MINNESOTA HOUSING

MEETINGS SCHEDULED FOR SEPTEMBER

Minnesota Housing
400 Wabasha Street N. Suite 400
St. Paul, MN 55102

THURSDAY, SEPTEMBER 22, 2022
Regular Board Meeting
1:00 p.m.

Hybrid Option Available:

In Person:
Lake Superior Conference Room- Fourth Floor

OR

Conference Call:
Toll-free dial-in number (U.S. and Canada)**:**
1-877-309-2074
Access code:
312-500-349

NOTE: The information and requests for approval contained in this packet of materials are being presented by Minnesota Housing staff to the Minnesota Housing Board of Directors for its consideration on Thursday, September 22, 2022.

Items requiring approval are neither effective nor final until voted on and approved by the Minnesota Housing Board.

The Agency may conduct a meeting by telephone or other electronic means, provided the conditions of Minn. Stat. §462A.041 are met. In accordance with Minn. Stat. §462A.041, the Agency shall, to the extent practical, allow a person to monitor the meeting electronically and may require the person making a connection to pay for documented marginal costs that the Agency incurs as a result of the additional connection

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Mission

Housing is the foundation for success, so we collaborate with individuals, communities and partners to create, preserve and finance housing that is affordable.

Vision

All Minnesotans live and thrive in a safe, stable home they can afford in a community of their choice.

AGENDA
Minnesota Housing Board Meeting
Thursday September 22, 2022
1:00 p.m.

1. **Call to Order**
2. **Roll Call**
3. **Agenda Review**
4. **Approval of Minutes**
   A. (page 5) Regular Meeting of August 25, 2022

5. **Reports**
   A. Chair
   B. Commissioner
   C. Committee

6. **Consent Agenda**
   None.

7. **Action Items**
   A. (page 9) Approval, Extension to the 2021 Housing Tax Credit (HTC) Carryover Submission Deadline for Certified Public Accountant (CPA) Certification
   -Manor Hills Apartments, D8320, Rochester, MN
   B. (page 15) Approval, Continuation of Master Participation Agreement with Greater Minnesota
   Housing Fund

8. **Discussion Items**
   A. (page 21) Update on Equity Work at the Agency

B. (page 23) Agency Financial Update with CSG

9. Information Items

A. (page 71) Post-Sale Report, Homeownership Finance Bonds 2022 Series A (Taxable)

B. (page 77) Post-Sale Report, State Appropriation Bonds (Housing Infrastructure) Series ABC

10. Other Business

None.

11. Adjournment

DRAFT Minutes
Minnesota Housing Board Meeting
Thursday, August 25, 2022
1:00 p.m.

1. **Call to Order.**
   Chair DeCramer called to order the regular meeting of the Board of Minnesota Housing Finance Agency at 1:06 p.m.

2. **Roll Call.**
   Members Present via conference call: Chief Executive Benjamin, Auditor Blaha, Chair John DeCramer, Craig Klausing, Stephanie Klinzing, and Terri Thao.
   Minnesota Housing Staff present via conference call: Anbar Ahmed, Tal Anderson, Ryan Baumtrog, Susan Bergmann, Shelley Bork, Sarah Broich, Stacie Brooks, Ibtisam Brown, Sara Bunn, Deran Cadotte, Matt Dieveney, Michelle Doyal, Ben Eggersdorfer, Graydon Francis, Rachel Franco, Mark Freeman, Vanessa Haight, Anne Heitlinger, Anna Heitz, Darryl Henchen, Adam Himmel, Jennifer Ho, Summer Jefferson, Hannah Jirak, Katey Kinley, Greg Krenz, Tresa Larkin, Debbi Larson, Brad LeBlanc, Ger Lee, Song Lee, James Lehnhoff, Nira Ly, Joseph Marks, Eric Mattson, Jill Mazullo, Don McCabe, Leighann McKenzie, Amy Melmer, Rudi Mohamed, Gerald Narlock, John Patterson, Caryn Polito, William Price, Traci Quinzon, Annie Reierson, Brittany Rice, Paula Rindels, Cheryl Rivinius, Rachel Robinson, Dani Salus, Joel Salzer, Timothy Schouten, Kayla Schuchman, Anne Smetak, Corey Strong, Kim Stuart, Jodell Swenson, Tonya Taylor, Susan Thompson, Mike Thone, Ted Tulashie, Nancy Urbansk, Kayla Vang, Teresa Vaplon, Tyler Wenande, Jennifer Wille, Jennifer Willette, and Carole Wohlk.
   Others present via hybrid: Michelle Adams, Kutak Rock; Ramona Advani, Minnesota Office of the State Auditor; Gene Slater, CSG Advisors.

3. **Agenda Review**
   None.

4. **Approval**
   A. **Regular Meeting Minutes July 21, 2022, and Special Meeting of August 11, 2022 Meeting Minutes**
   Motion: Craig Klausing moved to approve the July 21, 2022, Regular Meeting Minutes and Special Meeting, of August 11, 2022, Seconded by Chief Executive Benjamin. Roll call was taken. Motion carries 7-0. All were in favor.

5. **Reports**
   A. **Chair**
   None.

   B. **Commissioner**
   Commissioner Ho shared the following with the Board:
   - Welcome new employees

- RentHelpMN Update
- HomeHelpMN Update
- Multifamily Division Update
- Finance Update

C. Committee
None.

6. Consent Agenda
None.

7. Action Items

A. Manufactured Home Community Redevelopment Program Procedural Manual Changes

Annie Reierson presented to the board a request for approval of the Manufactured Home Community Redevelopment Program Procedural Manual changes and program modifications. Chair DeCramer opened up the discussion. Board members asked questions and staff provided answers.
Motion: Stephanie Klinzing moved Manufactured Home Community Redevelopment Program Procedural Manual Changes. Seconded by Auditor Blaha. Roll call was taken. Motion carries 7-0. All were in favor.

B. Funding Modification, Workforce Housing Development Program (WHDP) - City of Warroad, Icon Apartments, D8488, Warroad

Sara Bunn presented to the board a request the adoption of a resolution to increase the loan amount by $199,000 for a total WHDP loan of $499,000. Chair DeCramer opened up the discussion. There were no questions from board members.
Motion: Stephanie Klinzing moved Approval, Funding Modification, Workforce Housing Development Program- City of Warroad, Icon Apartments, D8488, Warroad. Seconded by Terri Thao. Roll call was taken. Motion carries 7-0. All were in favor.

C. Funding Modification, Rental Rehabilitation Deferred Loan (RRDL) - Winsted Park Apartments, D8277, Winsted, MN

Janine Langsjoen presented to the board a request for adoption of a resolution to increase the loan amount by $199,000 for a total WHDP loan of $499,000. Chair DeCramer opened up the discussion. There were no questions from board members.
Motion: Auditor Blaha moved Funding Modification, Rental Rehabilitation Deferred Loan (RRDL) - Winsted Park Apartments, D8277, Winsted, MN. Seconded by Chief Executive Benjamin. Roll call was taken. Motion carries 7-0. All were in favor.

D. Forbearance extension, Asset Management (AM) loans and Construction Cost Reduction (CCR) loan - Passages, D0822, Minneapolis, MN

Dani Salus presented to the board a request for the adoption of a resolution authorizing a forbearance extension for Passages apartment. The requested forbearance extension is from September 1, 2022, through August 31,2023, for the following loans made to Passage Community Housing, LLC: Construction Cost Reduction loan with a current balance of $35,000, Asset Management loan with a current balance of $148,500, Asset Management loan with a current balance of $120,500. Chair DeCramer opened up the discussion. There were no questions from board members.
Motion: Terri Thao moved Forbearance extension, Asset Management (AM) loans and Construction Cost Reduction (CCR) loan - Passages, D0822, Minneapolis, MN. Seconded by Craig Klausing. Roll call was taken. Motion carries 7-0. All were in favor.

E. Funding Modification, Housing Infrastructure Bond Loan (HIB) and Updated Waiver of the Predictive Cost Model 25% Threshold - Bimosedaa, D8235, Minneapolis, MN

Staff presented to the board: 1. a request for adoption of a resolution modifying the loan under the HIB program, from $10,990,000 to a maximum of $14,290,000. A minimum of $8,583,000 shall be structured as a short-term repayable loan. 2. Approval of an updated waiver to the predictive cost model. Chair DeCramer opened up the discussion. Board members asked a series of questions and staff provided answers.
Motion: Craig Klausing moved Funding Modification, Housing Infrastructure Bond Loan (HIB) and Updated Waiver of the Predictive Cost Model 25% Threshold - Bimosedaa, D8235, Minneapolis, MN. Seconded by Chief Executive Benjamin. Roll call was taken. Motion carries 7-0. All were in favor.

F. Funding Modification, Housing Infrastructure Bond (HIB) Loans – Various

Susan Thompson presented to the board a request for adoption of the resolutions for the various loans. Agency staff completed the underwriting and technical review of the proposed developments and recommends modifications to increase the loans by $600,000 collectively to a total of $12,819,950. Chair DeCramer opened up the discussion. There were no questions from board members.
Motion: Chief Executive Benjamin moved Funding Modification, Housing Infrastructure Bond (HIB) Loans – Various. Seconded by Stephanie Klinzing. Roll call was taken. Motion carries 7-0. All were in favor.

G. Amendment to Resolution No. MHFA 21-018 Resolution Authorizing Issuance and Sale of Minnesota Housing Finance Agency Homeownership Finance Bonds 2021/2022 Series

Michael Solomon presented to the board a request for approval of a resolution Amending the April 2021 Housing Finance Bonds Series Resolution to allow the Agency to issue pass-through bonds under that Series Resolution in advance of acquiring the mortgage-backed securities that will secure those bonds. Michelle Adams, Kutak Rock reviewed the resolution. Chair DeCramer opened up the discussion. There were no questions from board members.

Motion: Auditor Blaha moved Amendment to Resolution No. MHFA 21-018 Resolution Authorizing Issuance and Sale of Minnesota Housing Finance Agency Homeownership Finance Bonds 2021/2022 Series. Seconded by Terri Thao. Roll call was taken. Motion carries 7-0. All were in favor.

H. Updated Approval Regarding COVID-19 Emergency Rental Assistance

Rachel Robinson presented to the board a request for approval to utilize a recent reallocation of federal Emergency Rental Assistance resources through the RentHelpMN program. Chair DeCramer opened up the discussion. Board members asked questions and staff provided answers.

Motion: Stephanie Klinzing moved Updated Approval Regarding COVID-19 Emergency Rental Assistance. Seconded by Craig Klausing. Roll call was taken. Motion carries 7-0. All were in favor.

8. Discussion Items

A. Greater Minnesota Housing Fund NOAH Impact Fund Phase II

Rachel Robinson asked for the board's interest in continuing to pursue an investment in the Greater Minnesota Housing Fund (GMHF) NOAH Impact Fund Phase II.

B. Discuss Multifamily and Single-Family Construction Costs and Evaluation Procedures

Item moved to the next board meeting.

9. Information Items

A. Chief Risk Officer Report for the period 7/1/21-6/30/22

B. Semi-annual Variable Rate Debt and Swap Report as of July 1, 2022

C. Post-Sale Report, Rental Housing Bonds 2022 Series A

D. Third Quarter 2022 Progress Report: 2020-2023 Strategic Plan and 2022-2023 Affordable Housing Plan

10. Other Business

None.

11. Adjournment

The meeting was adjourned at 2:54 p.m.

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John DeCramer, Chair

MINNESOTA HOUSING

Board Agenda Item: 7.A
Date: 9/22/2022

Item: Approval, Waiver to Extend the 2021 Housing Tax Credit (HTC) Carryover Submission Deadline for Certified Public Accountant (CPA) Certification
- Manor Hills Apartments, D8320, Rochester, MN

Staff Contact(s):
Que Vang, 651.296.7613, que.vang@state.mn.us
Nicola Viana, 651.296.8277, nicola.viana@state.mn.us

Request Type:

☒ Approval
- ☒ Motion
- ☐ Resolution

☐ No Action Needed
- ☐ Discussion
- ☐ Information

Summary of Request:
Staff requests approval of an extension to the 10% test under Revenue Procedure (Rev. Proc.) 2014-49 for Manor Hills Apartments. The 2021 HTC Program Procedural Manual states the deadline to complete the Minnesota Housing HTC carryover CPA certification is October 1, 2022. Staff requests a waiver of the 2021 HTC Procedural Manual deadline to extend the CPA certification deadline to May 15, 2023.

Fiscal Impact:
Competitive 9% HTCs are a federal resource and do not directly impact Minnesota Housing's financial condition.

Meeting Agency Priorities:
- ☒ Improve the Housing System
- ☒ Preserve and Create Housing Opportunities
- ☐ Make Homeownership More Accessible
- ☐ Support People Needing Services
- ☒ Strengthen Communities

Attachment(s):
- Background
- Resolution

Background
The Minnesota Housing board approved Resolutions 20-065, 21-024, 22-012, and 22-042 authorizing a total of $1,958,599 in 2021 and 2022 9% HTCs for Manor Hills Apartments, Rochester, MN. Manor Hills Apartments will be a 72-unit, new construction, workforce, general occupancy housing project, which includes eight (8) permanent supportive housing units.

On August 10, 2022, Titan Development & Investments (Titan), the developer, submitted a carryover extension request. The carryover extension letter explained that closing and the ability to meet the carryover CPA certification submission deadline had been delayed due to the rapid increase of construction costs which caused resource gaps and pushed back the closing date. On September 14, 2022, Titan submitted an additional letter, clarifying that the COVID-19 pandemic caused, and continues to cause, the supply chain disruptions and construction cost increases.

Section 42 of the Internal Revenue Code (IRC) requires all 9% HTC projects to carryover or be placed in service by the end of the calendar year. The Internal Revenue Service (IRS) also requires the owner to expend more than 10% of the reasonably expected basis within one year after the date that the allocation was made. Under IRS Rev. Proc. 2014-49, the agency has discretion to extend the 10% deadline for certain qualifying developments by up to six months. Rev. Proc. 2014-49 states that agencies may approve relief in the form of certain extensions during a Major Disaster where owners with projects located in a Major Disaster Area cannot reasonably satisfy specific deadlines because of a Major Disaster.

Under Rev. Proc. 2014-49, the agency may extend the 10% deadline by up to six months if (1) the project is located in a Major Disaster Area; (2) the incident period for the Major Disaster began prior to the deadline in Section 42(h)(1)(E); and (3) the agency determines that the owner cannot reasonably satisfy the deadlines of Section 42(h)(1)(E) because of a Major Disaster.

Section 5.04 of Rev. Proc. 2014-49 defines Major Disaster Area as any local jurisdiction “for which a Major Disaster has been declared by the President and which has been designated by FEMA as eligible for Individual Assistance, Public Assistance, or both.” The President issued DR-4531-MN on April 7, 2020, declaring a Major Disaster for Minnesota. Manor Hills Apartments will be located in Olmsted County. According to FEMA’s website, Olmsted County is eligible for Public Assistance under DR-4531-MN. As such, Manor Hills Apartments is located in a Major Disaster Area.

The incident period for the Major Disaster is “January 20, 2020 and continuing.” Manor Hills Apartments received a carryover allocation on December 13, 2021. Under Section 42(h)(1)(E), the deadline for satisfying the 10% test would have been one year later, on December 13, 2022. The incident period for the Major Disaster began prior to the deadline under Section 42(h)(1)(E).

The August 10, 2022 and September 14, 2022 letters from Titan support a finding that Manor Hills Apartments cannot reasonably satisfy the 10% test by December 13, 2022 because the Major Disaster caused supply chain disruptions for building materials and increases in material costs and construction costs, which in turn caused resource gaps and delays. Staff requests that the Board approve an extension of the 10% test deadline to June 13, 2023 pursuant to Rev. Proc. 2014-49.

In addition to the extension of the 10% test deadline, Manor Hills also needs an extension of the CPA certification deadline imposed by the 2021 HTC Procedural Manual.

The 2021 HTC Program Procedural Manual requires owners to provide a CPA certification as evidence that the 10% requirement has been met as a part of the carryover application. If the final carryover basis and expenditures information is not available at the time the carryover application is due, the owner can submit a written estimate of the information and request an extension to submit the CPA certification by the following May. If necessary, a second extension can be requested to October 1, 2022.

The carryover allocation for Manor Hills Apartments was executed December 13, 2021. The owner submitted the owner certification and agreed to submit the CPA certification by May 1, 2022. The owner subsequently requested an extension to submit the required certification by October 1, 2022. As described above, the project has experienced significant delays and will not close in time for the owner to meet the expenditure amount and submit the required certification by the October 1 deadline. The owner has requested a second extension to provide additional time for the project to close. If the Board approves an extension of the 10% test deadline to June 12, 2023 under Rev. Proc. 2014-49, staff requests that the Board also waive the October 1, 2022 CPA certification deadline imposed by the 2021 HTC Procedural Manual and approve an extension of the CPA certification deadline to May 15, 2023.

The 2021 HTC Program Procedural Manual, Chapter 2 Section X, states the Minnesota Housing board is authorized to waive any conditions of the 2021 HTC Program Procedural Manual that are not mandated by IRC Section 42 on a case-by-case basis for good cause shown. Staff believes that the project has adequately demonstrated good cause because it’s eligible for relief from the 10% test deadline under Rev. Proc. 2014-49. As described above, the Major Disaster caused supply chain disruptions for building materials and increases in material cost and trades, which have caused delays that make it unreasonable for the project to meet the 10% test by December 13, 2022. Additionally, the owner has worked diligently with the agency. The owner has stayed in communication with agency staff and has fulfilled all other necessary requirements to this point. Staff requests a waiver to approve an extension to the Minnesota Housing HTC carryover submission deadline for CPA certification for Manor Hills Apartments beyond October 1, 2022. The new deadline will be May 15, 2023, which is within the maximum extension of the 10% deadline permitted under Rev. Proc. 2014-49. If approved, staff will amend the Carryover Agreement by adjusting the 10% test and CPA certification of costs deadline to May 15, 2023.

MINNESOTA HOUSING FINANCE AGENCY
400 Wabasha Street North, Suite 400
St. Paul, Minnesota 55102

RESOLUTION NO. MHFA 22-XX

RESOLUTION APPROVING AN EXTENSION TO THE FEDERAL LOW INCOME HOUSING TAX CREDITS 10% TEST DEADLINE FOR MANOR HILLS APARTMENTS, D8320, ROCHESTER, MN UNDER REV. PROC 2014-49 AND WAIVING THE 2021 HTC PROCEDURAL MANUAL CARRYOVER CPA CERTIFICATION DEADLINE

WHEREAS, in accordance with the Tax Reform Act of 1986 and the provisions of Minnesota Statutes Sections 462A.221 – 462A.225, the Minnesota Housing Finance Agency (Agency) has received applications as a duly designated housing tax credit agency for allocations to certain projects of Low Income Housing Tax Credits provided by Section 42 of the Internal Revenue Code of 1986 (IRC);

WHEREAS, in 2021, the Agency made a carryover allocation of 9% federal low income housing tax credits in a total of $909,138 to Manor Hills Apartments, D8320;

WHEREAS, Internal Revenue Service (IRS) Revenue Procedure 2014-49 authorizes the Agency to approve extensions to the 10% test deadline under IRC Section 42(h)(1)(E)(ii) by up to six months for certain qualifying developments;

WHEREAS, Manor Hills Apartments is located in a Major Disaster Area;

WHEREAS, the incident period for the Major Disaster period began prior to the deadline for Manor Hills under IRC Section 42(h)(1)(E);

WHEREAS, Manor Hills Apartments has demonstrated that the Major Disaster caused supply chain disruptions for building materials and increases in material costs and construction costs, which caused resource gaps and delays;

WHEREAS, the board has determined that Manor Hills cannot reasonably satisfy the deadlines of IRC Section 42(h)(1)(E) because of a Major Disaster;

WHEREAS, under the Agency's 2021 Housing Tax Credit Program Procedural Manual (Procedural Manual), Manor Hills is required to submit a final CPA certification of carryover basis no later than October 1, 2022;

WHEREAS, according to the Procedural Manual (Chapter 2, Section X), the Agency's board is authorized to waive any conditions that are not mandated by IRC Section 42 on a case-by-case basis for good cause shown; and

WHEREAS, the October 1, 2022 CPA certification deadline is not mandated by IRC Section 42 and the board finds that Manor Hills has shown good cause.

NOW, THEREFORE, BE IT RESOLVED:

That Manor Hills Apartments, D8320, be granted an extension of the deadline to satisfy the 10% basis requirement of IRC Section 42(h)(1)(E)(ii) from December 13, 2022 to June 13, 2023 in accordance with Rev. Proc. 2014-49; and

That Manor Hills Apartments, D8320, be granted a waiver of the October 1, 2022 CPA certification submission deadline set forth in the 2021 Housing Tax Credit Program Procedural Manual and an extension to May 15, 2023.

Adopted this 22nd day of September 2022

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CHAIRMAN

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Item: Approval, Continuation of Master Participation Agreement with Greater Minnesota Housing Fund

Staff Contact(s):
Tresa Larkin, 651.284.3177, tresa.larkin@state.mn.us

Request Type:
☒ Approval
☒ Motion
☐ Resolution
☐ No Action Needed
☐ Discussion
☐ Information

Summary of Request:
Agency staff is requesting approval for continuation of the Master Participation Agreement with Greater Minnesota Housing Fund (GMHF). This agreement allows Minnesota Housing to purchase loan participation certificates that are backed by mortgage loans originated by GMHF. The participation certificates provide financing for multifamily properties located throughout Minnesota.

Fiscal Impact:
The Participation Certificates will be financed out of Pool 2 and will earn an estimated average spread of 1% over the corresponding U.S. Treasury rate at the time of purchase.

Meeting Agency Priorities:
☒ Improve the Housing System
☒ Preserve and Create Housing Opportunities
☐ Make Homeownership More Accessible
☐ Support People Needing Services
☒ Strengthen Communities

Attachment(s):
- Background
- May 28, 2020 Board Report (Exhibit 1)
- Continuation Request Letter from GMHF (Exhibit 2)

BACKGROUND

At the May 28, 2020 meeting, the Minnesota Housing board approved a request to authorize execution of Master Participation Agreement with Greater Minnesota Housing Fund (GMHF). This agreement provides the opportunity for the Agency, at its sole discretion, to purchase loan Participation Certificates (PCs) backed by mortgage loans that are originated by GMHF. It is important to note that each loan is considered individually, and Minnesota Housing has no obligation to agree to purchase any loan participation.

The Master Participation Agreement was signed December 9, 2020. At the time of the original approval, staff anticipated that Minnesota Housing would purchase approximately $30 million in PCs over a three-year period. Staff also anticipated that the loans would average $2,000,000 and support projects located in Greater Minnesota. While this is true for about one-half of the closed loans, loans have also been made for the acquisition of existing affordable housing and small Naturally Occurring Affordable Housing (NOAH) properties in the Metro area, including five small NOAH buildings in Minneapolis that were acquired by emerging developers of color. To date, Minnesota Housing has purchased over $26 million in PCs, representing 12 transactions with an average spread of 1.038% over the corresponding U.S. Treasury rate.

Staff received the attached request from GMHF to confirm the Agency's commitment to the Master Participation Agreement. The request is in part because the Agreement states that these investments in affordable housing are "estimated at $10,000,000 per year" and also because the initial discussions contemplated this Agreement lasting for a minimum of three years, although there is no formal end date of the current agreement.

Greater Minnesota Housing Fund has provided a draft transaction pipeline that anticipates exceeding the initial $30 million goal by the end 2022 and is requesting that Minnesota Housing confirm our commitment to continue purchasing PCs on an ongoing basis if it is beneficial to both organizations and continues to meet the Agency goal of investing in affordable housing.

Staff requests approval to continue operating within the terms of the existing Master Participation Agreement which will allow Minnesota Housing the ability to purchase future PCs as long as mortgage loans meet the agreed upon terms and standards and GMHF continues to provide the additional security for the PCs through a debt service reserve and a loan loss reserve. Each purchase will be considered individually and the Agreement does not obligate the Agency to purchase any future PCs.

MINNESOTA HOUSING

Board Agenda Item: 6.B
Date: 5/28/2020

Item: Authorize execution of Master Participation Agreement with GMHF, allowing for purchase of Participation Certificates

Staff Contact(s):
Kevin Carpenter 651.297.4009, kevin.carpenter@state.mn.us
Tresa Larkin 651.284.3177, tresa.larkin@state.mn.us

Request Type:

☒ Approval	☐ No Action Needed
☒ Motion	☐ Discussion
☐ Resolution	☐ Information

Summary of Request:
Agency staff is requesting approval for Minnesota Housing to enter into a Master Participation Agreement with the Greater Minnesota Housing Fund (GMHF) and a special purpose entity formed by GMHF. Through this Agreement Minnesota Housing will have the ability to purchase Participation Certificates in first mortgage loans originated by GMHF. The Participation Certificates will provide Minnesota Housing with principal and interest payments, while providing liquidity to GMHF to enable them to continue originating new loans. Depending on the origination pipeline from GMHF, as well as market conditions at the time of individual Certificate purchase decisions, it is possible that over a three year period Minnesota Housing could purchase approximately $30 million in Participation Certificates.

Fiscal Impact:
The Participation Certificates will be financed out of Pool 2 and will earn an estimated average spread of 1% over the corresponding U.S. Treasury rate at the time of purchase.

Meeting Agency Priorities:
- ☐ Improve the Housing System
- ☒ Preserve and Create Housing Opportunities
- ☐ Make Homeownership More Accessible
- ☐ Support People Needing Services
- ☒ Strengthen Communities

Attachment(s):
- Background

Background

Agency staff and staff from Greater Minnesota Housing Fund (GMHF) have been discussing an opportunity for the Agency to utilize available cash to provide financing to GMHF, allowing GMHF to continue and expand their first mortgage lending business. The plan is for GMHF to continue to make multifamily first mortgage loans and, in turn, the Agency will be provided the opportunity, at its sole discretion, to purchase loan Participation Certificates backed by these loans. This concept was previously discussed with the Board at the regular August 2019 meeting.

The Certificates will provide the Agency with the terms and security of the underlying mortgage loan and GMHF will provide additional security to the Agency. The loans financed will primarily be smaller, out-state multifamily properties that are not particularly well suited for Agency first mortgage financing using HUD Risk Share. The Certificate sales allow GMHF to recycle capital effectively, and continue to fund their first mortgage lending.

Each Certificate purchased by the Agency will represent a 100% participation interest in an underlying multifamily first mortgage that has been originated and closed by GMHF. The underlying first mortgage loans will meet agreed upon underwriting standards. For example, each loan will require that the property financed will be affordable to households at or below 80% AMI with at least 40% of the units affordable at 60% AMI; or 20% of the units at 50% AMI and the project must agree to accept Section 8 vouchers. GMHF will maintain servicing, asset management and compliance responsibilities for the life of each loan.

GMHF will provide additional security for the Certificates through a debt service reserve that is equal to 90 days of debt service on the underlying loan for each Certificate. Further, GMHF will fund a loan loss reserve equal to 2 percent of the principal loan balance for each underlying mortgage. The Agency will receive documentation to ensure satisfactory compliance with required reserves as agreed between the parties.

The Agency will have the option to purchase a Certificate for any loan originated by GMHF that meets the underwriting standards and that is offered for sale by GMHF. Any purchase will be fully documented pursuant to the Master Participation Agreement.

The Participation Certificate arrangement with GMHF presents an opportunity for the Agency to earn a reasonable risk adjusted return on its cash and investment portfolio, while also providing liquidity to GMHF for the continued funding of affordable housing throughout the state, particularly in situations where it’s more effective for GMHF, rather than Minnesota Housing, to originate loans that reach that cohort of borrowers.

GREATER MINNESOTA HOUSING FUND

332 Minnesota Street
Suite 1650W
Saint Paul, MN 55101
Office 651-221-1997
Toll-free 800-277-2258
Fax 651-221-1904
www.GMHF.com

July 26, 2022

Tresa Larkin
Minnesota Housing
400 Wabasha Street North #400
St. Paul MN 55102

Dear Tresa:

I am writing to request that Minnesota Housing confirm its commitment to the Master Participation Agreement between Greater Minnesota Housing Fund and the Agency, dated December 9, 2020. This agreement between our organizations has been very successful at facilitating needed investments in affordable housing throughout Minnesota and we would like to ensure that this partnership between our organizations continues as long as both parties find it beneficial, knowing that each loan participation is considered on an individual basis and that either party may end the Agreement with proper notice to the other party.

So far, we have closed on loan participations totaling $10,919,000, which included the creation or preservation of 160 affordable apartments. There are currently four loans that are being submitted by Greater Minnesota Housing Fund to Minnesota Housing for consideration. These four total $11,758,000 and 161 units, and there are another $7,845,000 in loans totaling 198 units that are in GMHF's pipeline and are likely to be submitted to Minnesota Housing before the end of 2022.

Greater Minnesota Housing Fund & Minnesota Housing
Loan Participations
2020-2022

Property	City	# Units		Original Loan Amount	GMHF Loan Closing	Participation Closing	Participation Status
Oakwood Terrace II	Grand Rapids	24	$	500,000	10/30/19	3/26/2021	Closed
Lakeview Terrace	Walker	18	$	350,000	07/30/20	4/29/2021	Closed
Maple Court II	Moorhead	17	$	575,000	08/30/21	10/19/2021	Closed
Rosemary Apartments	Hugo	45	$	4,018,000	03/04/22	4/8/2022	Closed
Frogtown Commons	St Paul	40	$	4,100,000	04/07/22	5/26/2022	Closed
3121 3rd Ave S	Minneapolis	8	$	393,000	05/19/22	6/15/2022	Closed
7 & 11 W 35th St	Minneapolis	8	$	983,000	06/06/22	6/21/2022	Closed
Walnut Towers	Mankato	87	$	5,627,000	07/10/22	8/10/2022	Pending
2022 Park Ave	Minneapolis	29	$	2,277,000	07/12/22	8/10/2022	Pending
34th Ave Apartments	Minneapolis	24	$	1,811,000	07/12/22	8/10/2022	Pending
1821 1st Ave S	Minneapolis	21	$	2,043,000	07/22/22	8/10/2022	Pending
SWMHP Three-City	Olivia, Jackson, St Peter	75	$	3,485,000	08/15/22	9/1/2022	Planned
Bottineau Ridge III	Maple Grove	50	$	1,738,000	04/13/22	10/1/2022	Planned
University Drive Apts	St Cloud	7	$	422,000	09/15/22	10/1/2022	Planned
St Francis	Duluth	42	$	1,600,000	06/30/21	11/15/2022	Planned
Royal Manor II	Alexandria	24	$	600,000	12/15/22	12/21/2022	Planned
	Closed	**160**	**$**	**10,919,000**			
	Pending	**161**	**$**	**11,758,000**			
	Planned	**198**	**$**	**7,845,000**			
	Total	**519**	**$**	**30,522,000**			

The Agreement states that these investments in affordable housing are "estimated at $10,000,000 per year" and in our discussions leading up to the Agreement we contemplated this Agreement lasting for a minimum of three years. Given that we may exceed our initial goals by the end 2022, now seems like the appropriate time for both GMHF and Minnesota Housing to confirm our commitment to continue with loan participations on an ongoing basis if its beneficial to both organizations and continues its success of creating affordable housing.

Initially, we assumed that most of these loans would be less than $2,000,000 each and support projects located in Greater Minnesota. While this is true for about one-half the loans in the preceding table, we have also found a need for loans for the acquisition of existing affordable housing and small NOAH properties that need to close quickly. In the preceding table, this includes Walnut Towers – a senior Section 8 property in Mankato – and five small NOAH buildings in Minneapolis that were acquired by emerging developers of color. The liquidity that Minnesota Housing provides GMHF not only allows GMHF to make the first mortgages on these properties via the Participation Agreement, but it leverages significant subordinate debt from GMHF and the City of Minneapolis, as well as grant dollars from GMHF specifically used for emerging developers of color.

Even though each loan is considered individually, and Minnesota Housing has no obligation to agree to any loan participation, having this Agreement in place allows GMHF to continue to originate loans that meet the terms of the Agreement with some level of confidence that Minnesota Housing will acquire a participation certificate for the loans after GMHF closes with the borrower. The Agreement provides liquidity for GMHF to continue making these loans, and it provides investments in affordable housing for the Agency that may not be feasible for Minnesota Housing to make directly due to the size of the loans or the timing of the closings.

In summary, I think our Participation Agreement is doing what it is intended to do by providing needed investment in affordable housing in a way that works effectively for both Minnesota Housing and Greater Minnesota Housing Fund and I want to ensure this continues. I am asking Minnesota Housing to confirm its commitment to our existing Participation Agreement with the knowledge that investments may exceed $10,000,000 per year in some years and may include some larger projects and developments in the Metro that may be inefficient for Minnesota Housing to provide loans to directly.

Sincerely,

John Rocker
Director of Lending

MINNESOTA HOUSING

Board Agenda Item: 8.A
Date: 9/22/2022

Item: Update on Equity Work at the Agency

Staff Contact(s):
Brittany Rice, 651.296.9792, brittany.rice@state.mn.us

Request Type:

☐ Approval	☒ No Action Needed
☐ Motion	☒ Discussion
☐ Resolution	☐ Information

Summary of Request:
Sharing an update on the equity, inclusion, and antiracist work at the Agency.

- Coaching the Servant Leadership Team on how to be antiracist and how to support staff in this work.
- We have built internal capacity to administer the Intercultural Development Inventory to all staff who are interested in taking the assessment and developing a plan.
- Supporting the Cultural Competency Committee in implementing new staff training, brave space conversations, and the Equity Action Team

Fiscal Impact:
None.

Meeting Agency Priorities:
- ☒ Improve the Housing System
- ☒ Preserve and Create Housing Opportunities
- ☒ Make Homeownership More Accessible
- ☒ Support People Needing Services
- ☒ Strengthen Communities

Attachment(s):
- Background

Background

The Agency's SLT has participated in group and individual racial equity coaching. First through the Woke Coach from 2019-June 2021, then through the Agency's Director of Equity and Inclusion June 2021-present. The Leadership Team is dedicating time to have difficult conversations and building the skills necessary to keep the Agency accountable to reaching the goal of becoming antiracist in our work and culture. We are currently working through the book *How to be an Antiracist*, by Ibram X. Kendi, and having in-depth discussions on how we need to guide the Agency to become Antiracist in our policies, programs, and in our work culture.

The Agency has also built internal capacity to administer the Intercultural Development Inventory ("IDI".) The IDI is a cross-cultural assessment of intercultural competence that is used to build intercultural competence to achieve diversity and inclusion goals and outcomes. Intercultural competence is defined as "the capability to shift cultural perspective and appropriately adapt behavior to cultural differences and commonalities." The cost of taking the assessment is relatively low; however, the total cost can be significant because the assessment must be administered by a Qualified Administrator ("QA"), who has access to the assigned group and individual reports. External QAs charge for their time for facilitating group and individual report debriefs, and supporting staff in development their personalized plan, so that cost can add up quickly. Through the support of the Commissioner and Human Resources Director, the Agency now has 16 staff who are trained as QA. Thus far close to a third of the Agency has voluntarily taken the assessment.

The Cultural Competency Committee coordinated the launch of a series of required sessions for all staff on topics or race, identities and culture. This is creating a shared foundational language for all and is helping staff members increase their understanding of these topics. I also trained Cultural Competency Committee members on how to facilitate brave space conversations, and this training will be offered to all staff in the future. This has created capacity for the Agency to respond in the moment when current events that affect staff occur.

As a reminder, the Agency now has an Equity Action Team, which has the multiple purposes: to be the central place to track and communicate the work of all the Enterprise and Agency anti-racism and equity work; to be a forum for brainstorming, sharing ideas and looking at data; and to be a forum for staff to build skills in doing inclusion, anti-racism and equity work. Over 40 staff voluntarily participate on this team and meet every other week to discuss and develop how the Agency can take concrete actions to become more equitable. For example, EAT provided feedback on the Agency's Affordable Housing Plan prior to it going to Board for approval, and developed a list of suggested action items to add to division work plans which was presented to SLT. Recent discussions have included how to support staff-led ideas, creating transparency around decision-making processes, and how to incorporate people with lived experiences into our planning process. It is clear the staff who are on this team continue to become more comfortable asking questions and "using their words", something that is necessary for authentic and effective change.

I participate on numerous projects (that I don't lead) at the Agency and am continuing to support staff in normalizing slowing down, staying in the discomfort, increasing confidence in using their words/voice, and keeping themselves and each other accountable.

MINNESOTA HOUSING

Board Agenda Item: 8.B
Date: 9/22/2022

Item: Agency Financial Update with CSG

Staff Contact(s):
Michael Solomon, 651.297.4009, michael.solomon@state.mn.us

Request Type:

☐ Approval
  ☐ Motion
  ☐ Resolution

☒ No Action Needed
  ☒ Discussion
  ☐ Information

Summary of Request:
The Agency's Financial Advisor, CSG recently presented to staff an update on its financial model and status. This item is an abbreviated version of that presentation to be given to the board by Gene Slater, our representative from CSG.

The presentation discusses:
- Minnesota Housing's model for Sustainability
- Financial Structure of the Agency
- Overview of Agency Assets
- Balance Sheet Update
- Net Income
- Key Takeaways
- Contextual Appendix

Fiscal Impact:
None.

Meeting Agency Priorities:
☒ Improve the Housing System
☒ Preserve and Create Housing Opportunities
☒ Make Homeownership More Accessible
☐ Support People Needing Services
☐ Strengthen Communities

Attachment(s):
- Financial Sustainability and Trends

Overview:

Financial Sustainability and Trends

Fiscal Year 2016 – 2022

September, 2022

Organization

Note: *all figures in this report are estimates and calculations from MHFA results, including not yet finalized FY 22 results, as adjusted to remove non-cash items, and subject to review*

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Section I

Sustainability

The Key Question for All Housing Finance Agencies

What is the cumulative impact of current decisions on what the HFA will be able to do in the future?

- Will current decisions, together, make it possible to do more 5 years from now – or less?
- Will they make the Housing Finance Agency's finances more stable – or less?
- How sustainable are our programs?
- What financial flexibility, e.g. risk capacity, does the Housing Finance Agency have?
- How much - or little - can be put into an affordability fund?

What's Needed to Evaluate Sustainability

Focus on cash resources

- Governmental Accounting Standards Board financial statements include:
  - dramatically fluctuating unrealized gains (losses) on investments Minnesota Housing holds onto
    - FY 20, Minnesota Housing had paper gains of $104 million
    - FY 22, paper losses of $295 million
    - neither had any impact on Minnesota Housing's financial resources
  - Housing Infrastructure Bond debt that Minnesota Housing has no financial responsibility for
    - $390 million and growing
  - Housing Infrastructure Bond-funded loans as agency program expenses
    - $49 million for loans made in FY 21

Recognize uncertainty

Compare resources to risks

Financial flexibility is the key

- Financial capacity for challenges and opportunities
- Risk-based net assets

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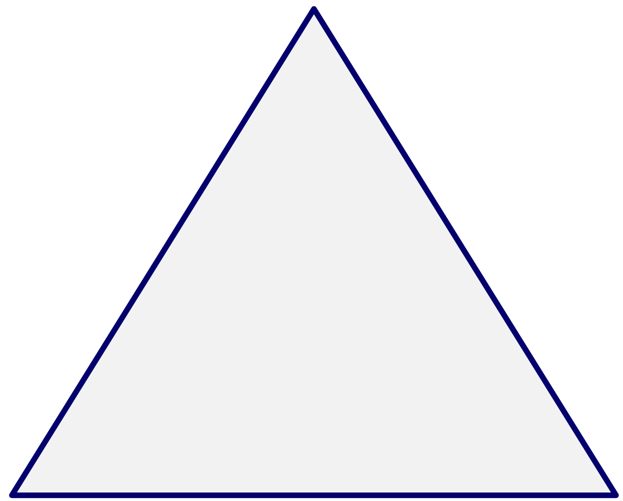
Risk Capacity Impacts Sustainability

Sustainability depends on how each HFA addresses **3 major risks**

Income Risk
Future Changes to Annual Net Income



Financing Risk
Debt and Liquidity

Real Estate Risk
Losses / Need for Advances

What Makes Minnesota Housing a National Leader in Housing Finance Agency Sustainability?

Long-term Financial Management Approach

Clear Financial Model

- Sustainable Core and contribute to Housing Affordability Fund

Clear Criteria for Decisions Across the Agency

Directly Funding Down Payment Assistance

Success of Integrated Efforts in Rebuilding Balance Sheet after the Great Recession

- Minnesota Housing has been the #1 issuer of Housing Finance A bonds over the last 5 years
- Makes Agency less dependent on current year production than most other HFAs
- Balances current and future year income
- Able to benefit from future rate changes

Why Rating Agencies See Minnesota Housing as a Model

Major Conclusions

What's Most Crucial to Minnesota Housing's Future Sustainability

Increase Stability and Magnitude of Future Annual Income

- by investing in balance sheet
- key to Agency's sustainability

Leverage Limited Volume Cap as the State's Key Scarce Resource

- use together with preserved and recycled volume cap
- use in such a way to provide future recycling
- assure contributes to Agency sustainability

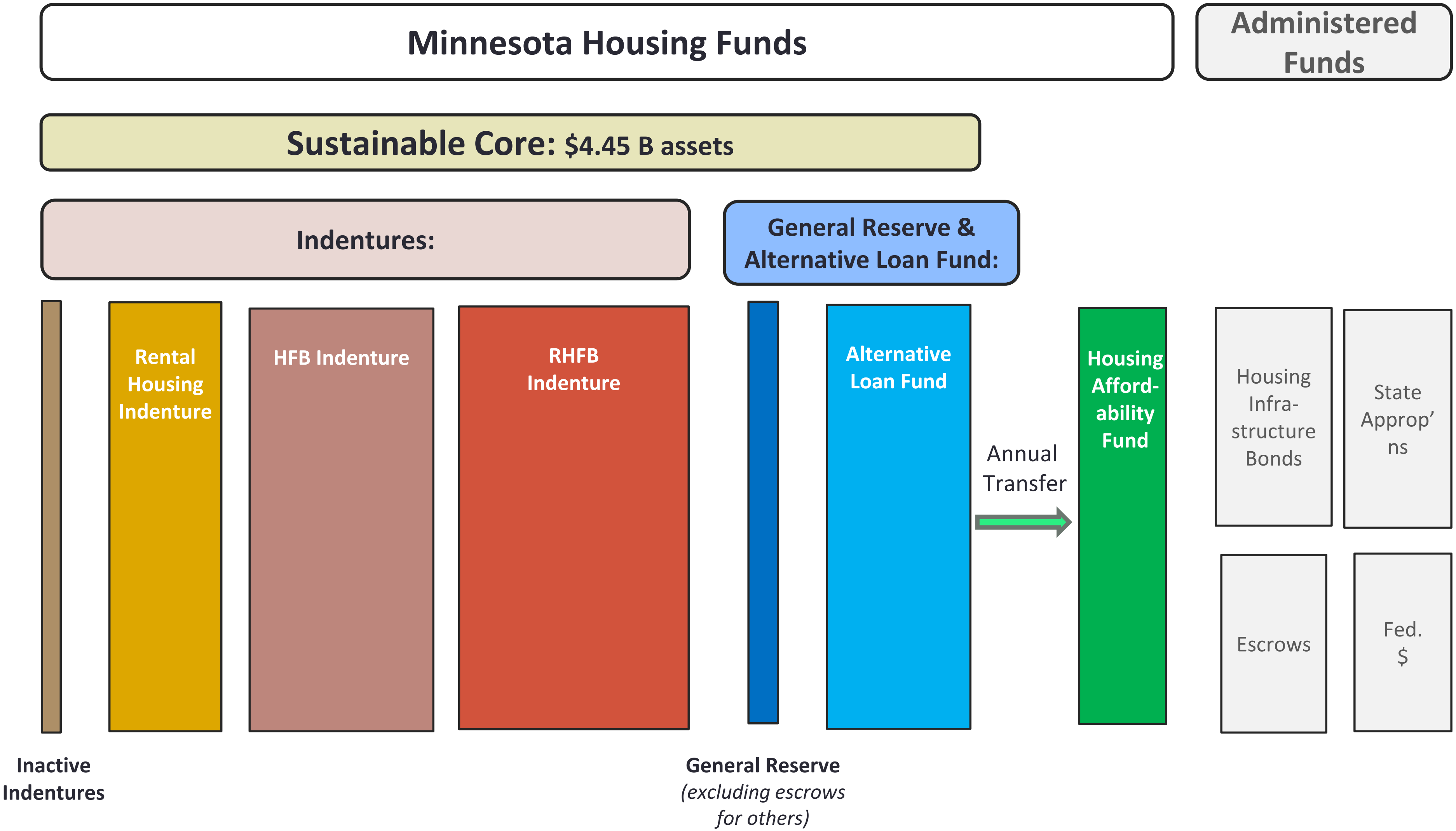
Continue Pro-Active Approach to Long-Term Capital Management

- view Agency as a whole as a vehicle for investing in the future
- criteria for decisions: cumulative impact on Minnesota Housing over time

Section II

Financial Structure and Sustainable Core

Minnesota Housing's Sustainable Core



Importance of Sustainable Core

Generates all the income to:

- Pay bonds secured by the agency (excluding Housing Infrastructure Bond paid by state appropriation),
- Operate the agency, and
- Maintain agency's financial independence and make it self-supporting

Basis for Minnesota Housing's ratings

- Contains all the agency's creditworthy assets

Source of all funds for Housing Affordability Fund, approx. $49 mil since FY 16

Minnesota Housing's financial sustainability is thus measured by its "Sustainable Core"

- Rental Housing, Homeownership Finance Bonds, Residential Housing Finance Bonds and minor inactive indentures (Multi-family and HOMES)
- Alternative Loan Fund (to make long-term investments outside of indentures)
- General Reserve (for day-to-day agency operations)

Does not include:

- Escrows held for others,
- Housing Infrastructure Bonds and loans
- State appropriations and federal funds

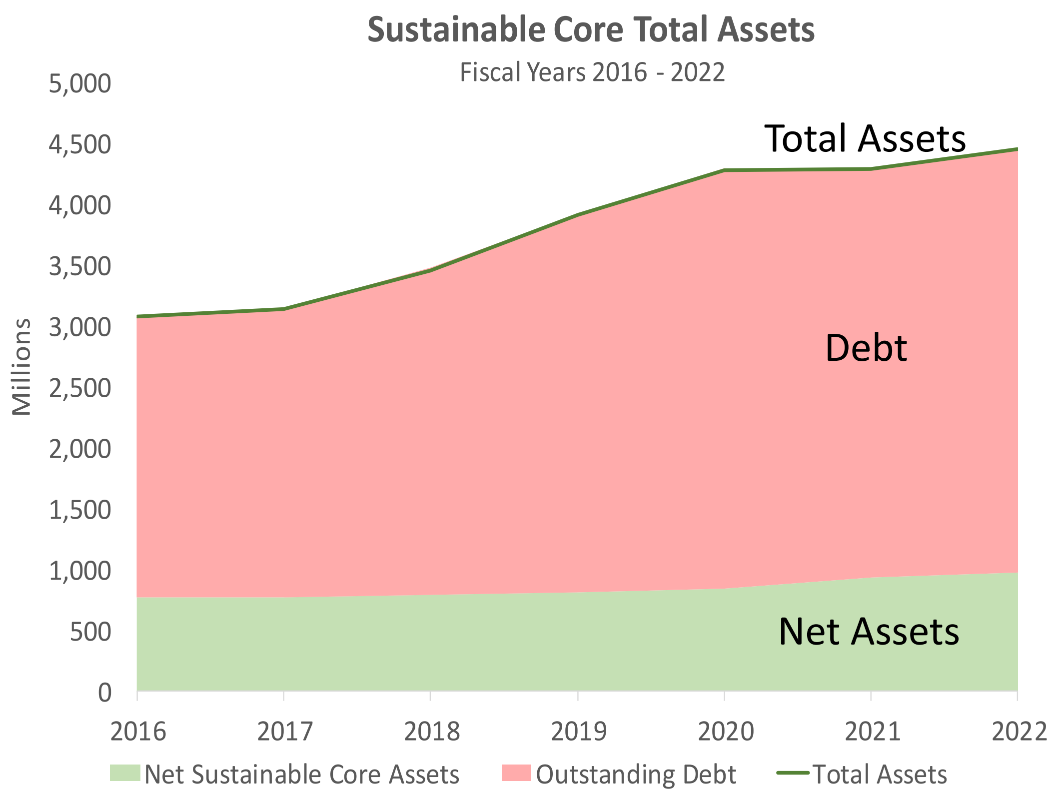
Section III

Sustainable Core Total Assets

Growth in Overall Balance Sheet

Key Importance

- Provide ongoing net income for agency's operating expenses and Housing Affordability fund
- Focused on maintaining and increasing balance sheet
- During these same years, many HFA balance sheets dropped dramatically, through reliance on TBA sales
- From FYE 16 to FYE 22, Minnesota Housing's assets grew by 42%, despite high prepayments
- This required a wide range of tools for adapting to the market, investing in generating future income, and integrating the use of the agency's many different kinds of funds



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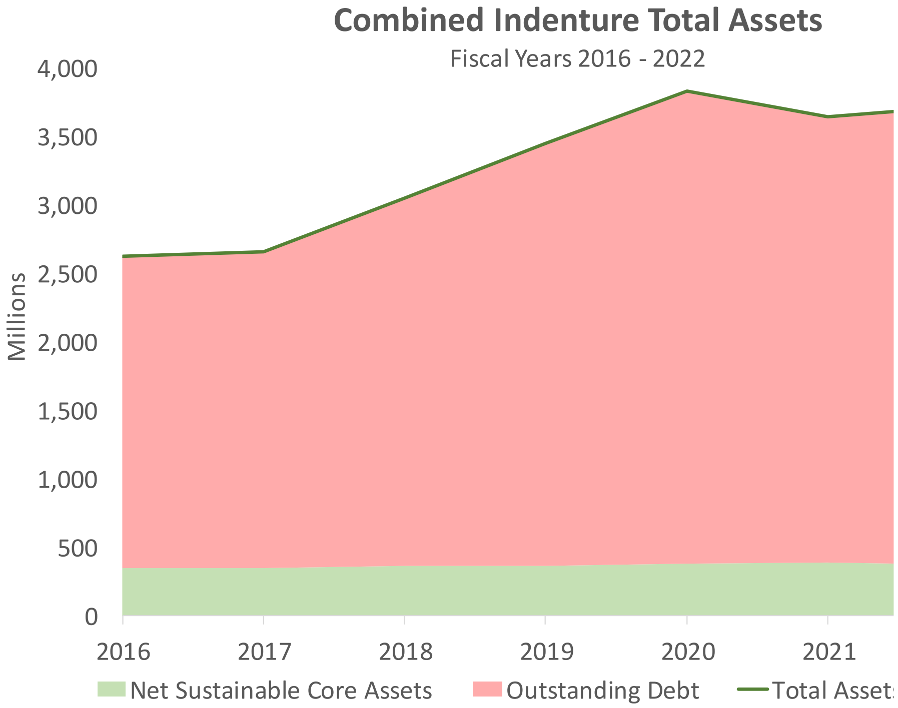
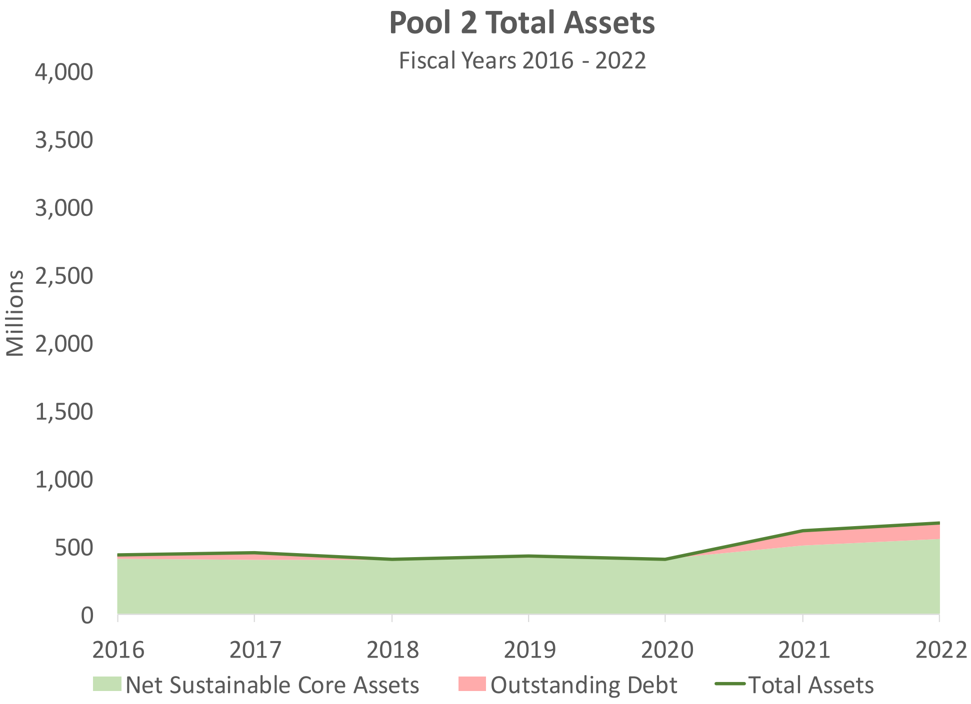
Sustainable Core Assets

Indentures and Alternative Loan Fund (Pool 2)





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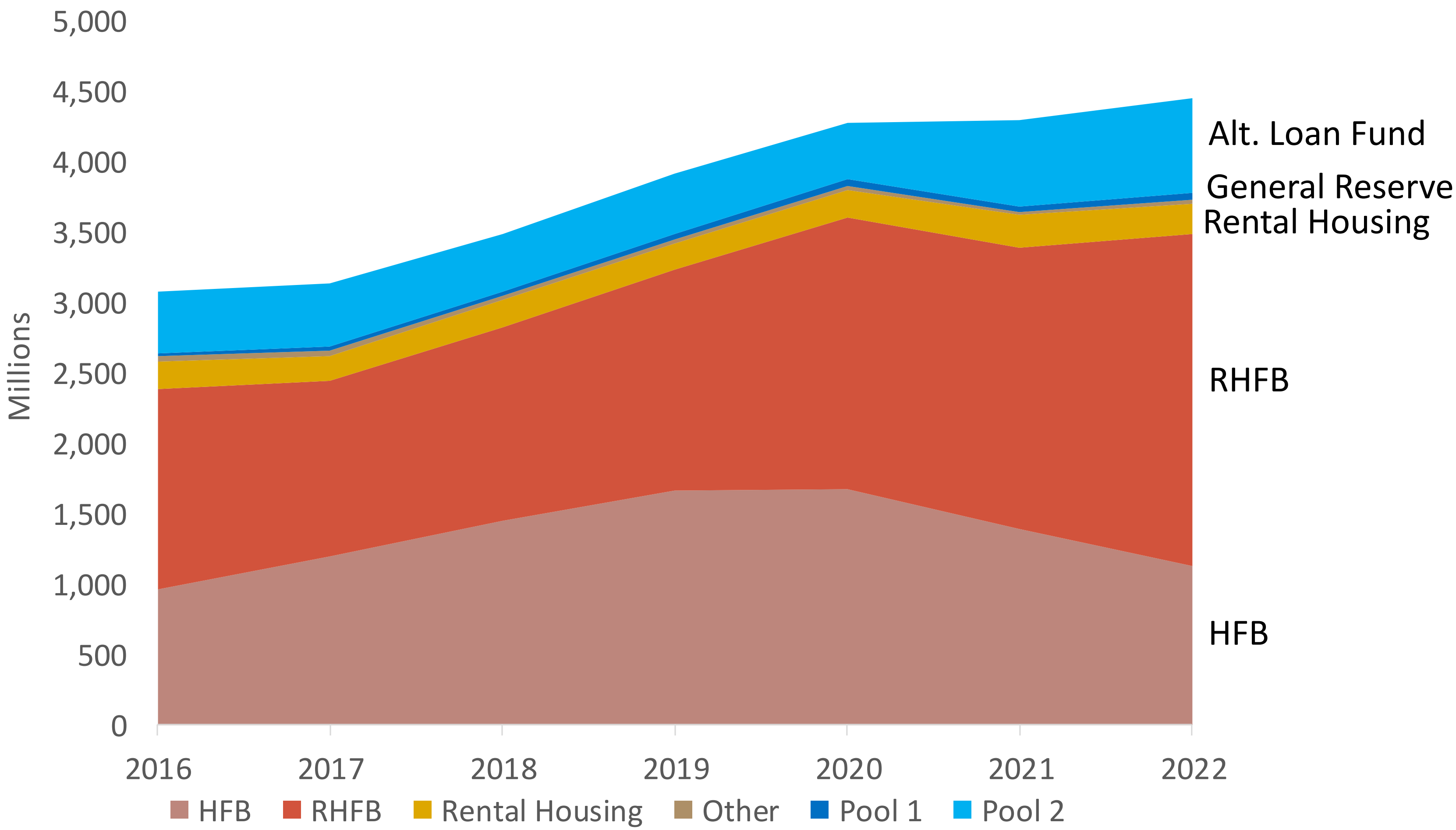
Growth and Composition of Balance Sheet



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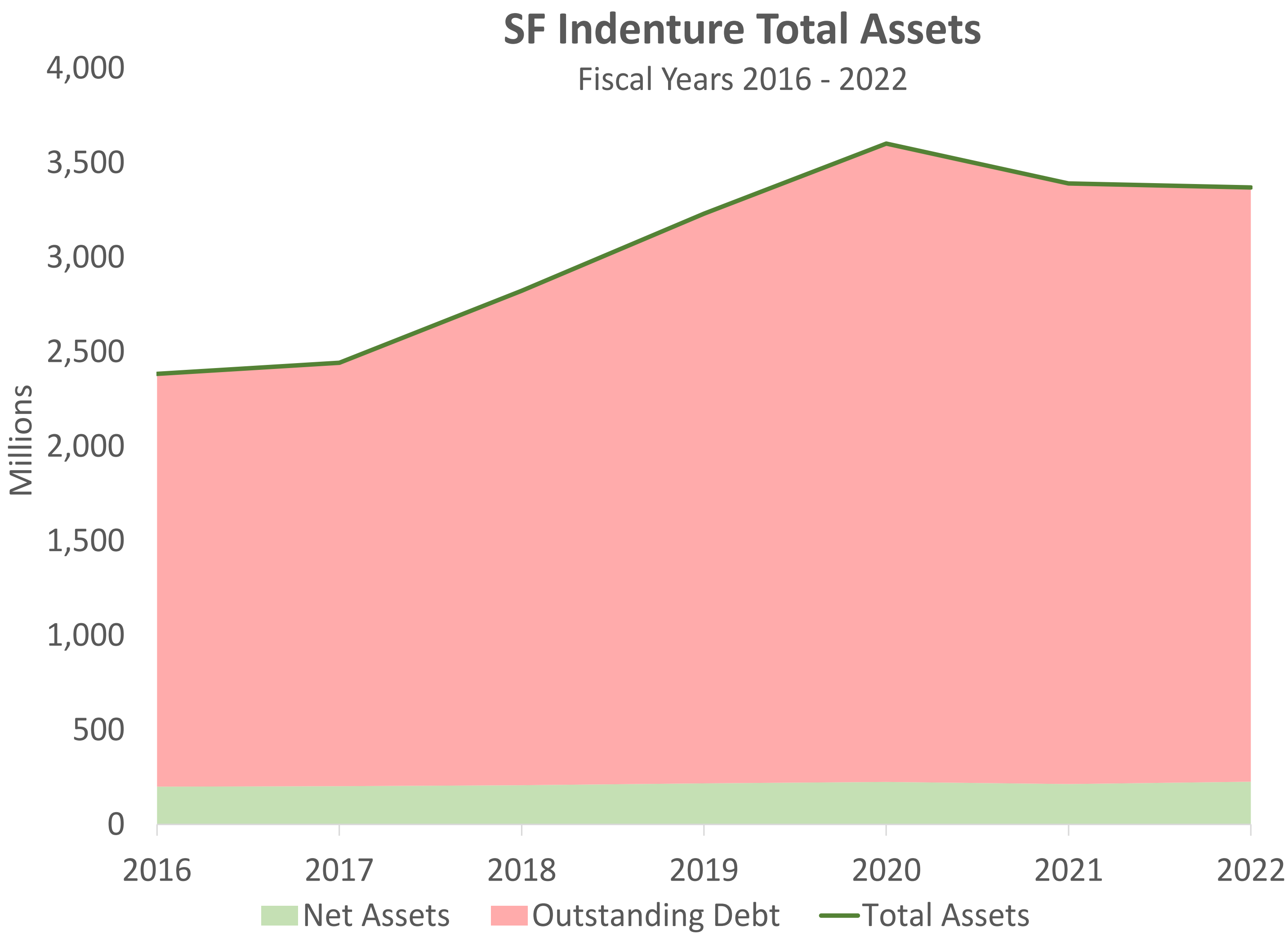
Single-Family Indenture Assets Combined

Residential Housing Finance Bonds (RHFB) and Homeownership Finance Bonds (HFB) together



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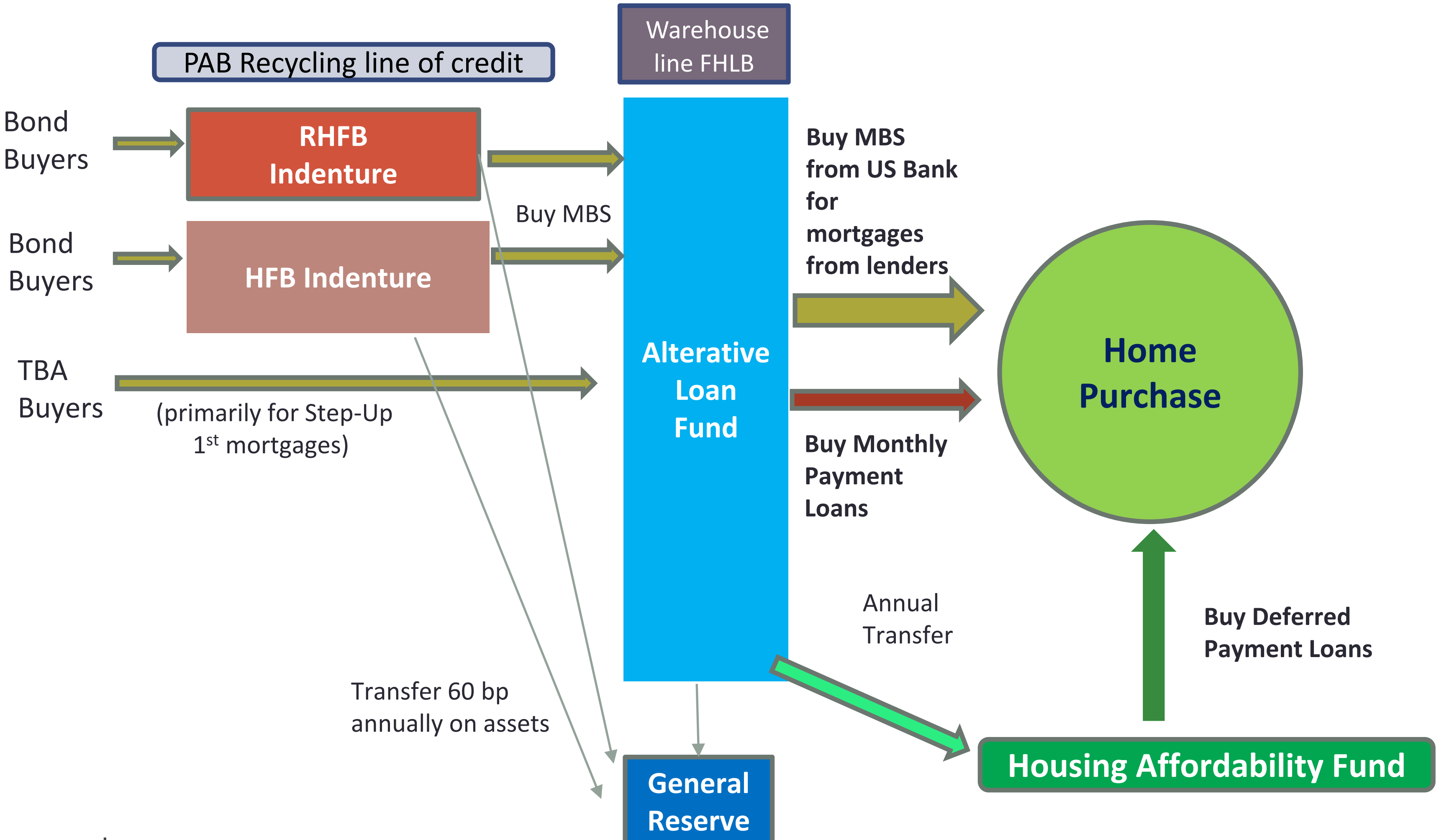
Integrated Funding Tools for Single-Family

All Different Parts of Minnesota Housing Work Together to Fund Single-Family



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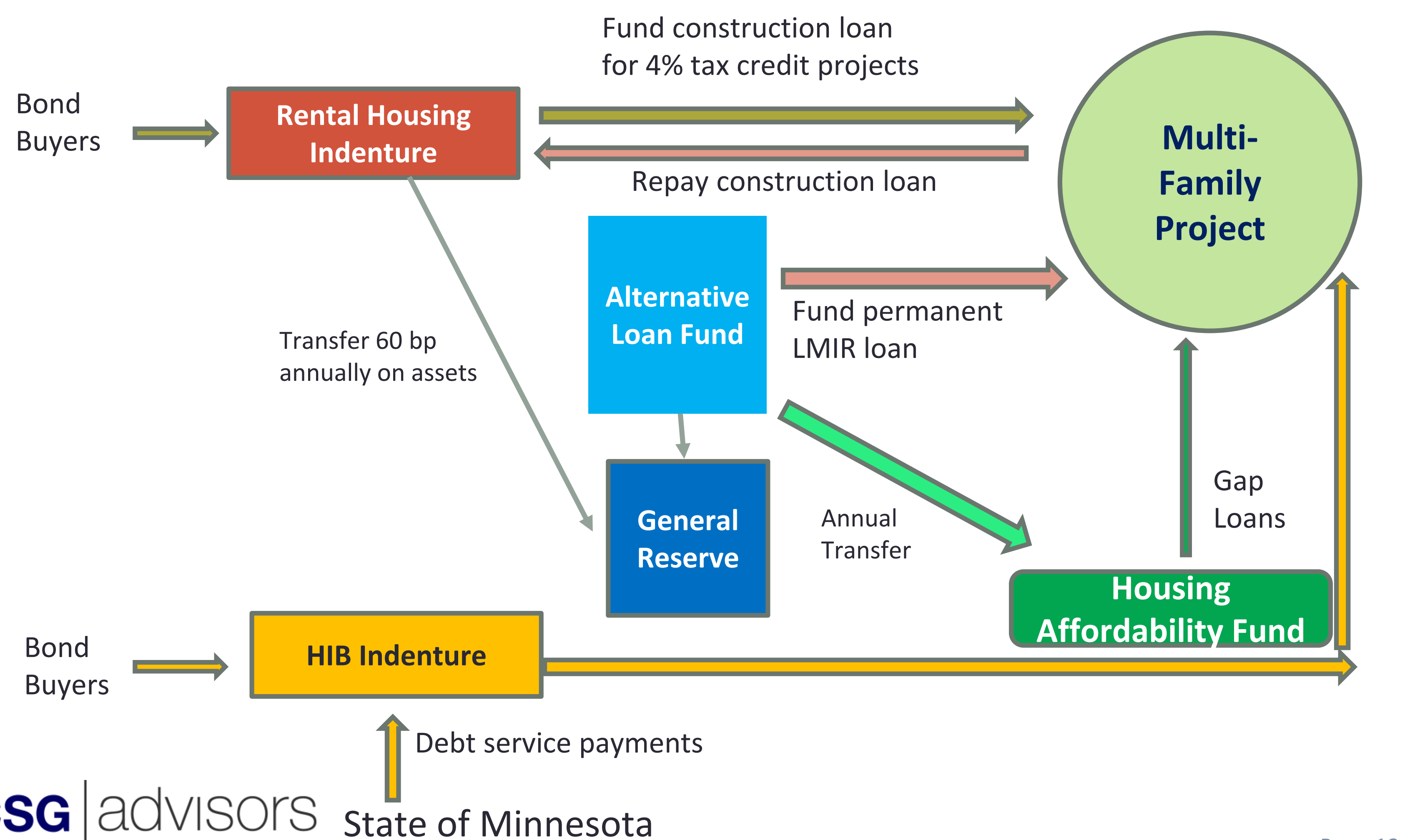
Integrated Funding Tools for Multi-Family

Different Parts of the Agency Work Together to Fund Multi-Family



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Section IV

Sustainable Core Net Assets

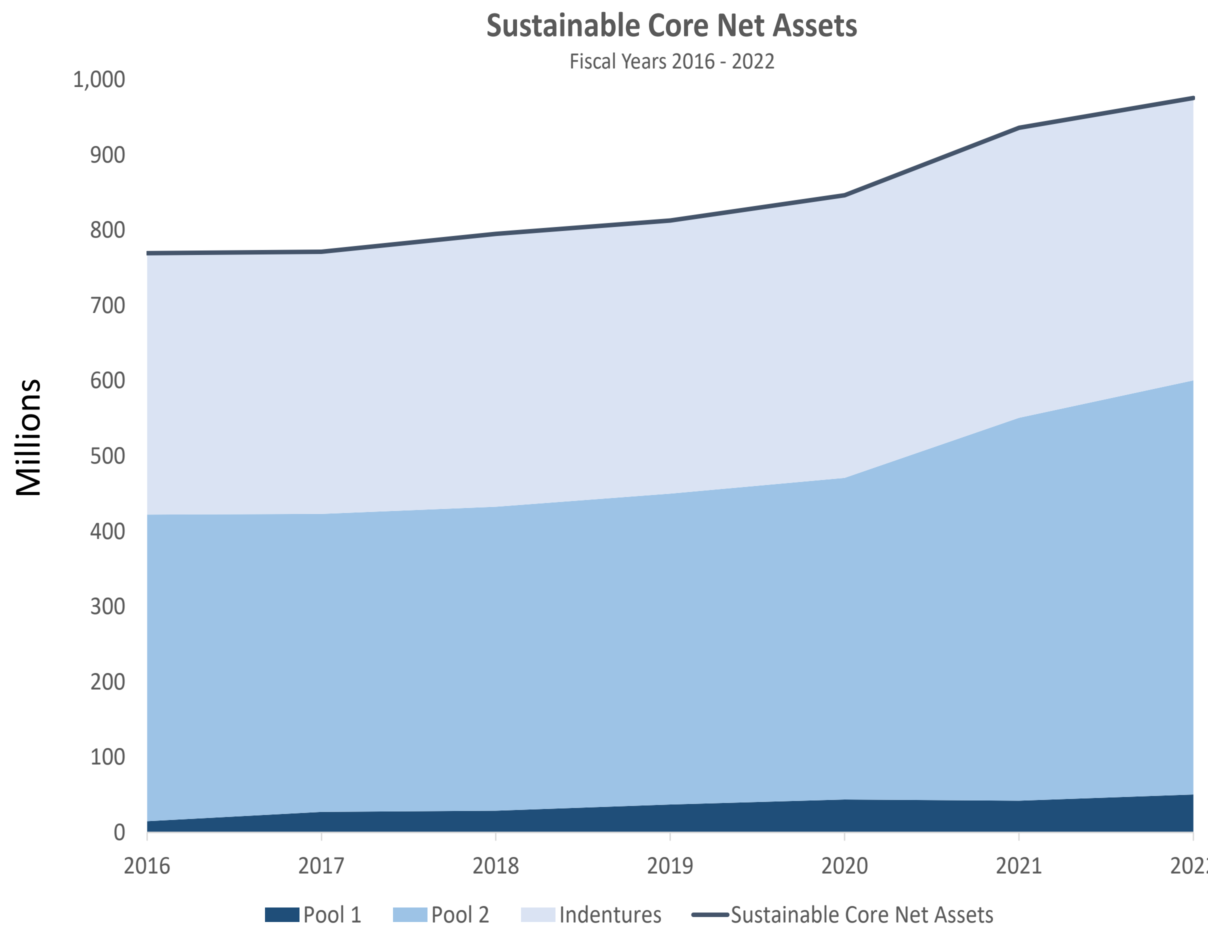
Net Assets

Significance

Constitutes the net worth of the sustainable core

Key measure of agency's financial strength

Net assets in this cash-based analysis =
Assets – Outstanding Debt



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Net Assets

Indenture Net Assets

- Have remained relatively stable for many years, largely because Indentures have been transferring 60 basis points annually for agency operating expenses.

Table 1. **Indenture Net Assets** ($ millions)

	FYE 16	FYE 17	FYE 18	FYE 19	FYE 20	FYE 21	FYE 22
Indentures							
Total Assets	2,625	2,660	3,050	3,453	3,829	3,642	3,728
Debt	-2,278	-2,312	-2,688	-3,090	-3,454	-3,257	-3,353
Net Assets	**347**	**348**	**363**	**363**	**376**	**385**	**375**

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Net Assets

Growth of Net Assets

- Overall net assets have grown, though less quickly than the balance sheet
- The agency's parity ratio (assets to debt) has therefore dropped modestly

Table 2. **Sustainable Core Net Assets** ($ millions)

	FYE 16	FYE 17	FYE 18	FYE 19	FYE 20	FYE 21	FYE 22
Indentures	347	348	363	363	376	385	375
Alternative Loan	408	396	404	413	407	509	550
General Reserve	15	27	29	37	44	42	50
Total Net Assets	**769**	**771**	**795**	**813**	**826**	**936**	**976**
Parity Ratio Assets / Debt	133%	133%	130%	126%	124%	128%	128%

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Section V

Balance Sheet Risks and Challenges

Balance Sheet Risks

Risks Have Been Significantly Reduced

Much safer balance sheet from shifting to mortgage-backed securities:

- As older single-family whole loans have dramatically paid down, both Moody's and S&P see Minnesota Housing as having far less risk exposure
- Remaining perceived risk exposure is largely on single-family second mortgages

Table 3. **Rating Agency Risk Adjustments** ($ millions)

	FYE 10	FYE 16	FYE 21			
	Risk Adjustments	Risk Adjustments	Risk Adjustments	% of assets**	% of net assets**	Risk-adjusted net assets
S&P	- 385	-103*	-135	3%	14%	n.a.***
Moody's	- 491	-168*	-163	4%	17%	625

* interpolated from past studies; ** % of Minnesota Housing figures; *** S&P no longer separates out the sustainable core

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Balance Sheet Challenges

Liquidity

Alternative Loan Fund

- Extensively deployed for both long-term lending and for warehousing (along with Federal Home Loan Bank line of credit)
- Helps maximize net income
- But need for liquidity can create management logistical challenges
- Various tools are available to increase liquidity to extent needed

Residential Housing Finance Bonds (RHFB)

- Rating agency stress runs, although highly unlikely, show little liquidity in RHFB indenture by itself in about 8 – 10 years, esp. under bank bond scenarios for variable rate bonds
- From a rating point of view, RHFB is, however, backstopped by agency's overall general obligation pledge

Problems of Success

- Both of these liquidity issues reflect the extensive utilization of the agency's lending programs

Section VI

Sustainable Core Net Income

Net Income

Sustainable Core Net Income Drives the Agency's Finances

Sustainable Core Net Income provides the funds to:

Contribute to Housing Affordability Fund

While maintaining and building the agency's net assets
- in line with balance sheet growth and
- to continue provide future ongoing income

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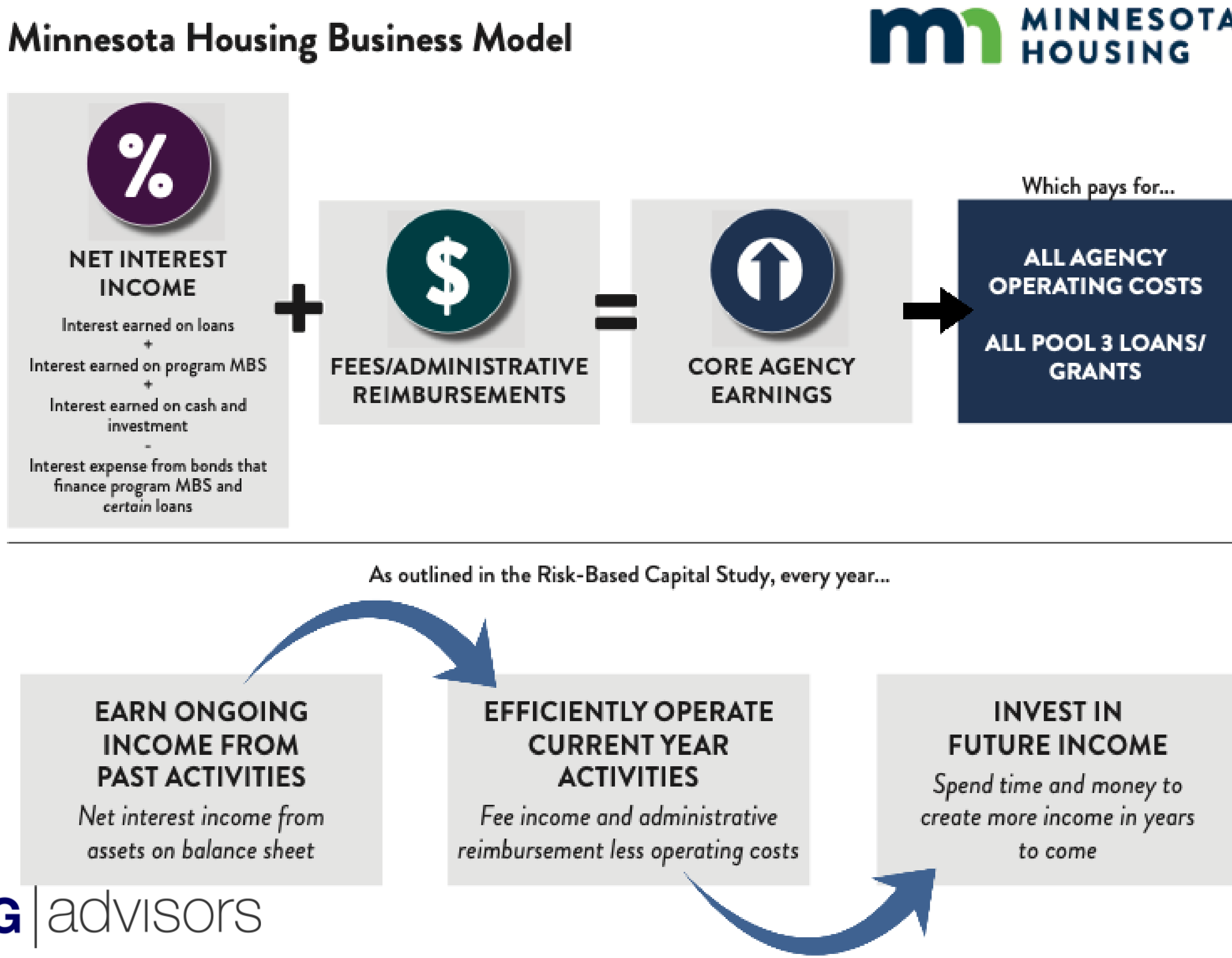
Net Income: Business Model



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Three Major Types of Income

Ongoing Income from Past Activities

- Net income that Minnesota Housing earns from past investments in loans and mortgage-backed securities

Income from Current Year Activities

- Fee income and gains on Mortgage Backed Securities
- Less agency operating expenses

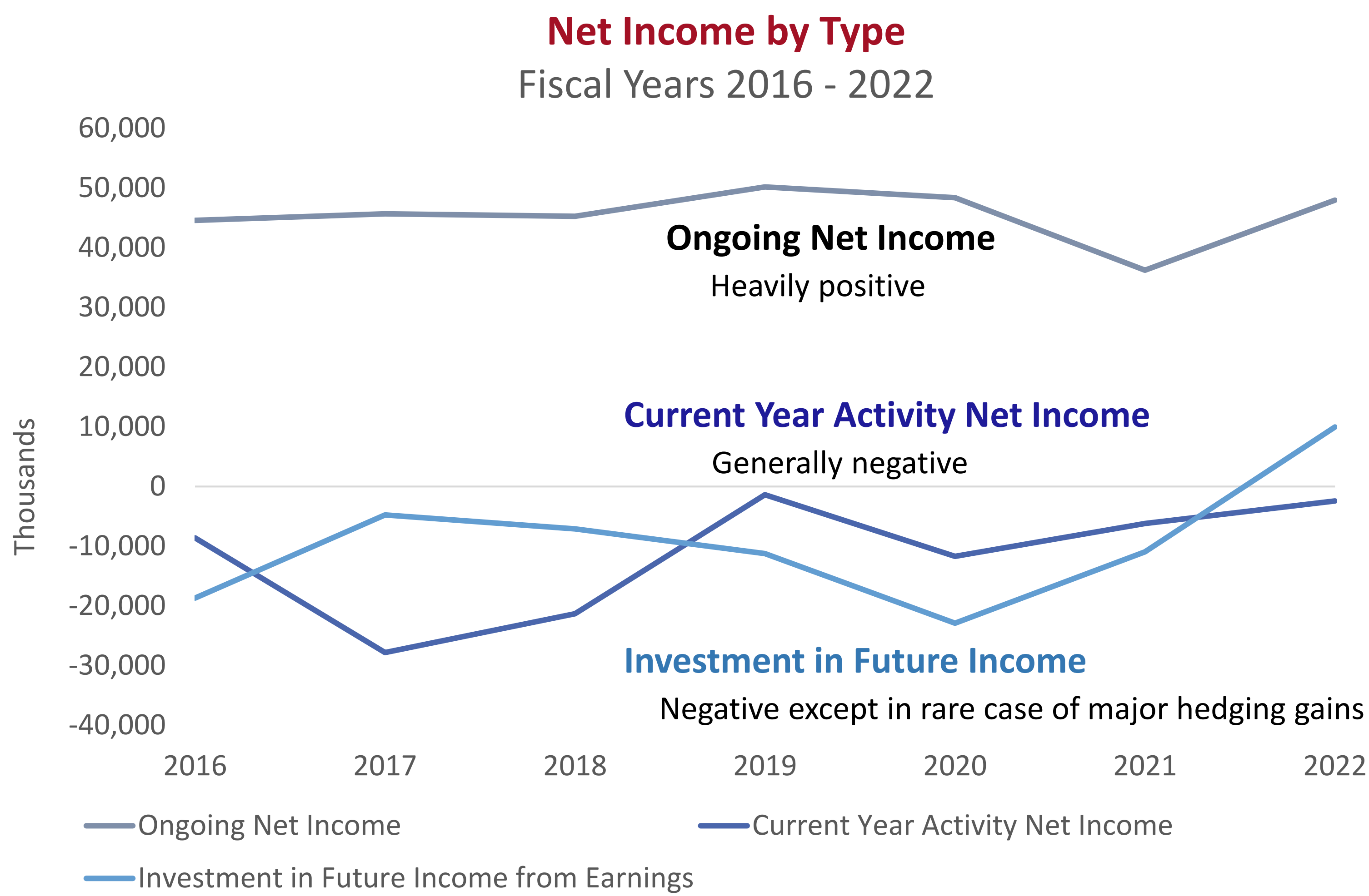
Investment in Future Ongoing Income

- Up-front costs to obtain future income, such as financing costs

Why it is Valuable to Distinguish These

- Minnesota Housing compared to other Housing Finance Agencies
- Long-term sustainability
- Basis for strategies

Net Income Trends



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Ongoing Income from Past Activities

Net Interest Income is at the Heart of the Agency's Finances

It is affected by:

- prepayments on existing loans,
- agency's financing of new lending, and
- spread and/or interest rate on lending

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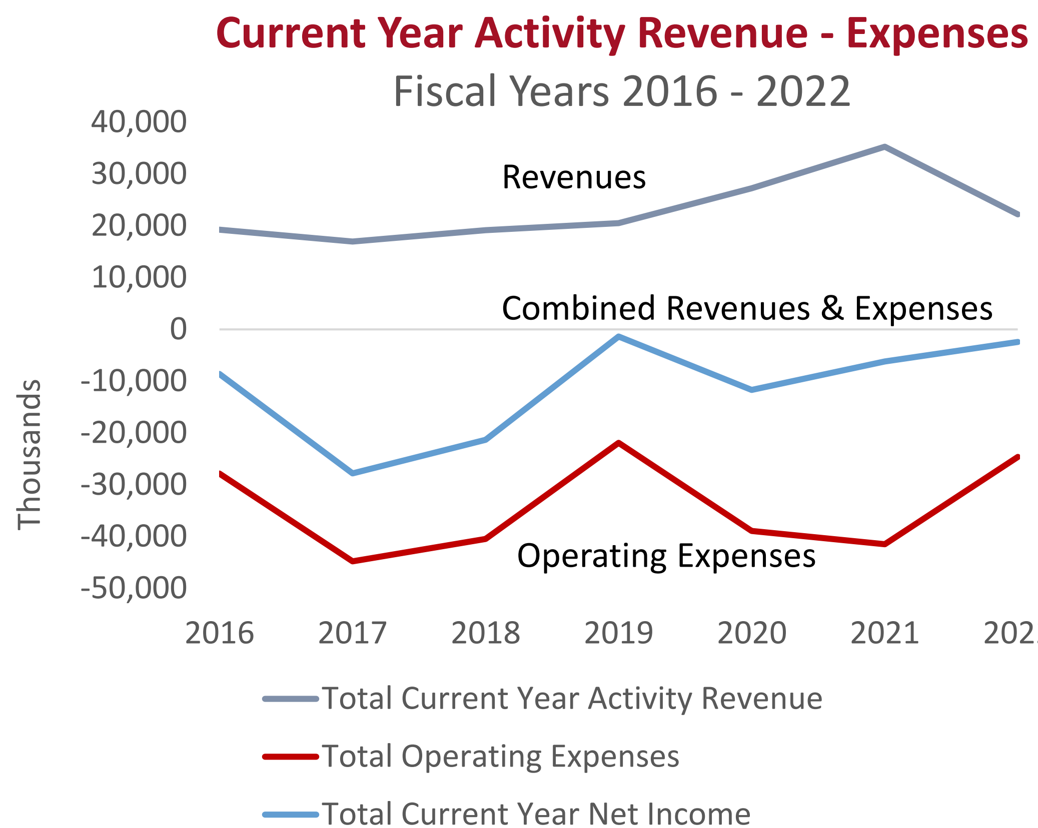
Current Year Activities

Current Year Activity Revenues

- Fee income including tax credit compliance, HAP administration, and contract administration
- Gain/loss on sale of mortgage-backed securities

Operating Expenses

- Salaries and fringes
- Pension expenses
- Other expenses



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Implications of Fluctuations in Net Income

FY 22 included extraordinary changes in both pension expenses and hedge gains/losses

Given fluctuations:

- recognize how these factors skew annual results
- some gains that show up in one year are simply advances on income from future years
  - e.g. $21 million additional hedging gains in FY 22 will make up for less spread income in the future from those same loans
- look at averages over multiple years
- identify what seems like an ongoing sustainable level of net income

Projecting a Prototypical Year for Planning

Table 9. **Projecting What Might Be a Typical Year for Planning Purposes** ($ millions)

	Ave. FY 20-22	Potential Typical Year	Why
Ongoing Income from Past Activities	44.0	45	
Current Year Activity Income	28.2	24	
Expenses (Salary, Pension, etc.)	-35.0	-45	
Net Current Year Activity	-6.8	-21	
Investment in Future Ongoing Income	-8.0	-11	Typical year; assumes break-even hedging gains/losses
Total	29.2	13.0	

Factors Likely to Impact Minnesota Housing Income

Interest Rates

- Like most Housing Finance Agencies, Minnesota Housing does better financially in higher interest rate environments:
  - loans and mortgage backed securities stay outstanding longer, earning spread for more future years
  - Minnesota Housing earns higher return on its significant amount of short-term cash

TBA Gains

- Sale premium levels impact Minnesota Housing, although not as much as many Housing Finance Agencies that mostly sell their new production

Pension Expenses

- Pension expenses are generally greater when the stock market is weak, and lesser (or indeed positive) if it rallies strongly

Housing Market

- Reduced affordability for borrowers can reduce new lending and future ongoing income
- A much weaker housing market can cause losses on whole loans

Section VII

Key Takeaways

Key Takeaways

1. Complex Financial Engine

- Like almost all Housing Finance Agencies, Minnesota Housing has many components and revenue streams that financially affect each other

2. Synergistic System

- The agency's components work together financially in an integrated way to provide loans for borrowers and enable Minnesota Housing to build resources to be able to do more over time

3. Major Financial Strengths

- Strong and stable bond ratings
- Significant ongoing annual income from past activities
- Growing balance sheet
- Strong net asset position
- Low risk of loan losses with largely mortgage backed securities asset base
- With third party servicing, not impacted by higher costs in a recession

Key Takeaways

4. Financial Flexibility

- Two active single-family indentures provide alternative financing mechanisms depending on market conditions
- Downpayment funding does not depend on future premiums
- Two effective types of downpayment assistance loans
- Alternative Loan Fund scale and ability to fund loans, as well as forward commit rates on multifamily housing loans
- Housing Affordability Fund second loans that make sustainable core first mortgages possible
- Effective linkages to state funding, including Housing Infrastructure Bonds

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Key Takeaways

5. Financial Protections

- Effective hedging of single-family loan pipeline, protecting Minnesota housing when interest rates rise
- Zero participations (extra spread on a tax-exempt single-family bond issue) can be used to help achieve full spread on future such bond issues
- Careful management of amount and type of variable rate debt and interest rate swaps with significant optionality
- Mechanisms for determining Housing Affordability contributions consistent with Minnesota Housing financial sustainability for future contributions

6. Management Approaches

- Frequent smaller bond issues that reduce interest rate exposure
- Recycling line with monthly drawdowns to retain and re-use past volume cap highly efficiently
- Warehousing line with Federal Home Loan Bank of Des Moines
- Effective format for short-term multi-family bond issues, able to easily access market

Key Takeaways

7. Financial Challenges

- **assuring adequate short-term and long-term liquidity** for funding all loans
- **limited private activity volume cap** (and slowing down of prepayments and recycling of past single-family cap)
- **greater dependence on taxable financing and swapped variable rate**
- **debt** to finance what has remained an extraordinarily strong single-family
- loan pipeline at attractive spreads

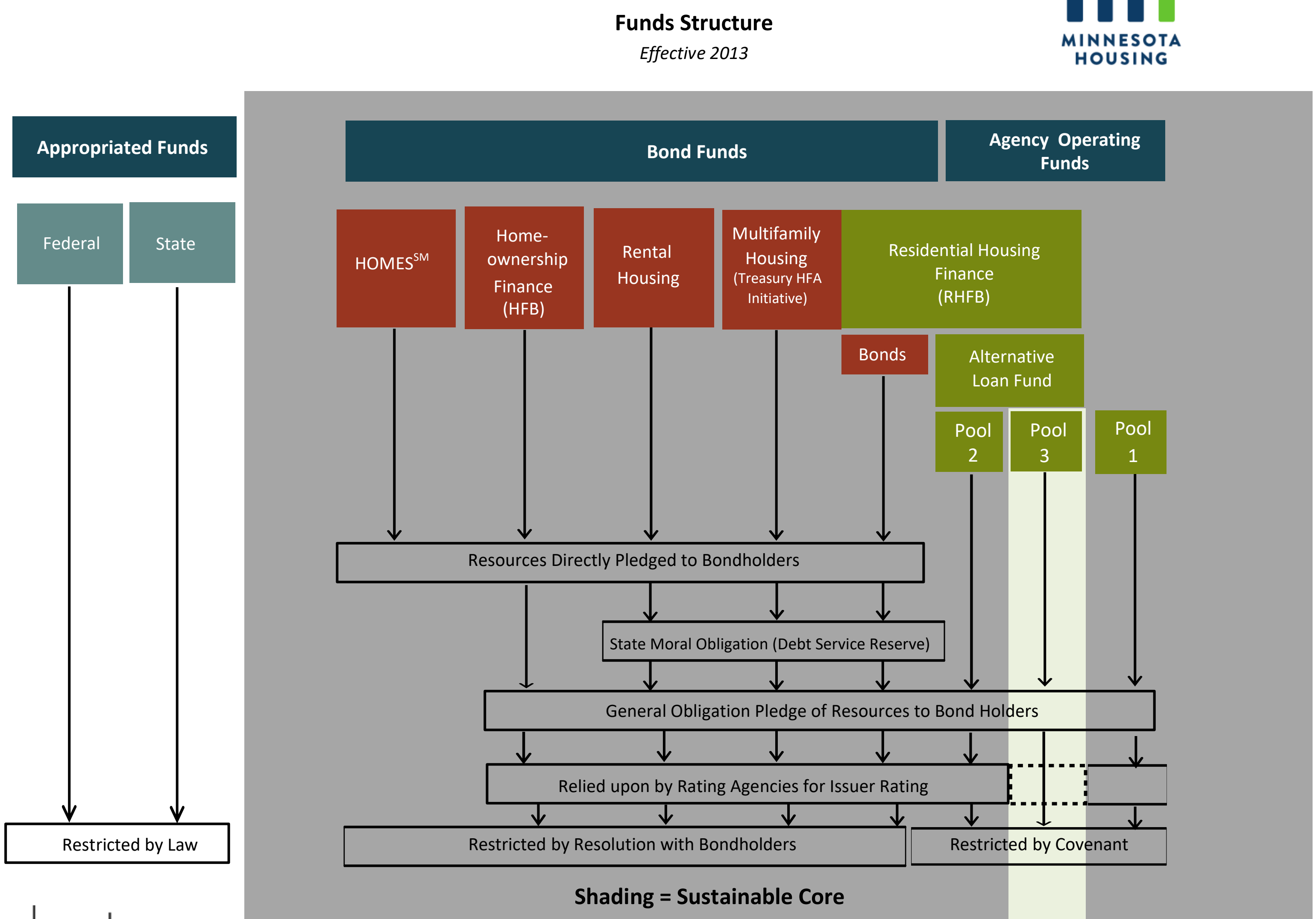
8. Explaining Agency Finances

- difficulty of being able to clearly see the agency's finances on a cash basis if relying solely on financial statements, which
  - include large unrealized gains/losses on investments, Housing Infrastructure Bond debt, loans, etc.
- the cash-based numbers developed through the efforts of Minnesota Housing's accounting staff may provide an additional way for staff, board and external parties to better understand the agency's performance and resources

Section VIII

Appendix

Minnesota Housing Financial Legal Structure



Picture Updated November 2020 edm

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Context

Minnesota Housing Again Faces New Opportunities and Challenges

Table A1. **Market Environment: Then and Now**

	2010	Feb. 2016	Sept. 2019	Aug. 2022	Implications for MHFA
U.S. Economy	Highly volatile, midst of financial crisis	* Recovering * Low unemployment * Flat wages	Stable Close to full employment and growth in wages	High inflation Post-pandemic 3.5% unemployment wages up record 4.5% but costs up faster	Financial markets and economy more stable
Minnesota Housing Markets	Depressed	Recovering significantly	Strong, esp. in Metro Area	Increasing prices, rents (but less than some parts of country)	Fewer future loan losses Increasing unaffordability
Short-Term Rates					
1-Month LIBOR	0.35%	0.43%	2.0%	2.38%	Increasing investment earnings after near zero from March 2020 - 2022
Expectation	Rates will go up, toward pre-crisis levels of 5%	Very gradual rise toward moderate levels (Fed Reserve constrained by global weakness)	Fed has started lowering rates	Market expectation of 3.6% by December	
Long-Term Rates					Diminished loan prepayments (more net interest income but less PAB recycling) Higher monthly payments for buyers
30 Yr. Treasury	3.9%	2.6%	1.7%	3.2% Market expectation of 3.8% by December	

Context

New Opportunities and Challenges

Table A2. **Program Opportunities and Challenges: Then and Now**

	2010	Feb. 2016	Sept. 2019	Aug. 2022	Implications for MHFA
Viability of New Bonds for Single-Family Lending	• Entirely dependent on very temporary New Issue Bond Program	• Success of pass-through bonds	• Stable • Expanding market, incl. for taxable as well as tax-exempt • Strong demand for municipal bonds	• Volatile • Bond markets more favorable than TBA • Fluctuating demand • $30 mill. zeros	• MHFA can add new production to balance sheet • Full spread tax-exempt issues • Leverage taxable debt • Modest but adequate amount of zeros
Future Prospects	• Highly uncertain	• Positive • Zeros from upcoming RHFB refundings • Significant carryforward	• $50 mill. zero partic'ns • Smaller future refundings may create fewer zeros • Increasing volume cap pressure • (diminishing carryforward)	• Few future refundings • Even greater volume cap pressure (little carryforward) • Volatile rates	• Careful use of zeros • Strong market for taxable bonds • With fewer zeros and less PAB, greater need for taxable debt and swapped variable rate debt • Smaller, frequent issues
Alternative Ways of Financing Single-Family	• No	• TBA Program	• TBA Program	• TBA premiums have dropped	• TBA for non-tax-exempt eligible borrowers; • best execution; • Occasionally interest-only strips may be attractive

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Context

New Opportunities and Challenges

Table A2. **Program Opportunities and Challenges: Then and Now** (cont.)

	2010	Feb. 2016	Sept. 2019	Aug. 2022	Implications for MHFA
Multi-Family Lending	• Rate compression and low GNMA rates limits MHFA long-term lending	• Same • Participate in MAP lending • Possibility of FFB for Risk-Share loans	• Same • Moderate prospects for MAP • No new FFB commitments • Waiver permitting risk-share balloon lending	• Escalating constructio n costs • FFB reinstated • Continuing waiver	• Increasing need for gap $ • Little income to MHFA from only short-term issues, due to IRS arbitrage limits • Little FFB rate advantage; need to hedge to effectively assure rates • Useful selectively if issuing long-term debt
	• Weak tax credit market	• Very strong tax credit market	• Tax credit prices lower, although some recovery after 2017 cut in corp. income tax rates	• Moderate tax credit prices • 2020 Act provided floor for 4% credits	

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Context

New Opportunities and Challenges

Table A3. **Minnesota Housing's Risks: Then and Now**

	2010	Feb. 2016	Sept. 2019	Aug. 2022	Implications for MHFA
Assets				• Approx. 2% of assets	• New 1st mortgages are in mortgage-backed securities
Non-govt insured single-family loans	• 53% of all assets		• Approx. 5% of all assets		
Single-family loan losses	• Major losses, ultimately $100+ m. • Cumulative	• Losses tapering off	• $2.8 m. in FY 19	• Dropped to $.2 mill. in FY 22	• Not expected to be major future concern
Liabilities					
Variable rate debt	• 21% of all debt	• 9% of all debt	• 8% of all debt	• 13% of all debt • 468 m. including RHFB 2022 IJK	• Can reasonably expand variable rate debt
Liquidity facilities	• Very few providers • Cost up 7x from 0.10% to about 0.70% annually	• Widely available • Cost about 0.4%	• Widely available for up to 5 years • Cost about 0.3%	• Widely available for up to 5 years • Cost about 0.2%	• Available of liquidity facilities not currently a major concern
Total Risks					
Capital charges as % of total assets					Reduced risk exposure (most remaining capital charges are on DPA loans)
Moody's	491 m 14%		168 m. 6%	163 m. 4% FY21	
S&P	385 m 11%		103 m. 4%	135 m. 3% FY21	Strong position

CSG advisors

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MINNESOTA HOUSING

Board Agenda Item: 9.A
Date: 9/22/2022

Item: Post-Sale Report, Homeownership Finance Bonds 2022 Series A (Taxable)

Staff Contact(s):
Michael Solomon, 651.297.4009, michael.solomon@state.mn.us

Request Type:

☐ Approval
- ☐ Motion
- ☐ Resolution

☒ No Action Needed
- ☐ Discussion
- ☒ Information

Summary of Request:
The Agency sold $50,000,000 of Homeownership Finance Bonds on August 23, 2022, with a closing on September 21, 2022. In accordance with the Debt and Balance Sheet Management Policy the attached detailed post-sale report is provided by the Agency's financial advisor, CSG Advisors.

Fiscal Impact:
None.

Meeting Agency Priorities:
- ☐ Improve the Housing System
- ☒ Preserve and Create Housing Opportunities
- ☐ Make Homeownership More Accessible
- ☐ Support People Needing Services
- ☐ Strengthen Communities

Attachment(s):
- Post-Sale Report

Via Email Delivery

MEMORANDUM

Date: **September 2, 2022**

To: **Minnesota Housing Finance Agency**

From: **Gene Slater, Tim Rittenhouse, David Jones, Eric Olson**

Re: **Post-Sale Report**
$50,000,000 Homeownership Finance Bonds (HFB)
2022 Series A (Taxable)

KEY RESULTS FOR MINNESOTA HOUSING

Purpose. The 2022 Series A Homeownership Finance Bonds enabled Minnesota Housing to profitably finance on the balance sheet new Start Up Program loans to first-time homebuyers and earn net annual income over future years.

Key Measurable Objectives and Accomplishments

Objective	***Result***
Finance new production on balance sheet	$50 million of new first mortgage loans in MBS securities
Leverage private activity bond volume cap	The issue was taxable and used no volume cap
Obtain full spread on the overall transaction	Agency earns approx. 1.24%
Achieve cost-effective funding	The bond rate was 4.45%
Create future income streams that will support Pool 3	The expected net present value to Minnesota Housing is approx. $1.3 million at 150% PSA prepayment speed, after accounting for net service release premiums and hedge gain
Maintain high bond ratings	HFB bonds are rated AAA

TIMING AND STRUCTURE

Timing. The purchase contract for the bonds was executed on Tuesday, August 23rd, for closing on Wednesday, September 21st.

Major Design Decision. In early August, the finance team and Minnesota Housing compared two choices for how to finance its current pipeline of approximately $150 million of Start-Up lending. It could proceed with:

- a single $150 million structured issue in RHFB blending tax-exempt fixed rate bonds with taxable fixed-rate and variable-rate bonds, or
- two issues, a $50 million taxable pass-through in HFB and a $100 million structured issue in RHFB.

The two-issue approach had three major advantages. First, it provided a higher projected net present value to Minnesota Housing after taking all costs into account. Second, it used $20 million less of volume cap. Finally, because a pass-through issue is simpler, it allowed $50 million of the total $150 million of debt to be priced more quickly—thus locking in bond costs sooner, given the volatility of the market.

Having priced this HFB pass-through issue, Minnesota Housing is proceeding with the RHFB issue of approximately $100 million.

BOND SALE RESULTS. Key highlights are:

1. ***Investors.*** The underwriters obtained 5 orders for a total of $50.75 million, just slightly more than the total amount of the bonds.

2. ***Treasury Yields.*** As of market close on the day of pricing, the 10-year US Treasury yield was 3.05%, 159 basis points higher than when HFB 2021 Series D was priced in November 2021. This dramatic increase in Treasury yields has been driven by rising inflation and increasingly hawkish Federal Reserve policy. The 10-year UST yield was as low as 1.41% in mid-December but rose quickly throughout January and the first half of February, rising to a high of 2.05%. The invasion of Ukraine in late February temporarily reversed this trend as investors globally rushed to the safety of Treasuries, driving the 10-year UST yield down to 1.73%. Since that time, however, the 10-year UST has increased in yield by more than 132 bps with Fed rate hikes and pronouncements.

   One of the more significant changes this year has been the flattening—and, at times, inversion—of the yield curve. The 2-year Treasury yield was 85 basis points lower than the 10-year yield at the beginning of the year; however, the 2-year yield was actually more than 30 basis points *higher* than the 10-year yield when HFB 2022A was priced, continuing a trend of inversion that began in July. Such inversions have in the past often been precursors of (and reflect investors' expectation of) future recession.

Treasury and MMD Rates During Recent HFB Transactions

Issue	Date	10-Year Treasury	10-Year MMD	10 Year MMD as % of Treasury
2020A	3/9/20	0.54%	0.78%	69.2%
2020BC	5/13/20	0.64%	1.09%	170.3%
2020D	8/6/20	0.55%	0.59%	107.3%
2020E	11/9/20	0.96%	0.86%	89.6%
2021A	2/10/21	1.15%	0.69%	60.0%
2021B	5/12/21	1.69%	1.02%	60.4%
2021C	8/10/21	1.36%	0.88%	64.7%
2021D	**11/9/21**	**1.46%**	**1.08%**	**74.0%**
2022A	**8/23/22**	**3.05%**	**2.50%**	**82.0%**
Change from 2021D		**+159 bp**	**+142 bp**	**+8 pp**

3. ***Municipal Bond Yields.*** The difference between demand for municipal bonds in 2022 and 2021 is one of night and day. In 2021, 45 straight weeks of inflows to municipal bond funds, and the relatively limited supply of bonds, brought near-historic lows in the ratio of MMD to Treasuries. Those relationships have reversed entirely in 2022. As Treasury yields rose dramatically, municipal bond investors pulled back from new purchases, dismayed by the reduced value of their portfolios. By the end of the first half, investors withdrew $75 billion from municipal bond funds.

   While municipal investors might have been attracted by the higher and higher yields on new bond issues, many had suffered significant losses on their past holdings and were reluctant to re-enter the market. The ratio of the 10-year MMD to Treasuries had jumped from the historically low ratios of 60% throughout much of 2021 to more than 80% by the time HFB 2022A was priced—with investors assigning little value to the benefits of tax-exemption. This has made it less costly than usual for Minnesota Housing to use taxable rather than tax-exempt debt.

4. ***Comparison to GNMA Yields.*** Investors compare yields on pass-through issues to current-coupon GNMAs. Pass-through bonds provide much less liquidity in the global markets but are typically sold at par, so investors are less exposed to prepayment risk. Series 2022A was taxable (like most of Minnesota's other recent pass-through issues, except for 2021D). Yields on both bonds and GNMAs have approximately doubled since late 2021.

Recent Minnesota Pass-Through Transactions

	2020D 8/6/20	**2020E 11/9/20**	**2021A 2/10/21**	**2021B 5/12/21**	**2021C 8/10/21**	**2021D 11/9/21**	**2022A 8/23/22**
Mortgage-Backed Securities Financed	100% New	100% New	100% New	60% New 40% Old	100% New	100% New	100% New
Tax Status	Taxable	Taxable	Taxable	Taxable	Taxable	Non-AMT	Taxable

	2020D 8/6/20	2020E 11/9/20	2021A 2/10/21	2021B 5/12/21	2021C 8/10/21	2021D 11/9/21	2022A 8/23/22
Minnesota Housing Bond Yield	1.92%	1.68%	1.58%	1.93%	2.05%	2.05%	4.45%
Yield on GNMA I, 3% Current Coupon, at Dealer Prepay Speed	1.48%	1.74%	1.47%	1.76%	1.68%	1.92%	3.82%
Minnesota Housing v. GNMA	+44 bp	-6 bp	+11 bp	+17 bp	+37 bp	+13 bp	+63 bp

5. ***Comparable Pass-Through Transactions.*** In the past 6 months, there were two pass-through transactions comparable to Minnesota's Series 2022A, both of which were issued by Colorado: 2022AA and 2022BB. The most comparable was 2022BB in July after the dramatic rise in yields. In terms of spread to both 10-Year Treasuries and 3% GNMAs, Minnesota's issue was more than 20 bps tighter than Colorado's 2022BB issue.

State HFA Pass-Through Transactions with New Production

	CO 2021J 7/20/21	VA 2021A 8/10/21	MN 2021C 8/10/21	MN 2021D 11/9/21	VA 2022A 2/2/22	CO 2022AA 4/5/22	CO 2022BB 7/14/22	MN 2022A 8/23/22
Tax Status	Tax	Tax	Tax	Non-AMT	Tax	Tax	Tax	Tax
Size (millions)	$65.0	$151.1	$61.8	$50.8	$41.6	$50.0	$25.0	$50.0
Rating	Aaa	Aaa/ AAA	Aaa	Aaa	Aaa/ AAA	Aaa	Aaa	Aaa
Price	102	Par	Par	Par	Par	Par	Par	Par
Type	New	New	New	New	New	New	New	New
Avg. Life at 150% PSA (years)	8.5	8.5	8.6	8.5	8.6	9.1	9.2	9.1
Yield	2.125%	2.125%	2.05%	2.05%	2.875%	3.55%	4.65%	4.45%
Spread to 10yr US Treas. (bp)	+63	+77	+69	+59	+110	+101	+169	+140
Spread to 3% GNMA (at Dealer Prepay Speed) (bp)	+24	+45	+37	+13	+40	+21	+86	+63
Underwriter	Jefferies	Wells	RBC	RBC	Wells	RBC	RBC	RBC

6. ***Underwriters.*** RBC was the senior manager; regular co-managers were J.P. Morgan, Piper Sandler, and Wells Fargo.

7. ***Underwriter Fees.*** Management fees were appropriate, consistent with industry standards, and in the same range as fees for other housing issues of similar size and structure.

APPENDIX

MBS Yields. MBS yields are particularly relevant because investors can choose between purchasing MBS directly or buying Minnesota Housing's bonds backed by MBS. As described above, bond purchasers look as much to the spread between Minnesota Housing's pass-through bonds and MBS as they do to the spread between pass-through bonds and Treasuries or the tax-exempt Municipal Market Data index. As shown in the table below, while yields on all indices have increased dramatically since the HFB 2021D issuance in November 2021 (e.g., +159 bps for 10-year UST and +142 bps for MMD), this increase is even more pronounced with GNMA and FNMA MBS (+190 bps and +264 bps, respectively).

Type	Delivery	Coupon	Measure	8/6/20	11/9/20	2/10/21	5/12/21	8/10/21	11/9/21	8/23/22
GNMA	Current	3.0	Price	105.08	103.52	104.04	104.21	104.35	103.88	94.80
			Yield*	1.48%	1.74%	1.47%	1.76%	1.68%	1.92%	3.82%
			Dealer Forecast % PSA	442%	510%	525%	384%	387%	345%	127%
FNMA	Current	3.5	Price	105.58	105.63	106.33	105.56	105.77	105.72	96.20
			Yield*	0.53%	0.79%	0.28%	1.35%	1.09%	1.38%	4.02%
			Dealer Forecast % PSA	787%	673%	681%	498%	530%	467%	122%
10yr US Treasury	n/a	n/a	Yield	0.55%	0.96%	1.15%	1.69%	1.36%	1.46%	3.05%
10yr MMD	n/a	n/a	Yield	0.59%	0.86%	0.69%	1.02%	0.88%	1.08%	2.50%
GNMA % of 10-Year Treasury	n/a	n/a	Yield*	269.1%	181.3%	127.8%	104.1%	123.5%	131.5%	125.2%
GNMA % of 10-Year MMD	n/a	n/a	Yield*	250.8%	202.3%	213.0%	172.5%	190.9%	177.8%	152.8%
Minnesota Housing	Tax-exempt/ Taxable	n/a	Yield	n/a 1.92%	n/a 1.68%	n/a 1.58%	n/a 1.93%	n/a 2.05%	2.05% n.a.	n/a 4.45%

** Yield at dealer forecast prepayment speed for new mortgages*

Board Agenda Item: 9.B
Date: 9/22/2022

MINNESOTA HOUSING

Item: Post-Sale Report, State Appropriation Bonds (Housing Infrastructure) Series ABC

Staff Contact(s):
Michael Solomon, 651.297.4009, michael.solomon@state.mn.us

Request Type:

☐ Approval
☐ Motion
☐ Resolution

☒ No Action Needed
☐ Discussion
☒ Information

Summary of Request:
The Agency sold $104,195,000 of Homeownership Finance Bonds on August 31, 2022 with a closing on September 14, 2022. In accordance with the Debt and Balance Sheet Management Policy the attached detailed post-sale report is provided by the Agency's financial advisor, CSG Advisors.

Fiscal Impact:
None.

Meeting Agency Priorities:
☐ Improve the Housing System
☒ Preserve and Create Housing Opportunities
☐ Make Homeownership More Accessible
☐ Support People Needing Services
☐ Strengthen Communities

Attachment(s):
- Post-Sale Report

Via Email Delivery

MEMORANDUM

Date: **September 12, 2022**

To: **Minnesota Housing Finance Agency**

From: **Gene Slater and Eric Olson**

Re: **Post-Sale Report**
$104,195,000 State Appropriation Bonds (Housing Infrastructure)
2022 Series ABC

KEY RESULTS FOR MINNESOTA HOUSING

Purpose. Minnesota Housing is issuing the $104,195,000 2022 Series ABC State Appropriation Bonds to fund loans to 11 multifamily housing developments with a total of 669 units, seven manufactured home parks, and one or more Community Land Trusts. Bond proceeds will also be used to cover the costs of issuance.

The Housing Infrastructure Loans are expected to be 0% interest, non-amortizing, nonrecourse deferred loans. Certain loans may also be forgivable if the conditions for use are met. The loans do not provide the security for or help repay the bonds. The bonds are paid solely from the State's general fund appropriation.

Under the relevant authorizing legislation, Minnesota Housing may use such proceeds to make loans to help finance:

- all or a portion of the costs of the construction, acquisition and rehabilitation of supportive housing for individuals and families who are without a permanent residence,
- all or a portion of the costs of the acquisition and rehabilitation of abandoned or foreclosed property to be used for affordable rental housing and the construction of rental housing on that property where the existing structures will be demolished or removed,
- that portion of the costs of the acquisition of abandoned or foreclosed property that is attributable to the land to be leased by community land trusts to low and moderate income homebuyers,
- the costs of acquisition, improvement and infrastructure of manufactured home parks;
- all or a portion of the costs of acquisition, rehabilitation, adaptive reuse, or new construction of senior housing;
- all or a portion of the costs of the acquisition and rehabilitation or refinancing of federally assisted rental housing, including refunding outstanding bonds issued by the Agency or another governmental unit,

- acquisition, rehabilitation, adaptive reuse, or new construction of single-family housing, and
- all or a portion of the costs of the construction, acquisition, and rehabilitation of supportive housing for girls and women to provide them protection from and the means to escape exploitation and trafficking.

Housing Infrastructure Financing. This is the eleventh issue of State Appropriation bonds under this indenture, and brings the total amount issued to $471 million.

$15,460,000	2013 Series A/B
$14,540,000	2014 Series A/B
$37,570,000	2015 Series A/B
$31,095,000	2015 Series C
$18,625,000	2016 Series A/B/C
$12,690,000	2017 Series A
$25,295,000	2018 Series A/B/C/D
$26,775,000	2019 Series A/B/C/D
$108,280,000	2020 Series A/B/C/D
$76,970,000	2021 Series A/B/C/D
$367,300,000	Total prior series
$104,195,000	2022 Series A/B/C
$471,495,000	Total to date

All of the Housing Infrastructure financings are secured on a parity basis, but particular series are issued under different appropriations limits.

KEY FEATURES OF THE BONDS

Limited Obligations of Minnesota Housing. The bonds are not secured or guaranteed by Minnesota Housing and are payable solely from the State Appropriations. The bonds are now listed as liabilities on Minnesota Housing's financial statements.

Appropriations Risk. The Housing Infrastructure State Appropriations are a standing annual appropriation that does not require any further action by the Legislature for payments to be made in future years. As provided by Minnesota law, a standing appropriation may be reduced or repealed entirely by the Legislature; this would have significant credit consequences for the State. Due to this possible non-appropriation risk, the bonds are rated slightly below the state's General Obligation bonds (which are rated Aaa by Moody's, AAA by Standard & Poor's, and AAA by Fitch).

Ratings. The bonds are thus rated Aa1 by Moody's and AA+ by Standard & Poor's.

Multiple Series. The issue was divided into three series – A, B, and C – to facilitate distinctions between statutory authorization years of the state appropriations and between governmental purpose bonds and private activity exempt facility bonds. The breakdown between series is summarized below.

- 2022A ($43,790,000): 2020 Authorization, Governmental Purpose
- 2022B ($20,355,000): January 2022 Authorization, Governmental Purpose
- 2022C ($40,050,000): January 2022 Authorization, Private Activity Exempt Facility

Facilitating Access to Low Income Housing Tax Credits. The Series C bonds are private activity bonds using volume cap. Such bond proceeds can therefore be used to help developments qualify for 4% low income housing tax credits and thus leverage the state appropriation.

Bond Structure. Series A was structured to provide level annual debt service over the remaining 21 years of the 2020 authorization, with bond maturities from 8/1/2023 to 8/1/2043.

Series B and C were structured together to provide level annual debt service on a combined basis over the 22 years of the January 2022 authorization, with bond maturities out to 8/1/2044, and the earlier maturities assigned to Series B and the later maturities to Series C. This created larger maturities within each series compared to amortizing the two series pro-rata out to 2044, enhancing marketability of the bonds. It will also simplify administration of the overall bond issue when Series B pays off in 2033.

Interest is capitalized through 2/1/2023 given the timing of the first available appropriations. All maturities were structured as serial bonds.

Couponing and Original Issue Discounts/Premiums: The bonds were structured with a mix of coupons ranging from 4% to 5% to appeal to a wide range of different investors, helping maximize investor demand. All but the last three maturities were sold at premiums, with an aggregate net reoffering premium of $10,257,415.

UNDERWRITING

RBC Capital Markets served as senior managing underwriter, with J.P. Morgan, Piper Jaffray & Co., and Wells Fargo Securities as co-managers.

On Monday, August 29th, two days before the pricing, RBC shared pricing views from themselves and their co-managers, along with their consensus proposed scale and draft pre-marketing wire. CSG also independently provided pre-pricing comparables (see post-pricing version attached). State Management and Budget's representative had indicated they would not be available for the pricing due to timing conflicts and asked Minnesota Housing to proceed with the pricing without their direct participation.

On a conference call, representatives of Minnesota Housing, CSG, and RBC discussed market conditions, the proposed structure and pricing levels, and the pricing schedule and steps; representatives RBC described the challenging market environment for municipal bonds recently, with rapidly increasing rates this year, large negative fund flows for municipal bond funds, and high levels of secondary market selling including 111 days so far in 2022 of more than $1 billion of bids wanted in contrast to just 2 days at such a high level in all of 2021. However, RBC noted that transactions were still getting priced successfully, and from a long-term perspective, current rates are still attractive compared to historical averages.

On Tuesday, August 30th, the underwriting team pre-marketed the transaction to build investor interest and assess demand. They used the premarketing wire discussed Monday, focusing on spreads to the MMD index rather than absolute rates given recent volatility in the market.

Early on the morning of the pricing, Wednesday August 31st, the financing team had a conference call to discuss the premarketing feedback from the prior day and to determine the offering levels for the order period. RBC indicated that the market tone was generally weak, with U.S. Treasury levels up 2-3 basis points and continued high volumes of municipal bonds being offered in the secondary market. RBC circulated a draft preliminary pricing wire using the spreads from the prior day's premarketing wire now converted to yields, and assuming all 5% coupons. Consistent with past issues, the wire included first priority for Minnesota individual retail orders up to $250,000 each. RBC proposed an order period lasting approximately two hours until 10:30 AM Central time, and Minnesota Housing authorized RBC to proceed.

During the order period, roughly $68.3 million of orders were received (excluding stock orders from the underwriters themselves), representing a subscription factor of just 0.668x. 19 of the 44 maturities were undersubscribed, including 9 with no orders. $1.12 million of individual retail orders were received. MHFA, Management and Budget, and CSG had access to the Ipreo order system to monitor the pricing status in real time.

On a wrap-up call at 12:30 PM Central time, representatives of Minnesota Housing, CSG, and RBC discussed the results of the order period and RBC's underwriting proposal. RBC described that Fidelity was the largest investor by far, with $35 million or approximately half of all the orders received, including orders for all the bonds in nine maturities – 2023 to 2026 and 2032 to 2036. Given the large amount of unsold bonds and the risk of Fidelity canceling orders if adjacent maturities were increased in yield without commensurate adjustments to the maturities where Fidelity had placed orders, RBC proposed yield increases of 0.03% to 0.05% for all maturities from 2025 through 2041. RBC also proposed 4% coupons for a portion of the bonds due in 2042 through 2044 lowering those yields to maturity by 0.14% to 0.15%. This helped offset some of the yield increases on the earlier maturities. Overall, the all-in true interest cost was 3.855%. At the conclusion of the call, Minnesota Housing gave RBC the verbal award.

The total underwriter's discount was $620,089 or approximately 0.595% of the $104,195,000 bond par amount. Takedowns were $3.75 for bonds maturing from 2023 through 2032 (i.e through year 10) and $5.00 for all other bonds. Management fees and takedowns were appropriate, consistent with industry standards, and in the same range as fees reported for other issues of similar credit, size and structure.

MARKET CONDITIONS

Treasuries. In the days leading up to the sale of the bonds, U.S. Treasury yields were increasing. The 10-year rose from 3.04% on Friday the 26th to 3.15% on Wednesday the 31st, while the 30-year yield increased from 3.21% to 3.27%.

Municipals. Municipal bond rates similarly trended higher leading up to the sale. The 10 year MMD index increased from 2.54% to 2.59% while the 30-year index increased from 3.23% to 3.29%.

COMPARABLES

Attached are listings of recent comparable bond pricings. The first page shows recent general obligation bond issues in Minnesota, the second page shows other large similarly-rated transactions priced on Wednesday, and the third and fourth pages show all the Minnesota Housing State Appropriation Bond issues from 2014 to present.

As with past issues of state appropriation bonds, the spreads to the interpolated MMD curve are higher than general obligation bond issues in Minnesota. This reflects two major differences. The 2022 Series ABC bonds bear state appropriations risk rather than a full general obligation credit. In addition, bonds for housing generally trade at higher spreads because of tax risks associated with compliance with affordability requirements.

Compared to other similarly-rated transactions that priced on August 31st nationally, MHFA shows a mix of lower and higher spreads. This is not surprising given the wide range of types of issuers and credits shown, ranging from general obligation bonds of a California community college district to special revenue bonds of a city in Florida. The only other state housing finance agency in the market, New Jersey, had to increase yields by 5 to 10 basis points to attract buyers on many maturities, for similar reasons to Minnesota Housing.

With different coupon levels amongst Minnesota Housing's current and past State Appropriation Bond financings and different market environments for each issue, spreads to the interpolated MMD index have varied widely. Compared to the 5% coupon maturities on 2021 ABCD, spreads are 0.16% to 0.28% higher on 2022 ABC. Looking further back to the 5% coupons issued in 2017 A and 2018 ABCD, spreads are similar to slightly higher on 2022 ABC.

PRICING COMPARABLES: Recent MN General Obligation Bond Issues

Pricing Date		8/31/22			8/30/22			8/17/22			8/9/22			8/9/22			8/9/22			8/8/22		
Amount		$104,195,000			$11,505,000			$121,545,000			$251,775,000			$220,000,000			$106,660,000			$11,875,000		
Issuer		Minnesota HFA			Osseo Area Schools ISD 279			Minneapolis, MN			State of Minnesota			State of Minnesota			State of Minnesota			Bloomington, MN		
Series		2022 Series ABC (Housing Infra)			G.O. Bonds, Series 2022A			G.O. Bonds, Series 2022			G.O. Various Purp., 2022A			G.O. Trunk Highway, 2021B			G.O. Var. Purp. Ref., 2022D			G.O. Bonds 2022, Ser. 56		
Program		Appropriations / Negotiated			GO / Competitive			GO / Competitive			GO / Competitive			GO / Competitive			GO / Competitive			GO / Competitive		
Rating(s)		Aa1 / AA+ / -			Aa1 / - / -			- / AAA / AA+			Aaa / AAA / AAA			Aaa / AAA / AAA			Aaa / AAA / AAA			Aaa / AAA / AAA		
Maturity				Spread			Spread			Spread			Spread			Spread			Spread			Spread
Year	('22 pricings)	Coupon	Yield	to iMMD	Coupon	Yield	to iMMD	Coupon	Yield	to iMMD	Coupon	Yield	to iMMD	Coupon	Yield	to iMMD	Coupon	Yield	to iMMD	Coupon	Yield	to iMMD
0	2022							5.000	2.05													
1	2023	A,B:5.00	2.35	+14				5.000	2.07	-3	5.000	1.59	-	5.000	1.59	-	5.000	1.60	+1			
2	2024	A,B:5.00	2.46	+18				5.000	2.10	+9	5.000	1.69	-	5.000	1.69	-	5.000	1.70	+1	5.000	1.62	-
3	2025	A,B:5.00	2.53	+24				5.000	2.12	+11	5.000	1.71	-	5.000	1.71	-	5.000	1.71	-	5.000	1.70	-
4	2026	A,B:5.00	2.58	+27	5.000	2.38	+8	5.000	2.15	+14	5.000	1.79	-	5.000	1.80	+1	5.000	1.80	+1	5.000	1.76	-
5	2027	A,B:5.00	2.63	+31	5.000	2.42	+11	5.000	2.18	+11	5.000	1.82	-	5.000	1.83	+1	5.000	1.83	+1	5.000	1.80	+1
6	2028	A,B:5.00	2.69	+33	5.000	2.47	+12	5.000	2.20	+5	5.000	1.99	+2	5.000	1.99	+2	5.000	1.98	+1	5.000	1.92	+2
7	2029	A,B:5.00	2.75	+35	5.000	2.50	+11	5.000	2.27	+5	5.000	2.08	+3	5.000	2.07	+2	5.000	2.07	+2	5.000	2.05	+3
8	2030	A,B:5.00	2.85	+39	5.000	2.57	+13	5.000	2.32	+5	5.000	2.15	+4	5.000	2.14	+3	5.000	2.15	+4	5.000	2.12	+3
9	2031	A,B:5.00	2.96	+42	4.000	2.70	+19	5.000	2.41	+5	5.000	2.23	+4	5.000	2.22	+3	5.000	2.23	+4	5.000	2.19	+3
10	2032	A,B:5.00	3.04	+45	4.000	2.80	+22	5.000	2.45	+5	5.000	2.30	+6	5.000	2.27	+3	5.000	2.28	+4	5.000	2.27	+4
11	2033	A,B,C:5.00	3.16*	+48	3.250	3.31	+65	5.000	2.56	+5	5.000	2.42	+7	5.000	2.39	+4				5.000	2.38	+5
12	2034	A,C:5.00	3.30*	+50	3.375	3.47	+68	3.375	3.30	+71	5.000	2.50	+7	5.000	2.48	+5				4.000	2.60	+18
13	2035	A,C:5.00	3.39*	+53				4.000	3.15	+50	5.000	2.57	+8	5.000	2.55	+6						
14	2036	A,C:5.00	3.46*	+56				3.500	3.45	+77	5.000	2.61	+8	4.000	2.92	+39						
15	2037	A,C:5.00	3.52*	+59				4.000	3.36	+65	5.000	2.64	+8	3.250	3.27	+71						
16	2038	A,C:5.00	3.60*	+63				4.000	3.40	+65	5.000	2.68	+8	4.000	3.10	+50						
17	2039	A,C:5.00	3.66*	+65				4.000	3.44	+65	5.000	2.74	+10	3.375	3.42	+78						
18	2040	A,C:5.00	3.70*	+65				4.000	3.48	+65	5.000	2.80	+12	4.000	3.23	+55						
19	2041	A,C:5.00	3.75*	+65				3.500	3.75	+85	5.000	2.87	+12	3.500	3.58	+83						
20	2042	A:4.00/C:5.00	4.09/3.79*	+95/+65							5.000	2.89	+12	3.500	3.61	+84						
21	2043	A,C:4.00	4.13	+95																		
22	2044	C:4.00	4.15	+95																		
23	2045																					
Notes		* Yields to first optional call; Par A: $43,790,000; B: $20,355,000; C: $40,050,000																				
Maturity Dates		8/1			2/1			12/1			8/1			8/1			8/1			2/1		
Call Provisions		8/1/32 at par			2/1/30 at par			12/1/29 at par			8/1/32 at par			8/1/32 at par			None			2/1/32 at par		
Mkt Index		BBI / RBI 3.59% / 3.87%			BBI / RBI 3.59% / 3.87%			BBI / RBI 3.27% / 3.55%			BBI / RBI 3.21% / 3.49%			BBI / RBI 3.21% / 3.49%			BBI / RBI 3.21% / 3.49%			BBI / RBI 3.21% / 3.49%		
Sr Manager		RBC Capital Markets			Morgan Stanley			Citigroup			J.P. Morgan / Barclays			Morgan Stanley			BofA			Raymond James		

PRICING COMPARABLES: Similarly-Rated Transactions Priced 8/31/22 Nationally

Pricir Pricing Date		8/31/22			8/31/22			8/31/22			8/31/22		8/31/22			8/31/22		
Amo Amount		$104,195,000			$44,695,000			$99,175,000			$315,730,000		$150,000,000			$136,820,000		
Issue Issuer		Minnesota HFA			Florida Bd of Govs / St Univ			City of Jacksonville, FL			New Jersey HMFA		N. Orange Co. CA Comm Coll Dt			Las Vegas Conv & Visitors Auth		
Serie Series		2022 Series ABC (Housing Infra)			Mand Stdt Fee Rev Bds, S. 22A			Special Revenue Bonds, S. 22C			2022 Series I		G.O. Bonds, Series C			Revenue Bonds, S. 2022B		
Prog Program		Appropriations / Negotiated			Revenue / Competitive			Revenue / Negotiated			Single Family / Negotiated		GO / Negotiated			Revenue / Negotiated		
Ratir Rating(s)		Aa1 / AA+ / -			Aa2 / AA+ / AA			- / AA / AA-			Aa2 / AA / -		Aa1 / AA+ / -			Aa3 / A / -		
Year	Maturity Month ('22 pricings)	Coupon	Yield	Spread to iMMD	Coupon	Yield	Spread to iMMD	Coupon	Yield	Spread to iMMD	Coupon/ Yield	Spread to iMMD	Coupon	Yield	Spread to iMMD	Coupon	Yield	Spread to iMMD
0	2022																	
1	2023	A,B:5.00	2.35	+14	5.000	2.30	+9	5.000	2.35	+13	2.350	+13	5.000	2.12	-9			
2	2024	A,B:5.00	2.46	+18	5.000	2.40	+12	5.000	2.44	+16	2.60 / 2.65	+33 / +37	5.000	2.18	-10			
3	2025	A,B:5.00	2.53	+24	5.000	2.46	+17	5.000	2.48	+19	2.75 / 2.80	+46 / +51	5.000	2.19	-10			
4	2026	A,B:5.00	2.58	+27	5.000	2.48	+17	5.000	2.52	+21	2.90 / 2.95	+59 / +64						
5	2027	A,B:5.00	2.63	+31	5.000	2.52	+20	5.000	2.57	+24	3.10 / 3.15	+78 / +82				5.000	2.65	+33
6	2028	A,B:5.00	2.69	+33	5.000	2.57	+21	5.000	2.65	+27	3.25 / 3.30	+90 / +92				5.000	2.74	+38
7	2029	A,B:5.00	2.75	+35	5.000	2.62	+22	5.000	2.71	+30	3.40 / 3.45	+100 / +104				5.000	2.80	+40
8	2030	A,B:5.00	2.85	+39	5.000	2.69	+23	5.000	2.81	+34	3.55 / 3.60	+110 / +113	5.000	2.38	-8	5.000	2.91	+45
9	2031	A,B:5.00	2.96	+42	5.000	2.78	+24	5.000	2.93	+38	3.75 / 3.80	+123 / +125	5.000	2.43	-11	5.000	3.02	+48
10	2032	A,B:5.00	3.04	+45	5.000	2.84	+25	5.000	3.03	+43	3.85 / 3.90	+126 / +130	5.000	2.52	-7	5.000	3.09	+50
11	2033	A,B,C:5.00	3.16*	+48	5.000	2.95	+27	5.250	3.17*	+47	4.000	+133 / +130	5.000	2.69*	+1	5.000	3.27*	+59
12	2034	A,C:5.00	3.30*	+50	5.000	3.12*	+32	5.250	3.37*	+56	4.100	+130 / +129	5.000	2.86*	+6	5.000	3.45*	+65
13	2035	A,C:5.00	3.39*	+53	5.000	3.23*	+37	5.250	3.52*	+65			5.000	3.01*	+15	5.000	3.58*	+72
14	2036	A,C:5.00	3.46*	+56	5.000	3.32*	+42	5.250	3.65*	+75			5.000	3.11*	+21	4.000	4.00	+110
15	2037	A,C:5.00	3.52*	+59	5.000	3.40*	+47	5.250	3.71*	+78	4.250	+132	5.000	3.18*	+25	5.000	3.76*	+83
16	2038	A,C:5.00	3.60*	+63									5.000	3.29*	+32	5.000	3.85*	+88
17	2039	A,C:5.00	3.66*	+65									4.000	3.86*	+85			
18	2040	A,C:5.00	3.70*	+65									4.000	3.92*	+87			
19	2041	A,C:5.00	3.75*	+65									4.000	3.97*	+87			
20	2042	A:4.00/C:5.00	4.09/3.79*	+95/+65	4.000	4.149	+101				4.500	+136	4.000	4.02	+88			
21	2043	A,C:4.00	4.13	+95									4.000	4.070	+89			
22	2044	C:4.00	4.15	+95									4.000	4.100	+90			
23	2045																	
24	2046										4.600	+136						
25	2047												4.150	4.150	+90			
26	2048																	
27	2049															5.250	4.210	+95
PAC											5.00C/3.80Y	+148 to 5yr						
Note Notes		* Yields to first optional call; Par A: $43,790,000; B: $20,355,000; C: $40,050,000			* Yields to first optional call			* Yields to first optional call			10/52 PAC is 5% coupon at 105.331 to yield 3.80% with an average life of 5 years 100-400% PSA		* Yields to first optional call			* Yields to first optional call		
Matu Maturity Dates		8/1			7/1			10/1			10/1 and 4/1		8/1			7/1		
Call I Call Provisions		8/1/32 at par			7/1/32 at par			10/1/32 at par			4/1/31 at par/100.558 PAC		8/1/32 at par			7/1/32 at par		
Mkt I Mkt Index		BBI / RBI 3.59% / 3.87%			BBI / RBI 3.59% / 3.87%			BBI / RBI 3.59% / 3.87%			BBI / RBI 3.59% / 3.87%		BBI / RBI 3.59% / 3.87%			BBI / RBI 3.59% / 3.87%		
Sr M Sr Manager		RBC Capital Markets			BofA			RBC Capital Markets			Citigroup		Piper Sandler			RBC Capital Markets		

PRICING COMPARABLES: MHFA HIB Only

Pricing Date	8/31/22	9/21/21	8/19/20	8/22/19	9/11/18
Amount	$104,195,000	$76,970,000	$108,280,000	$26,775,000	$25,295,000
Issuer	Minnesota HFA	Minnesota HFA	Minnesota HFA	Minnesota HFA	Minnesota HFA
Series	2022 Series ABC (Housing Infra)	2021 Series ABCD (Housing Infra)	2020 Series ABCD (Housing Infra)	2019 Series ABCD (Housing Infra)	2018 Series ABCD (Housing Infra)
Program	Appropriations / Negotiated	Appropriations / Negotiated	Appropriations / Negotiated	Appropriations / Negotiated	Appropriations / Negotiated
Rating(s)	Aa1 / AA+ / -	Aa2 / AA+ / -	Aa2 / AA+ / -	Aa2 / AA+ / -	Aa2 / AA+ / -

Maturity	Year ('22 pricings)	8/31/22 Coupon	Yield	Spread to iMMD	9/21/21 Coupon	Yield	Spread to iMMD	8/19/20 Coupon	Yield	Spread to iMMD	8/22/19 Coupon	Yield	Spread to iMMD	9/11/18 Coupon	Yield	Spread to iMMD
0	2022															
1	2023	A,B:5.00	2.35	+14	A,B,D:4.00	0.12	+5	C:2.00	0.21	+8	B:2.00/D:3.00	1.07	+7	C:5.00	1.89	+19
2	2024	A,B:5.00	2.46	+18	A,B,D:4.00	0.18	+7	D:2.00/C:3.00	0.24	+10	B:2.00/D:3.00	1.10	+12	C:5.00	2.01	+21
3	2025	A,B:5.00	2.53	+24	A,B,D:4.00	0.25	+9	D:3.00/C:4.00	0.28	+13	A,B:2.00/D:3.00	1.12	+13	C:5.00	2.13	+23
4	2026	A,B:5.00	2.58	+27	A,B,D:5.00	0.38	+11	C:3.00/A,D:4.00	0.35	+17	A:1.75/D:3.00	1.15	+16	C:5.00	2.25	+26
5	2027	A,B:5.00	2.63	+31	A,B,D:5.00	0.53	+13	A,D:4.00	0.42	+19	A,D:3.00	1.20	+19	A,B,C:2.375	2.375	+29
6	2028	A,B:5.00	2.69	+33	A,B,D:5.00	0.68	+15	A,D:4.00	0.55	+22	A,D:3.00	1.26	+23	C:5.00	2.50	+30
7	2029	A,B:5.00	2.75	+35	A,B,D:5.00	0.83	+17	A,D:4.00	0.69	+26	A:2.50/D:3.00	1.31	+24	C:5.00	2.62	+33
8	2030	A,B:5.00	2.85	+39	A,B,D:5.00	0.96	+19	A,D:4.00	0.80	+27	A,D:3.00	1.39	+26	C:5.00	2.76	+38
9	2031	A,B:5.00	2.96	+42	A,B,D:5.00	1.07	+21	A,D:4.00	0.91	+29	A:2.00/D:3.00	1.51	+32	C:5.00	2.88	+42
10	2032	A,B:5.00	3.04	+45	A,B,C,D:5.00	1.17	+23	A,D:4.00	1.01	+31	A:5.00/D:3.00	1.64	+38	A,B,C:3.00	3.00	+48
11	2033	A,B,C:5.00	3.16*	+48	A,B,C:5.00	1.25*	+25	A,B,D:4.00	1.11*	+33	A,C,D:4.00	1.80*	+48	C:5.00	3.04*	+46
12	2034	A,C:5.00	3.30*	+50	A,B,C:5.00	1.30*	+25	B,D:4.00	1.20*	+34	A,C:4.00	1.90*	+53	C,D:5.00	3.10*	+46
13	2035	A,C:5.00	3.39*	+53	A,B,C:5.00	1.34*	+25	B,D:4.00	1.30*	+36	A,C:4.00	2.00*	+58	D:5.00	3.15*	+46
14	2036	A,C:5.00	3.46*	+56	A,B:3.00/C:4.00	1.73*/1.52*	+60/+39	B,D:4.00	1.37*	+38	A,C:4.00	2.10*	+63	D:5.00	3.19*	+46
15	2037	A,C:5.00	3.52*	+59	A,B:3.00/C:4.00	1.80*/1.57*	+64/+41	B,D:4.00	1.43*	+39	A,C:4.00	2.19*	+67	B:3.50/D:5.00	3.54/3.25*	+76/+47
16	2038	A,C:5.00	3.60*	+63	A,B:3.00/C:4.00	1.85*/1.60*	+66/+41	B,D:4.00	1.49*	+41	A,C:4.00	2.24*	+68	D:4.00	3.58*	+75
17	2039	A,C:5.00	3.66*	+65	A,B:3.00/C:4.00	1.90*/1.64*	+67/+41	B,D:4.00	1.55*	+43	A,C:4.00	2.29*	+69	D:4.00	3.63*	+75
18	2040	A,C:5.00	3.70*	+65	B:3.00/C:4.00	1.95*/1.68*	+68/+41	B,D:4.00	1.59*	+43	A,C:4.00	2.33*	+69	D:4.00	3.68*	+75
19	2041	A,C:5.00	3.75*	+65	B:3.00/C:4.00	1.99*/1.72*	+68/+41	B,D:4.00	1.63*	+43	A:4.00	2.35*	+67	A:3.75/D:4.00	3.83/3.74*	+85/+76
20	2042	A:4.00/C:5.00	4.09/3.79*	+95/+65	A:3.00	2.04*	+70	B,D:4.00	1.67*	+43	A,C:4.00	2.39*	+67	B:3.875/D:4.00	3.875/3.78*	+87/+77
21	2043	A,C:4.00	4.13	+95				B,D:4.00	1.70*	+43	A:4.00	2.43*	+67	D:4.00	3.80*	+77
22	2044	C:4.00	4.15	+95	B:3.00/C:4.00	2.11*/1.83*	+71/+43	D:4.00	1.73*	+43	A,C:4.00	2.46*	+67	D:4.00	3.82*	+77
23	2045							D:4.00	1.76*	+43						

Notes	* Yields to first optional call; Par A: $43,790,000; B: $20,355,000; C: $40,050,000	* Yields to first optional call; Par A: $4,515,000; B: $16,245,000; C: $38,350,000; D: $17,860,000	* Yields to first optional call; Par A: $18,570,000; B: $38,900,000; C: $7,055,000; D: $43,755,000	* Yields to first optional call; Par A: $14,535,000; B: $1,280,000; C: $6,915,000; D: $4,045,000	* Yields to first optional call; Par A: $1,130,000; B: $4,980,000; C: $8,810,000; D: $10,375,000
Maturity Dates	8/1	8/1	8/1	8/1	8/1
Call Provisions	8/1/32 at par	8/1/31 at par	8/1/30 at par	8/1/29 at par	8/1/28 at par
Mkt Index	BBI / RBI 3.59% / 3.87%	BBI / RBI 2.14% / 2.50%	BBI / RBI 2.05% / 2.47%	BBI / RBI 3.07% / 3.55%	BBI / RBI 3.98% / 4.49%
Sr Manager	RBC Capital Markets	RBC Capital Markets	RBC Capital Markets	RBC Capital Markets	RBC Capital Markets

PRICING COMPARABLES: MHFA HIB Only

Pricing Date		10/12/17			8/16/16			9/1/15			2/18/15			2/6/14		
Amount		$12,690,000			$16,905,000			$31,095,000			$37,570,000			$14,540,000		
Issuer		Minnesota HFA			Minnesota HFA			Minnesota HFA			Minnesota HFA			Minnesota HFA		
Series		2017 Series A (Housing Infra)			2016 Series ABC (Housing Infr)			2015 Series C (Housing Infr)			2015 Series A,B (Housing Infr)			2014 Series A,B (Housing Infr)		
Program		Appropriations / Negotiated			Appropriations / Negotiated			Appropriations / Negotiated			Appropriations / Negotiated			Appropriations / Negotiated		
Rating(s)		Aa2 / AA / -			Aa2 / AA / -			Aa2 / AA / -			Aa2 / AA / -			Aa2 / AA / -		
Maturity Year	('22 pricings)	Coupon	Yield	Spread to iMMD	Coupon	Yield	Spread to iMMD	Coupon	Yield	Spread to iMMD	Coupon	Yield	Spread to iMMD	Coupon	Yield	Spread to MMD
0	2022										2.000	0.13				
1	2023	2.000	1.03	+10	B:3.00/C:2.00	0.61	+15	2.000	0.34	+12	3.000	0.34	+5	3.000	0.33	+10
2	2024	3.000	1.14	+15	B:3.00/C:2.00	0.72	+20	3.000	0.72	+13	4.000	0.67	+11	3.000	0.51	+14
3	2025	4.000	1.25	+17	A:3.00/B,C:2.00	0.85	+25	4.000	1.04	+18	4.000	1.01	+17	4.000	0.82	+21
4	2026	4.000	1.37	+19	A:3.00/C:2.00	1.02	+30	4.000	1.34	+21	4.000	1.26	+22	4.000	1.22	+25
5	2027	4.000	1.55	+22	A:3.00/C:2.00	1.20	+35	5.000	1.58	+25	4.000	1.53	+27	4.000	1.56	+30
6	2028	5.000	1.72	+26	A:3.00/C:2.00	1.42	+40	5.000	1.88	+27	5.000	1.74	+29	2.000	2.02	+35
7	2029	5.000	1.88	+29	A:3.00/C:2.00	1.58	+44	5.000	2.12	+32	5.000	2.00	+31	2.375	2.39	+41
8	2030	5.000	2.05	+32	A:3.00/C:2.00	1.70 / 1.72	+47 / +49	5.000	2.28	+33	2.150	2.18	+33	4.000	2.74	+47
9	2031	5.000	2.22	+35	A:3.00/C:2.00	1.81 / 1.86	+49 / +54	5.000	2.42	+35	2.300	2.34	+34	2.900	2.95	+50
10	2032	5.000	2.34	+37	A:3.00/C:2.00	1.95* / 2.00	+54 / +59	5.000	2.54*	+36	5.000	2.50*	+38	3.125	3.13	+54
11	2033	4.000	2.53*	+47	A:4.00/C:2.00	2.05* / 2.15	+54 / +64	4.000	2.93*	+63	5.000	2.64*	+41	3.250	3.25	+53
12	2034	4.000	2.68*	+54	A:4.00/C:2.25	2.20* / 2.33	+61 / +74	4.000	3.07*	+68	5.000	2.75*	+42	5.000	3.45*	+61
13	2035	4.000	2.85*	+64	A:4.00/C:2.375	2.32* / 2.45	+66 / +79	4.000	3.16*	+67	3.000	3.15	+72	3.500	3.65	+69
14	2036	3.000	3.05	+77	A:4.00/C:2.50	2.40* / 2.56	+68 / +84	4.000	3.25*	+68	5.000	2.88*	+41	3.625	3.75	+70
15	2037	3.000	3.09	+74	A:4.00/C:2.625	2.49* / 2.67	+71 / +89	3.250	3.48	+83	5.000	2.93*	+41	3.750	3.84	+70
16	2038	4.000	3.05*	+64	A:4.00/C:2.75	2.54* / 2.77	+71 / +94	3.375	3.56	+83	5.000	2.97*	+40	3.750	3.93	+70
17	2039	4.000	3.11*	+65	A:4.00/C:2.75	2.59* / 2.875	+71 / +100	5.000	3.19*	+41	5.000	3.02*	+41	4.000	4.00	+68
18	2040	4.000	3.15*	+64	A,C:4.00	2.64*	+71	5.000	3.24*	+41	5.000	3.06*	+41	4.000	4.05	+65
19	2041	3.250	3.32	+77	A,C:4.00	2.69*	+71	5.000	3.28*	+41	5.000	3.09*	+40	4.000	4.10	+62
20	2042	3.250	3.34	+75	A,C:3.00	3.01	+99	5.000	3.31*	+41	5.000	3.13*	+40	4.750	4.08*	+55
21	2043				A,C:3.00	3.03	+99	5.000	3.35*	+41				5.000	4.08*	+50
22	2044				C:3.00	3.04	+98	5.000	3.38*	+41						
23	2045															
Notes		* Yields to first optional call			* Yields to first optional call			* Yields to first optional call			* Yields to first optional call			* Yields to first optional call		
Maturity Dates		8/1			8/1			8/1			8/1			8/1		
Call Provisions		8/1/27 at par			8/1/25 at par			8/1/24 at par			8/1/24 at par			8/1/23 at par		
Mkt Index		BBI / RBI 3.61% / 3.82%			BBI / RBI 2.85% / 3.06%			BBI / RBI 3.79% / 4.20%			BBI / RBI 3.60% / 4.23%			BBI / RBI 4.46% / 5.32%		
Sr Manager		RBC Capital Markets			RBC Capital Markets			RBC Capital Markets			RBC Capital Markets			RBC Capital Markets		