a coordinating function analogous to the director of national intelligence.

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