REGULAR MEETING OF THE
MONTANA BOARD OF INVESTMENTS
via Zoom
October 13, 2020

COMMITTEE MEETINGS

A. **Audit Committee – Maggie Peterson, Chair** **8:30 AM**
1. Public Comment – *Public Comment on issues with Committee Jurisdiction*
2. Approval of August 18, 2020 Committee Meeting Minutes
3. Reference to Checklist
4. Executive Director General Comments
5. FY20 Financial Statements – Update and Comments
6. SOC 1 Type 2 Audit – WipFli - ***Decision***

B. **Human Resource Committee – Terry Cohea, Chair** **9:00 AM**
1. Public Comment – *Public Comment on issues with Committee Jurisdiction*
2. Executive Director General Comments
3. Hire Director of Investment Operations – ***Decision***
4. Hire Exempt Staff - ***Decision***
5. Staff Evaluations *(Closed Session)*

C. **Loan Committee – Jack Prothero, Chair** **10:15 AM**
1. Public Comment – *Public Comment on issues with Committee Jurisdiction*
2. Approval of August 18, 2020 Committee Meeting Minutes
3. Executive Director General Comments
4. INTERCAP Loan Requests - ***Decision***

BREAK **10:45 AM**

Tab 1 CALL TO ORDER – Karl Englund, Chair ***(page 3)*** **11:00 AM**

A. Roll Call
B. Notice of Video Recording of Meeting
C. Public Comment – *Public Comment on issues with Board Jurisdiction*
D. Approval of August 18-19, 2020 regular, and September 18, 2020 special Board meeting minutes
E. Administrative Business
   1. Audit Committee Report - ***Decisions***
   2. Human Resource Committee Report - ***Decisions***
   3. Loan Committee Report - ***Decision***
F. Comments from TRS and PERS Board Members
G. Comments from Board Legislative Liaisons

Tab 2 EXECUTIVE DIRECTOR REPORTS – Executive Director Dan Villa ***(page 7)*** **11:30 AM**

A. Member Requests or Follow up from Prior Meeting
B. Monthly Snapshot
C. Monthly Web Traffic
D. CARES Act Report

Tab 3 NEW INVESTMENT COMMITMENTS – Ethan Hurley, CAIA **11:45 PM**

A. Real Estate

The Board of Investments makes reasonable accommodations for any known disability that may interfere with a person's ability to participate in public meetings. Persons needing an accommodation must notify the Board (call 444-0001 or write to P.O. Box 200126, Helena, Montana 59620) no later than three days prior to the meeting to allow adequate time to make needed arrangements.

LUNCH SERVED **12:00 PM**

Tab 4 PROXY VOTING OF PUBLIC EQUITES – Dan Zarling, CFA ***(page 11)*** **1:00 PM**

Tab 5 ASSET ALLOCATION, REAL ASSETS, AND INFRATRUCTURE EDUCATION – RVK ***(page 15)*** **1:30 PM**

BREAK **2:00 PM**

Tab 6 DRAFT ASSET ALLOCATION AND INVESTMENT POLICY STATEMENT REVISIONS CIO Jon Putnam, CFA, CAIA, FRM ***(page 44)*** **2:15 PM**

RECAP OF STAFF TO DO LIST AND ADJOURNMENT – Karl Englund, Chair **4:00 PM**

Appendix

A. 2020 Annual Board Meeting Schedule
B. Systematic Work and Education Plan
C. Acronym Index
D. Terminology List

The Board of Investments makes reasonable accommodations for any known disability that may interfere with a person's ability to participate in public meetings. Persons needing an accommodation must notify the Board (call 444-0001 or write to P.O. Box 200126, Helena, Montana 59620) no later than three days prior to the meeting to allow adequate time to make needed arrangements.

REGULAR MEETING OF THE
MONTANA BOARD OF INVESTMENTS
2401 Colonial Drive, 3rd Floor
Helena, Montana
August 18-19, 2020

Call to Order
The Board of Investment's meeting was called to order by acting Chairman Jack Prothero at 11:30 a.m., on Tuesday, August 18, 2020.

Attendance

Board Members Present: Acting Chairman Jack Prothero, Mark Noennig, Bruce Nelson, Terry Cohea, Maggie Peterson, Jeff Greenfield, Diane Fladmo, Jim Edwards

Legislative Liaisons Present: Senator Fred Thomas, Representative Jim Hamilton

Board Staff Present: Dan Villa, Peggy MacEwen, Doug Hill, Herb Kulow, Natalia Kolnik, Sheli Jacoby, Lindsay Ford, April Madden, Robert Samson, Jon Putnam, Kirsten Haswell, Julie Feldman, Rande Muffick, Jason Brent, John Romasko, Roberta Diaz, Savannah Morgan, Frank Cornwell, Louise Welsh, Polly Boutin, Sam Holman, Thomas Winkler, Kelsey Gauthier, Michael Nguyen, Jason Brent, Ethan Hurley, John Carpenter, Dan Zarling, Emily Kovarik, Eron Krpan, Roberta Diaz

Interested Parties Present: Martha Diaz – Fund Map; Rene Martello – MT State Fund; Mark Higgins, Becky Gratsinger, Jim Voytko – RVK; Shawn Graham, Teacher's Retirement System; Adam Gill – Montana Facility Finance Authority; Mike Heale - CEM

AUGUST 18, 2020

Tab 1 CALL TO ORDER – Karl Englund, Chairman *(08:00:17)*

A. **Notice of Video Recording of Meeting** *(08:00:30)*
   Acting Chairman Prothero advised of audio and video recording of the meeting.
B. **Roll Call** *(08:00:43)*
   Roll was taken: eight Board members and one legislative liaison were present, forming a quorum.
C. **Public Comment** *(08:01:41)*
   Acting Chairman Prothero asked for public comment. There was none.
D. **Approval of Minutes** *(08:29:15)*
   1. June 8-9, 2020, Regular Board Meeting
      Member Cohea moved to approve. Member Noennig seconded the motion which passed unanimously.
   2. June 5, June 19, July 29, 2020, Special Board Meetings Minutes
      Member Fladmo moved to approve. Member Cohea seconded the motion which passed unanimously.
E. **Administrative Business** *(08:33:15)*
   1. **Audit Committee Report** *(08:33:23)*
      Member Peterson briefed the Board.
   2. **Human Resource Committee Report** *(08:36:10)*
      Member Cohea briefed the Board and brought two items forward for decision:
      - Human Resources Committee Charter Revisions
        Member Peterson moved to approve. Member Nelson seconded the motion which passed unanimously.
      - Exempt Employees Salary Adjustments

Member Peterson moved to approve. Member Edwards seconded the motion which passed unanimously.

3. **Loan Committee Report** *(08:37:51)*
   Member Prothero briefed the Board and brought an item forward for decision:
   - MFFA Master Loan Program – Shodair Children's Hospital
     MFFA Executive Director Adam Gill briefed the Board. Member Edwards recused himself from voting as a potential conflict of interest. Member Peterson moved to approve. Member Cohea seconded the motion which passed unanimously.

F. **Comments from TRS and PERS Board Members** *(08:41:15)*
   Member Peterson and Member Greenfield briefed the Board and answered questions.

G. **Comments from Board Legislative Liaisons** *(08:50:25)*
   Representative Hamilton and Senator Thomas briefed the Board.

Tab 2 EXECUTIVE DIRECTOR REPORTS *(08:58:42)*

A. **Member Requests or Follow up from Prior Meeting** *(08:58:50)*
   Executive Director Villa briefed the Board.

B. **Monthly Snapshot** *(08:59:56)*
   Executive Director Villa briefed the Board.

C. **FY20 Expenditure Report and FY22-23 Budget Proposal** *(09:00:25)*
   Executive Director Villa briefed the Board and answered questions.
   Member Peterson moved to approve. Member Cohea seconded the motion which passed unanimously.

D. **Purchase of Teachers' Retirement System Building** *(09:07:58)*
   Executive Director Villa briefed the Board and answered questions.
   Member Fladmo moved to approve. Member Edwards seconded the motion which passed unanimously.

Tab 3 BENCHMARKING ANALYSIS *(09:12:47)*

Mike Heale with CEM briefed the Board and answered questions.

Tab 4 INVESTMENT CONSULTANT *(09:46:20)*

Becky Gratsinger, Mark Higgins, and Jim Voytko briefed the Board and answered questions.

Tab 5 NON-CORE FIXED INCOME ASSET CLASS REVIEW *(10:39:00)*

Jon Putnam and Jason Brent briefed the Board and answered questions.

Tab 6 BOND PROGRAM REPORT *(11:11:35)*

Savannah Morgan and Louise Welsh briefed the Board and answered questions.

Tab 7 MONTANA LOAN PROGRAM REPORT

A. **Commercial and Residential Portfolios Report** *(08:02:06)*
   Doug Hill and Executive Director Villa briefed the Board and answered questions.

B. **CARES Act Update** *(08:10:08)*
   Doug Hill and Executive Director Villa briefed the Board and answered questions.

August 18, 2020, meeting day adjourned at 3:15 p.m.

AUGUST 19, 2020

RECONVENE AND CALL TO ORDER *(08:00:00)*

A. **Notice of Video Recording of Meeting** *(08:00:03)*
   Acting Chairman Prothero advised of audio and video recording of the meeting.

B. **Roll Call** *(08:00:18)*

Roll was taken: eight Board members and one legislative liaison were present, forming a quorum.

C. Public Comment *(08:01:08)*
Acting Chairman Prothero asked for public comment. There was none.

Tab 8 New Private Investment Commitments (08:01:45)
Thomas Winkler, Michael Nguyen, and Jon Putnam briefed the Board and answered questions.

Tab 9 New Separate Account and STIP IPS *(08:27:25)*
John Romasko briefed the Board, answered questions and requested change to the STIP policy language.
Member Peterson moved to approve. Member Cohea seconded the motion which passed. unanimously.

Tab 10 INVESTMENT UPDATE

A. CIO Update *(08:34:43)*
Jon Putnam briefed the Board and answered questions.

B. Risk Management *(09:00:03)*
Dan Zarling briefed the Board and answered questions.

C. Private Investments *(09:20:02)*
Michael Nguyen and Thomas Winkler briefed the Board and answered questions.

D. Real Estate *(09:29:24)*
Ethan Hurley briefed the Board and answered questions.

E. Natural Resources *(09:50:55)*
Ethan Hurley briefed the Board and answered questions.

F. Core Fixed Income *(09:56:08)*
John Romasko briefed the Board and answered questions

G. Non-Core Fixed Income *(09:58:59)*
Rande Muffick briefed the Board and answered questions.

H. Domestic Equity *(10:03:11)*
Rande Muffick briefed the Board and answered questions.

I. International Equity *(10:09:28)*
Rande Muffick briefed the Board and answered questions.

J. STIP *(10:13:49)*
Kirsten Haswell and Executive Director Dan Villa briefed the Board and answered questions.

K. State Fund *(10:18:35)*
Jon Putnam briefed the Board and answered questions.

L. Trust Fund Investment Pool *(10:19:28)*
John Romasko and Jon Putnam briefed the Board and answered questions.

RECAP OF STAFF TO DO LIST AND ADJOURNMENT
Executive Director Dan Villa listed items to recap.
Acting Chairman Jack Prothero adjourned the meeting at 11:09 a.m.

MONTANA BOARD OF INVESTMENTS
SPECIAL BOARD MEETING VIA ZOOM
2401 Colonial Drive, 3rd Floor
Helena, Montana

September 18, 2020

Call to Order
The Board of Investment's meeting was called to order by Chairman Karl Englund at 10:05 a.m., on Friday, September 18, 2020, electronically via Zoom.

Attendance

Board Members Present: Chairman Karl Englund, Mark Noennig, Jack Prothero, Bruce Nelson, Terry Cohea, Maggie Peterson, Jeff Greenfield, Diane Fladmo

Legislative Liaisons Presents: none

Board Staff Present: Dan Villa, Peggy MacEwen, Doug Hill, Herb Kulow, Natalia Kolnik, Sheli Jacoby, Lindsay Ford, Tim House, April Madden, Robert Samson, Jon Putnam, Kirsten Haswell, Steve Strong, Julie Feldman, Rande Muffick, Jason Brent, Sue Tinsley, Teri Kolnik, Sam Holman, John Romasko, Mark Lodman, Roberta Diaz, Savannah Morgan

1. **Notice of Audio Recording and Roll Call** *(0:01)*
   Chairman Englund advised of audio and video recording of the meeting and roll was taken: eight Board members were present.

2. **Public Comment – *Public Comment on issues with Board Jurisdiction*** *(5:36)*
   Chairman Englund asked for public comment. There was none.

3. **Extension of Herb Kulow as Exempt Employee through October 30, 2020** *(5:51)*
   Executive Director Villa briefed the Board.

   Member Peterson moved to approve. Member Fladmo seconded the motion which passed unanimously.

4. **Change in Collateral for In-State Loan** *(8:33)*
   Doug Hill briefed the Board and answered questions.

   Member Noennig moved to approve. Member Prothero seconded the motion which passed unanimously.

5. **Update to Board Members** *(12:20)*
   Executive Director Villa briefed the Board and answered questions on the Cares Act Loan Deferment and Working Capital programs, the status of the Chief Operating Officer vacancy, the October Board meeting, the outstanding field audit, and staff updates.

6. **Adjourn** *(27:43)*
   Chairman Englund adjourned the meeting at 10:32 a.m.

MONTANA BOARD OF INVESTMENTS

Department of Commerce

Street Address:
2401 Colonial Drive, 3rd Floor
Helena, MT 59601

Mailing Address:
PO Box 200126
Helena, MT 59620-0126

Phone: 406/444-0001
Facsimile: 406/449-6579
Website: www.investmentmt.com

TO: Members of the Board of Directors
FROM: Dan Villa, Executive Director
DATE: October 2, 2020
RE: October Executive Directors Report

1. Member Requests or Follow Up from Prior Meeting

2. Monthly Snapshot – attachment

3. Monthly Website Traffic:

Profile Snapshot AGF

4,325	7,972	72.50%	29:33
Visits	Pageviews	Bounce Rate	Engagement

	Pages	Pageviews	Unique Views	Landings	Exits	Time on Page
1	/	2,337	1,973	1,938	1,406	11:04
2	/2020meetings	672	594	486	570	02:01
3	/loanprograms	514	380	122	107	02:36
4	/loanprograms/programs	389	276	63	154	02:27
5	/meetings	369	324	187	187	07:21
6	/home	346	230	99	162	04:32
7	/stip	330	299	174	149	08:36
8	/investments	316	243	83	93	03:31
9	/unifiedinvestments/quarterly	272	234	161	175	05:24
10	/annualreportsaudits	264	212	139	165	07:36

4. CARES Act Report - attachment

MBOI Snapshot

Asset Management View

8/31/2020 Unaudited

Assets Under Management $22,259,398,670

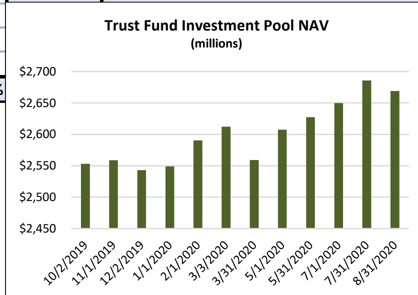
Pensions	NAV		%
DOMESTIC EQUITY	$	4,019,954,857	32.3%
CORE FIXED INCOME	$	2,387,557,872	19.2%
INTERNATIONAL EQUITY	$	2,155,520,309	17.3%
PRIVATE INVESTMENTS	$	1,634,404,384	13.1%
REAL ESTATE	$	1,019,885,756	8.2%
HIGH YIELD	$	545,627,407	4.4%
NATURAL RESOURCES	$	364,337,825	2.9%
CASH EQUIVALENTS	$	238,687,944	1.9%
SHORT TERM INVESTMENT POOL	$	95,548,305	0.8%
Pensions Total	**$**	**12,461,524,661**	**100.0%**

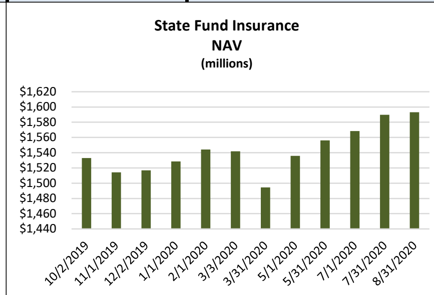
TFIP	NAV		%
Fixed Income	$	2,189,493,350	82.03%
Real Estate	$	233,427,241	8.75%
High Yield	$	198,575,189	7.44%
STIP	$	47,663,768	1.79%
Total	**$**	**2,669,159,548**	**100.00%**

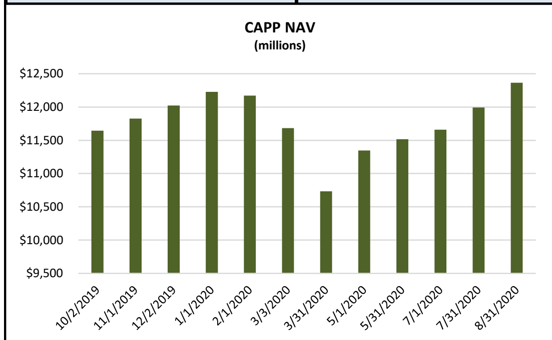
State Fund	NAV		%
Fixed Income	$	1,229,987,610	77.20%
Equity	$	200,855,326	12.61%
Real Estate	$	78,970,710	4.96%
STIP	$	45,986,845	2.89%
High Yield	$	37,371,891	2.35%
State Fund Total	**$**	**1,593,172,383**	**100.00%**

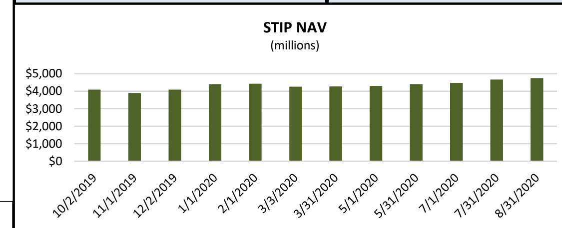
Other Fixed Income & Pending		
	$	792,581,661

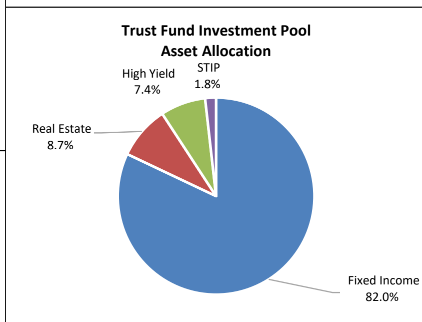
STIP*	NAV	%
ASSET BACKED COMMERCIAL PAPER	$1,539,587,682	32.46%
FEDERAL AGENCIES	$1,302,758,434	27.47%
CORPORATE COMMERCIAL PAPER	$870,342,837	18.35%
TREASURIES	$495,333,445	10.44%
CERTIFICATES OF DEPOSITS	$306,592,895	6.46%
MONEY MARKET FUNDS	$131,093,534	2.76%
CORPORATE NOTES	$97,251,590	2.05%
STIP Total	**$4,742,960,417**	**100.00%**

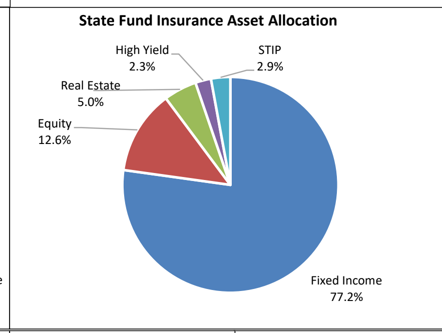


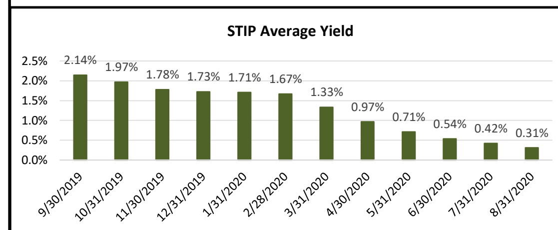


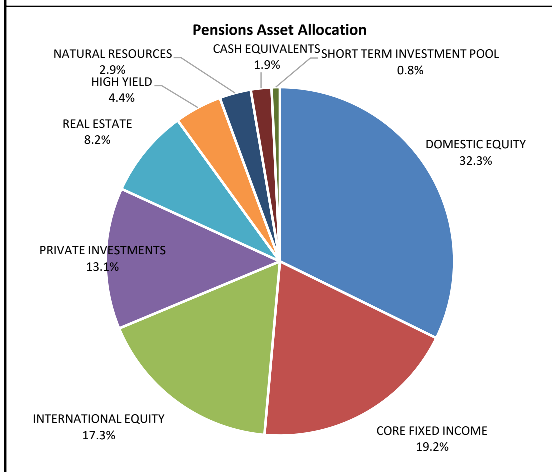


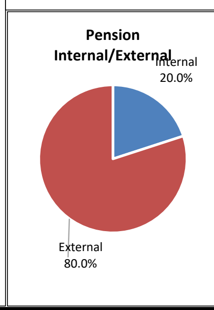


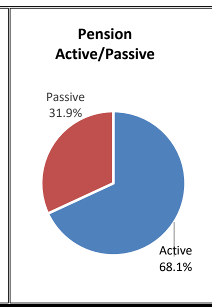


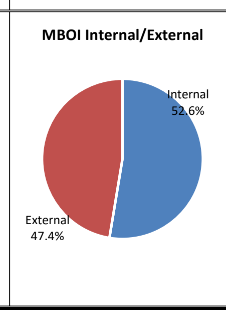


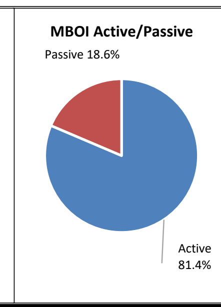


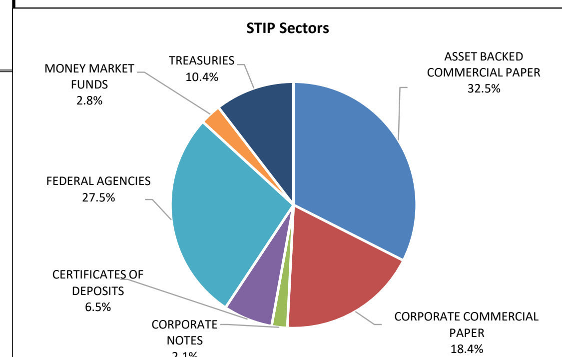












Definition of NAV: Net Asset Value is the total value of the account including assets held, adjusted for payables, receivables and liabilities

(1) Other Holdings column on page two represents the value of securities, receivables, payables and liabilities that comprise the Net Asset Value for the asset owner.

*Difference of $226,679,750 is attributable the portion of STIP held within CAPP ($179,031,646) and and TFIP ($47,648,094) as a cash investment. Such value is represented in the NAV for the CAPP and STIP columns.

MBOI Snapshot
Asset Ownership View
8/31/2020 Unaudited

	CAPP Holdings	CAPP %	STIP Holdings*	STIP %	TFIP Holdings	TFIP %	Other Holdings [1]	Other %	Total Net Asset Value
Total Fund $(000)	**$ 12,365,976**	**55.55%**	**$ 4,516,281**	**20.29%**	**$ 2,669,160**	**11.99%**	**$ 2,707,982**	**12.17%**	**$ 22,259,399**

Pensions	**CAPP**	**%**	**STIP**	**%**	**TFIP**	**%**	**Other**	**%**	**Total**
FIREFIGHTER'S RETIREMENT	$ 482,598	99.03%	$ 4,750	0.97%	$ -	0.00%	$ -	0.00%	$ 487,348
GAME WARDEN'S RETIREMENT	$ 224,603	99.03%	$ 2,204	0.97%	$ -	0.00%	$ -	0.00%	$ 226,808
HIGHWAY PATROL RETIREMENT	$ 159,063	99.06%	$ 1,515	0.94%	$ -	0.00%	$ -	0.00%	$ 160,578
JUDGE'S RETIREMENT	$ 111,370	99.04%	$ 1,083	0.96%	$ -	0.00%	$ -	0.00%	$ 112,453
PUBLIC EMPLOYEES' RETIREMENT	$ 6,126,508	99.03%	$ 59,889	0.97%	$ -	0.00%	$ -	0.00%	$ 6,186,397
SHERRIF'S RETIREMENT	$ 404,097	99.00%	$ 4,089	1.00%	$ -	0.00%	$ -	0.00%	$ 408,186
POLICE RETIREMENT	$ 454,847	99.03%	$ 4,448	0.97%	$ -	0.00%	$ -	0.00%	$ 459,295
TEACHER'S RETIREMENT	$ 4,361,579	98.26%	$ 77,045	1.74%	$ -	0.00%	$ -	0.00%	$ 4,438,624
VOL. FIREMANS' RETIREMENT	$ 41,311	99.01%	$ 414	0.99%	$ -	0.00%	$ -	0.00%	$ 41,725
Total	**$ 12,365,976**	**98.76%**	**$ 155,437**	**1.24%**	**$ -**	**0.00%**	**$ -**	**0.00%**	**$ 12,521,413**

Trust Funds $(000)	**CAPP**	**%**	**STIP**	**%**	**TFIP**	**%**	**Other**	**%**	**Total**
ABANDONED MINE TRUST	$ -	0.00%	$ 6,659	99.97%	$ -	0.00%	$ 2	0.03%	$ 6,661
BARKER HUGHESVILLE ST RESPONSE	$ -	0.00%	$ 632	6.88%	$ 8,535	92.90%	$ 20	0.22%	$ 9,187
BELT WATER TREATMENT PLANT	$ -	0.00%	$ 1,845	6.82%	$ 25,164	92.97%	$ 59	0.22%	$ 27,068
BPA MITIGATION TRUST FUND	$ -	0.00%	$ 6,144	53.40%	$ 5,348	46.48%	$ 14	0.12%	$ 11,506
BUTTE AREA ONE RESTORATION	$ -	0.00%	$ 1,360	18.13%	$ 6,125	81.67%	$ 15	0.19%	$ 7,500
BUTTE SILVER BOW	$ -	0.00%	$ 1,619	10.91%	$ 13,193	88.89%	$ 31	0.21%	$ 14,843
CLARK FORK RIVER RESTORATION	$ -	0.00%	$ 6,836	22.05%	$ 24,111	77.77%	$ 58	0.19%	$ 31,005
CLARK FORK SITE RAA	$ -	0.00%	$ 6,565	8.61%	$ 69,558	91.18%	$ 163	0.21%	$ 76,286
COAL TAX CULTURAL TRUST FUND	$ -	0.00%	$ 559	3.35%	$ 16,108	96.43%	$ 38	0.22%	$ 16,705
COAL TAX PARK ACQUISITION	$ -	0.00%	$ 1,957	6.28%	$ 29,154	93.50%	$ 68	0.22%	$ 31,180
EAST HELENA COMPENSATION	$ -	0.00%	$ 4,989	81.67%	$ 1,116	18.27%	$ 4	0.06%	$ 6,109
ENDOWMENT FOR CHILDREN	$ -	0.00%	$ 8	0.53%	$ 1,420	99.24%	$ 3	0.23%	$ 1,431
FLYING J CECRA FACILITIES FUND	$ -	0.00%	$ 134	5.03%	$ 2,525	94.75%	$ 6	0.22%	$ 2,665
FWP REAL PROPERTY TRUST	$ -	0.00%	$ 501	6.59%	$ 7,085	93.19%	$ 17	0.22%	$ 7,602
HAROLD HAMM ENDOWMENT	$ -	0.00%	$ 4	7.48%	$ 47	92.30%	$ 0	0.22%	$ 51
LIBBY ASBESTOS SITE STATE COST	$ -	0.00%	$ -	0.00%	$ 4,547	99.77%	$ 11	0.23%	$ 4,558
LUTTRELL PIT - OPER & MAINT	$ -	0.00%	$ 196	8.28%	$ 2,161	91.51%	$ 5	0.21%	$ 2,362
MONTANA HISTORICAL SOCIETY	$ -	0.00%	$ 578	13.96%	$ 3,551	85.84%	$ 8	0.20%	$ 4,137
MONTANA POLE	$ -	0.00%	$ 7,835	26.53%	$ 21,643	73.29%	$ 52	0.18%	$ 29,530
OLDER MONTANANS TRUST	$ -	0.00%	$ -	0.00%	$ 884	99.77%	$ 2	0.23%	$ 887
POTTER TRUST FUND	$ -	0.00%	$ 13	5.28%	$ 237	94.50%	$ 1	0.22%	$ 251
RESOURCE INDEMNITY TRUST	$ -	0.00%	$ 23	0.02%	$ 119,320	99.75%	$ 277	0.23%	$ 119,620
SMELTER HILL UP RESTORATIVE	$ -	0.00%	$ 1,715	17.31%	$ 8,176	82.50%	$ 19	0.20%	$ 9,911
STREAMSIDE TAILINGS OPERABLE UNIT	$ -	0.00%	$ 2,085	10.61%	$ 17,533	89.18%	$ 41	0.21%	$ 19,659
TOBACCO TRUST FUND	$ -	0.00%	$ 2,619	0.96%	$ 268,281	98.81%	$ 624	0.23%	$ 271,525
TRUST AND LEGACY ACCOUNT	$ -	0.00%	$ 8,119	0.98%	$ 821,821	98.79%	$ 1,910	0.23%	$ 831,850
UCFRB ASSESS/LITIG COST REC.	$ -	0.00%	$ 1,938	8.75%	$ 20,161	91.03%	$ 47	0.21%	$ 22,146
UCFRB RESTORATION FUND	$ -	0.00%	$ 4,540	5.28%	$ 81,318	94.50%	$ 190	0.22%	$ 86,048
UPPER BLACKFOOT RESPONSE	$ -	0.00%	$ 1,571	88.91%	$ 195	11.04%	$ 1	0.05%	$ 1,767
WEED CONTROL TRUST	$ -	0.00%	$ 0	0.00%	$ 11,624	99.77%	$ 27	0.23%	$ 11,651
WILDLIFE HABITAT TRUST	$ -	0.00%	$ 1,348	8.22%	$ 15,008	91.56%	$ 35	0.21%	$ 16,391
Z/L LT H2O TRUST FD	$ -	0.00%	$ 20,297	99.97%	$ -	0.00%	$ 5	0.03%	$ 20,302
ZORTMAN/LANDUSKY LT H2O	$ -	0.00%	$ 15,606	99.97%	$ -	0.00%	$ 4	0.03%	$ 15,611
Total	**$ -**	**0.00%**	**$ 108,296**	**6.30%**	**$ 1,605,951**	**93.48%**	**$ 3,757**	**0.22%**	**$ 1,718,005**

Coal Severence $(000)	**CAPP**	**%**	**STIP**	**%**	**TFIP**	**%**	**Other**	**%**	**Total**
BIG SKY ECON DEV FD	$ -	0.00%	$ 3,436	2.65%	$ 125,750	97.12%	$ 293	0.23%	$ 129,479
PERMANENT COAL TRUST FUND	$ -	0.00%	$ 17,321	2.91%	$ 372,051	62.42%	$ 206,702	34.68%	$ 596,074
SCHOOL FACILITIES FUND	$ -	0.00%	$ 4,530	6.93%	$ 60,660	92.85%	$ 142	0.22%	$ 65,331
TREASURE ST. REG. WATER SYSTEM	$ -	0.00%	$ 1,192	1.13%	$ 104,428	98.65%	$ 243	0.23%	$ 105,862
TREASURE STATE ENDOWMENT	$ -	0.00%	$ 3,237	1.06%	$ 301,465	98.68%	$ 809	0.26%	$ 305,511
Total	**$ -**	**0.00%**	**$ 29,716**	**2.47%**	**$ 964,354**	**80.21%**	**$ 208,188**	**17.32%**	**$ 1,202,258**

Operating Funds $(000)	**CAPP**	**%**	**STIP**	**%**	**TFIP**	**%**	**Other**	**%**	**Total**
FWP LICENSE ACCOUNT	$ -	0.00%	$ 62,956	86.87%	$ 7,469	10.31%	$ 2,045	2.82%	$ 72,470
LOCAL AGENCIES	$ -	0.00%	$ 1,747,768	99.97%	$ -	0.00%	$ 459	0.03%	$ 1,748,226
MONTANA STATE UNIVERSITY	$ -	0.00%	$ 217,412	92.25%	$ 18,174	7.71%	$ 91	0.04%	$ 235,677
MT TECH-UM AGENCY FUNDS	$ -	0.00%	$ 10,742	95.46%	$ 507	4.51%	$ 4	0.04%	$ 11,253
STATE AGENCIES	$ -	0.00%	$ 663,549	99.98%	$ -	0.00%	$ 151	0.02%	$ 663,700
TREASURER'S FUND	$ -	0.00%	$ 1,232,849	56.99%	$ -	0.00%	$ 930,509	43.01%	$ 2,163,358
UNIV OF MONTANA	$ -	0.00%	$ 48,345	56.05%	$ 32,749	37.97%	$ 5,160	5.98%	$ 86,254
Total	**$ -**	**0.00%**	**$ 3,983,622**	**79.98%**	**$ 58,898**	**1.18%**	**$ 938,419**	**18.84%**	**$ 4,980,939**

Insurance Reserves $(000)	**CAPP**	**%**	**STIP**	**%**	**TFIP**	**%**	**Other**	**%**	**Total**
MUS WORKERS COMPENSATION	$ -	0.00%	$ 10,935	71.01%	$ 4,452	28.91%	$ 13	0.09%	$ 15,401
PERS DEFINED CONT DISABILITY	$ -	0.00%	$ 542	8.62%	$ -	0.00%	$ 5,742	91.38%	$ 6,283
STATE FUND INSURANCE	$ -	0.00%	$ 45,975	2.89%	$ -	0.00%	$ 1,547,197	97.11%	$ 1,593,172
SUBSEQUENT INJURY FUND	$ -	0.00%	$ 595	99.97%	$ -	0.00%	$ 0	0.03%	$ 595
GROUP BENEFITS	$ -	0.00%	$ 98,441	80.48%	$ 21,288	17.40%	$ 2,588	2.12%	$ 122,317
MUS GROUP INSURANCE	$ -	0.00%	$ 82,722	83.54%	$ 14,216	14.36%	$ 2,078	2.10%	$ 99,016
Total	**$ -**	**0.00%**	**$ 239,210**	**13.02%**	**$ 39,956**	**2.18%**	**$ 1,557,618**	**84.80%**	**$ 1,836,783**

Short Term Investment Pool

Account	# Accounts	Total Market Value	%
Total State	335	2,995,192,575.06	63.2%
Total Local	172	1,747,767,842.34	36.8%
Total STIP	**507**	**$ 4,742,960,417**	**100.0%**
STIP Reserve		$ 52,583,916	
Average August 2020 STIP Yield		0.3092%	

Intercap Statistics

Loans Outstanding	$ 63,665,995
Bonds Outstanding	$ 90,670,000
Number of Borrowers	164
Loan Rate	2.50%

Montana Loan Deferment Programs			
October 2, 2020			
	Deferred Payment Program	Hospitality and Capital Assistance Program	Totals
Total Number of Applications Received	1,434	75	1,509
Total Number of Approved Applications	1,217	75	1,292
Applications Under Review	116	-	116
Sum of Funds Requested	$ 34,076,335.49	$ 16,666,340.85	$ 50,742,676.34
Total Funds Awarded to Applicants	$ 27,677,967.50	$ 16,666,340.85	$ 44,344,308.35
Total Financial Benefit to the Borrower	$ 99,973,656.32	$ 37,085,116.46	$ 137,058,772.78

Montana Working Capital Program	
Number of applications received	14
Approved Applications	7
Requested Funds	$ 1,735,410.17
Total Funds Awarded to Applicants	$ 819,249.00
Total Financial Benefit to the Borrower	$ 4,420,657.54

Pension Proxy Voting Review

Dan Zarling, CFA, CIPM
Director of Risk Management

October 13, 2020

MONTANA
BOARD OF INVESTMENTS

Why Vote?

- Fiduciary duty to participants
- Communicates Board's values and priorities
- Exercise influence over corporate policy and management issues

Who Votes?

- Common shareholders of record, one share equals one vote
- External equity managers with separately managed accounts on behalf of MBOI

What are the typical proposals?

- Election of Board of Directors
- Ratification of outside auditor
- Advisory vote on Executive Compensation
- Special items: mergers, share recap
- Shareholder Proposals: social and environmental disclosure

Implementation Process

- Authority to vote proxies on behalf of Montana's pension participants is delegated to equity investment managers
- Proxy Statements are filed with the SEC and received by our custodian and Investment Managers for review and voting decision
- Managers use Broadridge Financial Solutions or Institutional Shareholder Services (ISS) to perform actual voting mechanics and reporting
- Investment managers develop proxy voting guidelines with specific guidance on a broad variety of voting topics and in-house expertise for case-by-case decisions
- ISS Advisory Services can be utilized to vote proxies consistently by way of policy guidelines and recommendations
- Under consideration is a requirement for equity managers to directly adhere to ISS's US Pension Fund Policy guidelines to ensure consistent voting

Proxy Voting Results for calendar year 2019

	Total Votable Proposals	Total Shares Voted	Number of Company Ballots
MBOI Proxy Vote Summary	165,092,768	161,494,505	2,490

Passive Managers Proxy Voting Profile

Proposal Totals	Management	Shareholder
WITH Management	93%	81%
AGAINST Management	4%	17%
WITHHOLD Votes	3%	2%

RVK

October 13, 2020

Asset Allocation, Real Assets, and Infrastructure Education

Montana Board of Investments

Table of Contents

RVK

Asset Allocation – Review of Investment Objectives, Constraints, and Asset Class Roles

What is "Strategic Asset Allocation" and Why is it Important?

Strategic Asset Allocation

Definition

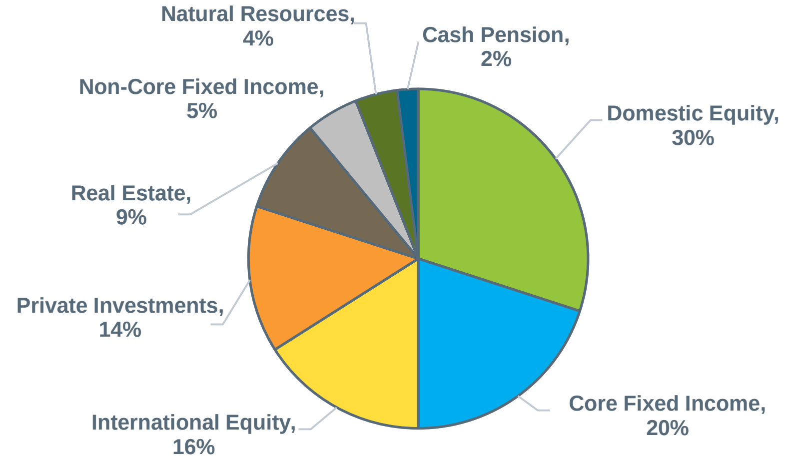
Asset allocation refers to a portfolio construction framework whereby investors diversify a portfolio of investments across various asset groups that share distinct and relatively homogenous return and risk drivers. When executed successfully, asset allocation reduces portfolio risk and enhances long term expected returns.

Benefits

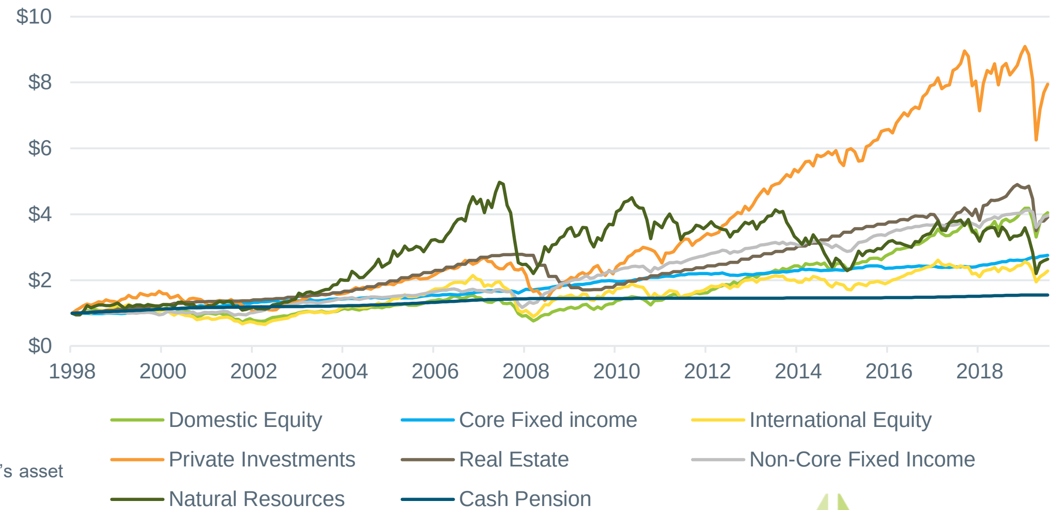
- **Enhancement of Risk-Adjusted Return** – Asset classes that have unique or differing return drivers (e.g., equity, fixed income, real estate, etc.) have historically exhibited low return correlations. As a result, portfolios that are diversified across these asset classes tend to exhibit lower portfolio volatility and improved risk-adjusted returns.

- **Leveraging Comparative Advantages** – Investors who maintain a comparative advantage in specific market segments can amplify returns by increasing allocations to these segments.

Montana Board of Investments Strategic Asset Allocation[1]



Index Performance (Growth of $1)[2]



[1] Strategic Asset Allocation is reviewed every 1-3 years to affirm positioning.
[2] Index performance shown for each asset class is represented by the primary benchmark for each of MBOI's asset classes.

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MBOI Retirement Plan Investment Objectives & Constraints

Financial Objectives	Provide sufficient funds to cover expected benefit payments over the life of the plan.
Return Objective	The primary long-term risk to the retirement plans is the failure to generate the actuarially assumed return that is necessary to fund the payment of future benefits. In order to mitigate this risk, the MBOI seeks to maximize long term return, while managing risks. Specific return objectives that derive from this overarching goal include: ✓ Exceed the actuarial annual target rate of return, as determined by governing boards of the public retirement systems, net of all investment and administrative expenses and at a risk level appropriate for the MBOI plans which also may be broadly consistent with other similar public fund peers. ✓ Exceed the investment policy benchmark for the retirement plans, which represents the return the plan would have achieved if the plan implemented a passively managed portfolio. ✓ Rank in the top half of comparable public pension plans.
Risk Tolerance	The fund has a moderate to high tolerance for risk. The primary driver of risk tolerance is the liquidity requirement to fund monthly distributions to beneficiaries and capital calls for illiquid investments.
Investment Constraints	In addition to cash flow and liquidity considerations to meet benefit payments, capital calls, and other requirements, investment staff and system resources are a consideration in supporting the investment program.

Purpose for MBOI's Current Investments

Asset Class	Objectives	Primary Role in MBOI Portfolio
Domestic Equity	• Capital Appreciation • Inflation Protection	Capitalize on equity risk premium (relative to the risk-free rate of treasury bonds) in domestic markets in order to generate higher portfolio returns.
International Equity	• Capital Appreciation • Inflation Protection	Capitalize on equity risk premium (relative to the risk-free rate of treasury bonds) in international markets in order to generate higher portfolio returns.
Private Investments	• Capital Appreciation	Capitalize on illiquidity risk premium (relative to public equity) to generate returns in excess of public equity markets.
Real Assets	• Inflation Protection	Protection against unexpected inflation, as well as potential return enhancement and equity risk diversification.
Real Estate	• Inflation Protection • Capital Appreciation	Diversification, income generation, return enhancement, and inflation correlation.
Core Fixed Income	• Capital Preservation	Preservation of capital and provision of liquidity via investment in high quality debt securities that provide stable income.
Non-Core Fixed Income	• Capital Preservation • Capital Appreciation	Enhanced return potential relative to Core Fixed Income by investing in securities with greater income and return potential.

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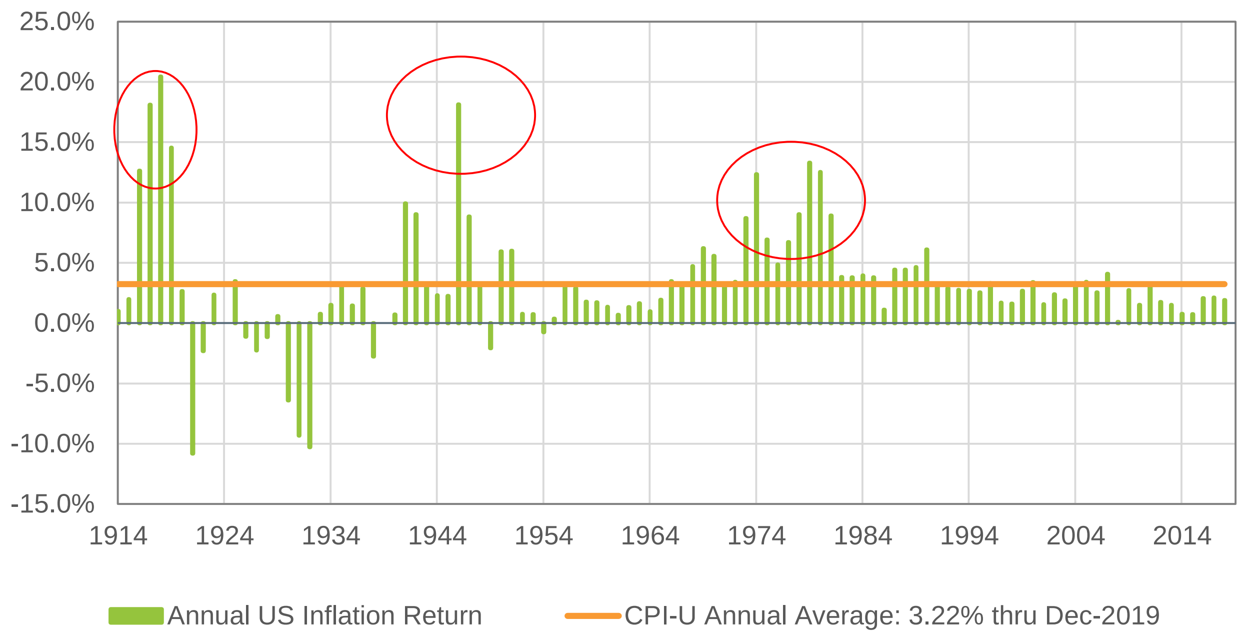
Real Assets Education

What is Real Return?

A real rate of return represents the appreciation of an investment after deducting the effects of inflation.

- The long-term historical average inflation rate is 3.22%, as shown below. However, RVK's current long-term forecast for inflation is **<u>2.00%</u>**.
- While recent inflation has been low (near or below the long run average), the US has experienced periodic bouts of high inflation in the past.

Annual US Inflation Return



Advantages and Disadvantages

Objective: The re-categorization of natural resources to real assets serves two primary objectives. The first is to provide a more accurate description of currently held investments, such as TIPS, timber, and energy investments. The second is to provide a pool to house future investments in infrastructure.

Potential Advantages

- ✓ Incremental portfolio diversification
- ✓ Incremental inflation protection
- ✓ Potential return enhancement (varies by investment type)

Potential Disadvantages

- ✕ Depending on assets selected, potentially greater illiquidity
- ✕ Potential benchmarking challenges due to heterogeneity of the asset class and selection of underlying asset class exposures

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Real Return Attributes

Highlights

1. **The Real Return Asset Class is Heterogeneous** – Real return investors have a wide variety of asset types from which to choose, each of which has a unique set of return, risk, and attributes. Examples of various types of real return assets are listed in the figure below.

2. **Return and Risk Measurement Depends on Unique Investor Exposures** – Given that every investor's return and risk appetite is unique, they must carefully evaluate the impact of specific investments in their portfolios rather than apply broad return and risk assumptions that are unlikely to reflect the dynamics of their unique real return allocation.

3. **Importance of Manager Skill** – The return and risk attributes of many real return investments (especially in private markets), depend heavily on an investor's skill in selecting talented managers with a durable comparative advantage. As such, it is important to ensure that staff have sufficient resources and confidence in areas that require significant manager selection skill, while also ensuring that the application of such skill in this area compares favorably relative to other investment opportunities.

Public Investments	Private Investments
❑ **Commodities**	✓ **Private Natural Resources** • Oil and Gas • Mining and Minerals • Timber • Agriculture • Renewables
❑ **Listed Infrastructure**	✓ **Private Infrastructure** • Transportation • Energy, Power • Water • Communications • Social Infrastructure
✓ **Natural Resource Equities**	✓ **Real Estate**[1]
✓ **Real Estate Investment Trusts (REITs)**	
✓ **Treasury Inflation Protected Securities (TIPS)**	

✓ **= Currently Present within MBOI Portfolio**

[1] Some investors include real estate under the umbrella of Real Return, while others consider it to be a separate asset class.

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Infrastructure Investments Education

What Is Infrastructure?

Infrastructure is typically defined as the services needed for the efficient and continued function of society.

Characteristics

- ☑ Long useful life
- ☑ High barriers to entry
- ☑ Monopolistic or quasi-monopolistic market position
- ☑ Operates in a regulated environment
- ☑ Capital intensive assets
- ☑ Exhibits resistance to business cycles
- ☑ Stable, predictable cash flows that are often linked to inflation
- ☑ Difficult or impossible to replicate asset due to regulatory environment

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Benefits and Risks

Benefits

- ***Moderate correlation with public equities***
- ***Moderate volatility*** of expected returns, given contractual revenue streams
- ***Stable cash yield*** from assets with inelastic demand attributes
- ***Large capital need*** for under-capitalized and aging assets
- ***Inflation protection*** provided through two aspects
  - In periods of inflation, asset replacement costs increase, protecting existing investments
  - Revenue streams are set to a regulated rate which increases with inflation

Risks

- ***Long-term illiquid vehicles*** with long lock ups
  - Even open-end structures have significant lockups
- ***Return potential lower than some other alternative strategies***
- ***Uses leverage*** to increase return profile adds risk
- ***Regulatory and political risks***
- ***Recent fundraising trends, high current prices, and potential overcapitalization*** may add risk

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Examples of Infrastructure Investments

Utilities
- Renewables
- Electric Generation
- Water Services

- NextERA Energy
- Pennon Group

Communications
- Telecommunications
- Broadcast Towers
- Satellites
- Cable Systems

- American Tower
- Cellnex

Energy
- Transportation
- Storage
- Gathering & Processing

- Kinder Morgan
- Enbridge

Transportation
- Toll Roads
- Rail Lines
- Airports
- Marine ports

- Norfolk Southern
- Transurban

Key Characteristics

✓ **Long-lived assets**

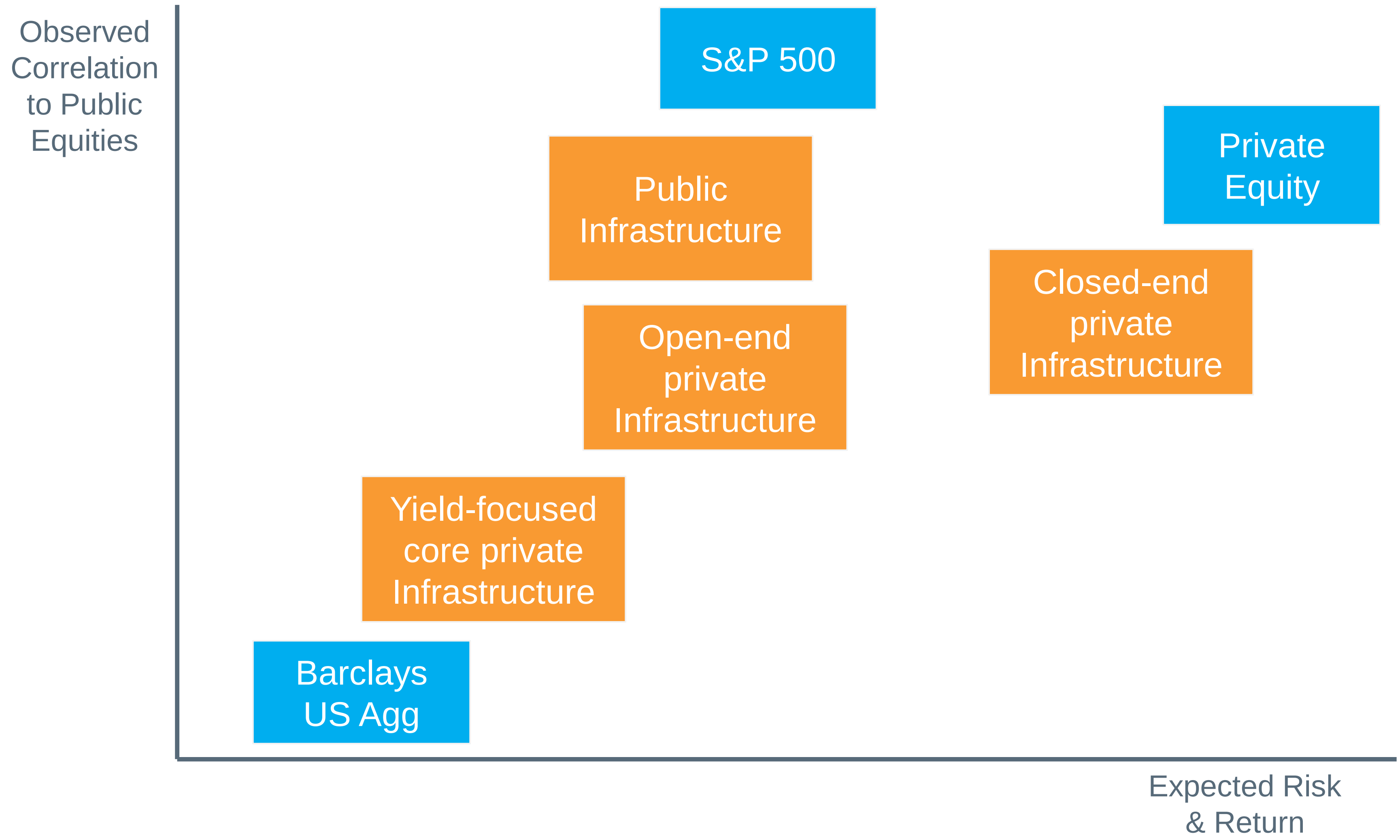
✓ **Often regulated**

✓ **High barriers to entry**

✓ **Inflation-linked pricing**

Source: RVK, Inc. (2020); Cohen & Steers (2020).

Infrastructure Risk & Correlation Spectrum



Infrastructure offers a variety of risk, return, & correlation profiles depending on the strategy and structure.

Asset Allocation Study

Mean Variance Optimization

- ❑ Mean Variance Optimization (MVO) is a modeling tool based on linear programming. The model was created by Nobel Laureate, Harry Markowitz in 1952. MVO is used by investment professionals to identify portfolio allocations that maximize return for a given level of risk (expressed only as portfolio volatility).
- ❑ Inputs into the model are forecasts of asset class return, risk (volatility), and correlation to suggest *optimal* allocations or "*efficient portfolios*."
- ❑ **While MVO is a powerful tool, subjective judgment is equally important when determining a prudent asset allocation. Below is a high level summary of the benefits and shortcomings of the MVO model:**

Pros

Valuable framework to illustrate the risk and return tradeoff

Cons

Large margin of error and assumption that volatility is the primary definition of risk

Benefits:

- ✓ Research Shows that Asset Allocation is the #1 Driver of Portfolio Risk and Return
- ✓ Provides a Powerful Framework to Visualize the Trade-Off Between Return and Volatility

Shortcomings:

- ✗ Fails to Fully Capture Non-Normal Return Patterns
- ✗ Fails to Capture Non-Risk Related Decision Factors
- ✗ Assumes Static Asset Class Correlations
- ✗ Highly Sensitive to Slight Changes to Input Values, which Themselves Have a High Margin of Error
- ✗ Fails to Capture the Potential Value Added from Active Management

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Asset Allocation Study – Results

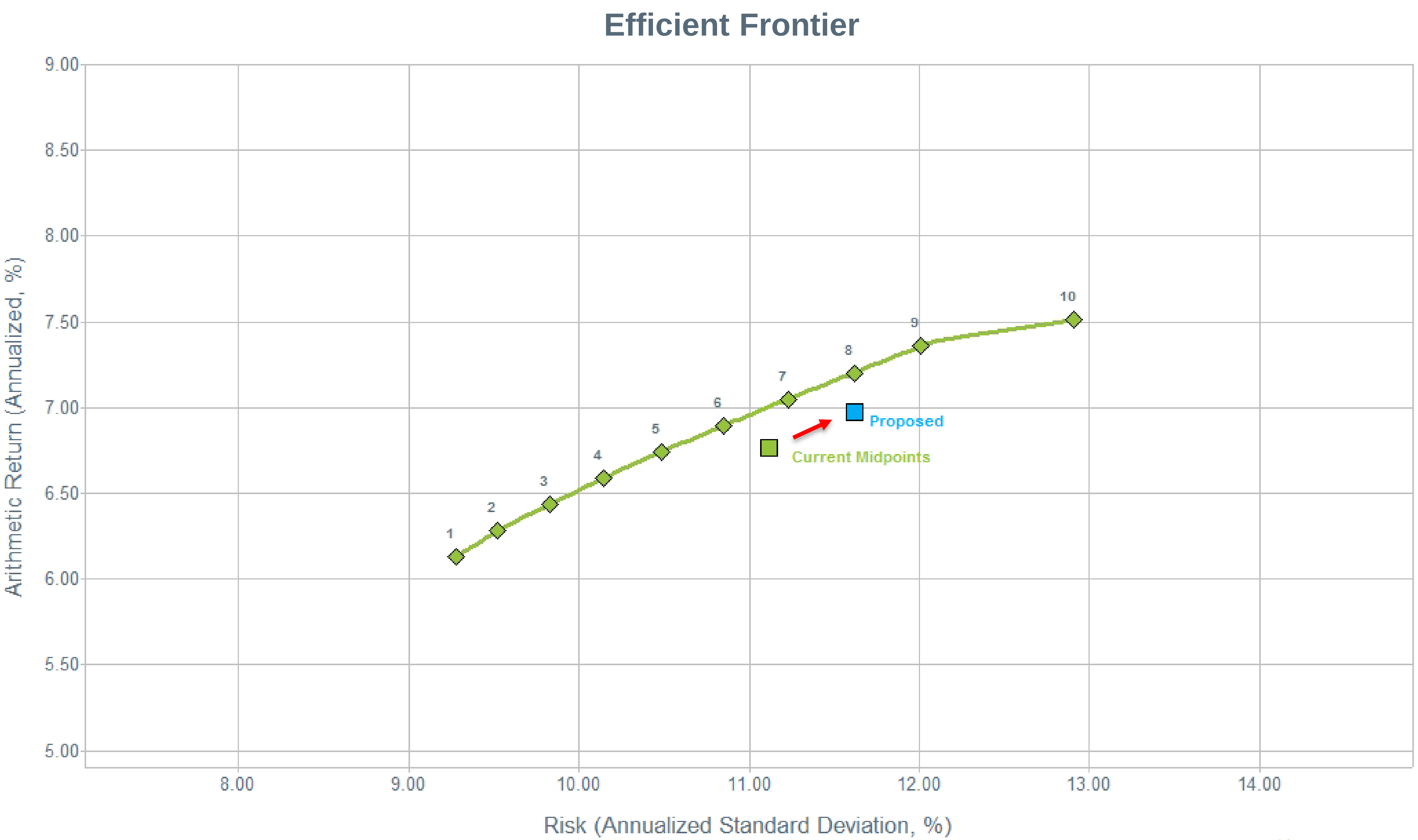
- Observations about the proposed structure vs. the current:
  - US Equity represents approximately 64% of the overall equity structure, maintaining a domestic equity bias, even relative to the global equity benchmark (which is ~58% US Equity).
  - Most significant thematic impact is a 5% decrease in capital preservation, with corresponding increases to capital appreciation and inflation, representing an increase in risk that is somewhat offset by an increase in strategic cash.
  - Liquidity is expected to decrease given uptick in private investments. The liquidity metric below indicates a 1% move downward, but this may be understated if new real asset investments pursued are also illiquid.

Efficient Portfolios

	Min	Max	1	2	3	4	5	6	7	8	9	10	Current Midpoints	Proposed
Domestic Equity	**24**	**36**	24	24	24	24	24	24	24	24	24	32	30	30
International Equity	**11**	**21**	11	14	16	18	20	21	21	21	21	21	16	17
Private Investments	**11**	**19**	11	11	11	11	11	12	15	17	19	19	14	15
Natural Resources/Real Assets	**1**	**7**	5	2	1	1	1	1	1	1	1	1	4	5
Core Real Estate	**5**	**13**	13	13	13	13	13	13	13	13	13	5	9	9
Core Fixed Income	**15**	**25**	25	25	25	25	24	22	20	17	15	15	20	15
Non-Core Fixed Income	**3**	**7**	7	7	7	7	7	7	7	7	7	7	5	6
Cash Equivalents	**0**	**4**	4	4	3	1	0	0	0	0	0	0	2	3
Total			100	100	100	100	100	100	100	100	100	100	100	100
Capital Appreciation			53	56	58	60	62	64	67	69	71	79	65	68
Capital Preservation			29	29	28	26	24	22	20	17	15	15	22	18
Alpha			0	0	0	0	0	0	0	0	0	0	0	0
Inflation			18	15	14	14	14	14	14	14	14	6	13	14
Expected Arithmetic Return			**6.13**	**6.28**	**6.43**	**6.59**	**6.74**	**6.90**	**7.05**	**7.20**	**7.36**	**7.51**	**6.76**	**6.98**
Expected Risk (Standard Deviation)			**9.28**	**9.53**	**9.83**	**10.15**	**10.49**	**10.85**	**11.23**	**11.62**	**12.01**	**12.91**	**11.11**	**11.62**
Expected Compound Return			**5.73**	**5.86**	**5.98**	**6.11**	**6.23**	**6.35**	**6.47**	**6.58**	**6.69**	**6.74**	**6.19**	**6.35**
Expected Return (Arithmetic)/Risk Ratio			0.66	0.66	0.65	0.65	0.64	0.64	0.63	0.62	0.61	0.58	0.61	0.60
RVK Expected Eq Beta (LCUS Eq = 1)			0.54	0.55	0.57	0.59	0.61	0.63	0.65	0.67	0.69	0.76	0.65	0.68
RVK Liquidity Metric (T-Bills = 100)			70	70	70	69	69	68	67	65	63	69	71	70

Asset Allocation Study – Results

- The proposed portfolio plots close to the efficient frontier and as such, represents an efficiently diversified portfolio, albeit further up the risk spectrum relative to the current midpoints.



Asset Allocation Study – Results

Monte Carlo Analysis

1 Year	1	2	3	4	5	6	7	8	9	10	Current Midpoints	Proposed
1st Percentile	-18.86	-20.49	-21.63	-22.58	-23.53	-24.36	-24.94	-25.53	-26.43	-30.09	-26.37	-27.37
5th Percentile	-8.01	-8.73	-9.18	-9.56	-10.01	-10.38	-10.72	-11.05	-11.39	-13.46	-10.93	-11.26
25th Percentile	0.59	0.43	0.36	0.28	0.19	0.16	0.10	0.03	-0.02	-0.80	0.36	0.34
50th Percentile	**6.14**	**6.32**	**6.48**	**6.65**	**6.82**	**6.94**	**7.07**	**7.19**	**7.35**	**7.52**	**7.05**	**7.25**
75th Percentile	11.85	12.29	12.68	13.04	13.43	13.78	14.16	14.56	14.94	15.87	14.30	14.75
95th Percentile	20.42	21.52	22.31	23.03	23.74	24.43	25.14	25.82	26.48	29.05	25.02	25.85
99th Percentile	26.37	27.88	28.90	29.88	30.83	31.73	32.63	33.46	34.30	37.76	33.31	34.39
3 Years												
1st Percentile	-9.24	-10.38	-11.24	-11.75	-12.33	-12.98	-13.45	-13.93	-14.24	-17.30	-13.02	-13.76
5th Percentile	-3.11	-3.56	-3.81	-4.01	-4.28	-4.46	-4.70	-4.91	-5.17	-6.60	-4.69	-4.91
25th Percentile	2.52	2.46	2.44	2.44	2.45	2.46	2.44	2.44	2.44	1.96	2.25	2.30
50th Percentile	**6.02**	**6.15**	**6.27**	**6.41**	**6.55**	**6.67**	**6.79**	**6.94**	**7.07**	**7.16**	**6.63**	**6.84**
75th Percentile	9.32	9.65	9.93	10.21	10.49	10.74	11.02	11.26	11.54	12.06	10.78	11.14
95th Percentile	14.08	14.70	15.14	15.59	16.06	16.46	16.87	17.31	17.79	19.19	17.05	17.59
99th Percentile	17.43	18.28	18.88	19.51	20.10	20.67	21.22	21.80	22.41	24.38	21.75	22.41
5 Years												
1st Percentile	-5.91	-6.73	-7.22	-7.60	-8.00	-8.48	-8.82	-9.33	-9.75	-12.24	-8.78	-9.32
5th Percentile	-1.48	-1.87	-2.08	-2.22	-2.42	-2.61	-2.72	-2.86	-3.01	-4.28	-2.57	-2.74
25th Percentile	3.16	3.09	3.09	3.12	3.15	3.15	3.14	3.19	3.23	2.85	3.12	3.22
50th Percentile	**5.92**	**6.05**	**6.19**	**6.32**	**6.45**	**6.59**	**6.71**	**6.85**	**6.97**	**6.97**	**6.52**	**6.70**
75th Percentile	8.58	8.86	9.11	9.36	9.58	9.82	10.05	10.28	10.50	10.95	9.76	10.09
95th Percentile	12.32	12.89	13.31	13.68	14.07	14.47	14.87	15.22	15.57	16.63	14.53	14.95
99th Percentile	15.31	15.99	16.58	16.98	17.45	17.99	18.43	18.93	19.43	20.91	17.84	18.49
10 Years												
1st Percentile	-2.17	-2.58	-2.90	-3.16	-3.46	-3.74	-3.98	-4.27	-4.61	-6.43	-4.23	-4.76
5th Percentile	0.57	0.31	0.18	0.09	-0.01	-0.10	-0.18	-0.28	-0.40	-1.39	-0.27	-0.34
25th Percentile	3.84	3.81	3.85	3.89	3.92	3.98	4.02	4.05	4.11	3.78	3.82	3.92
50th Percentile	**5.81**	**5.94**	**6.05**	**6.17**	**6.30**	**6.42**	**6.54**	**6.66**	**6.78**	**6.79**	**6.33**	**6.51**
75th Percentile	7.73	7.97	8.17	8.37	8.58	8.79	8.98	9.18	9.36	9.71	8.77	9.03
95th Percentile	10.43	10.84	11.16	11.46	11.78	12.09	12.39	12.68	12.98	13.69	12.04	12.45
99th Percentile	12.35	12.87	13.27	13.63	14.02	14.41	14.75	15.12	15.49	16.55	14.63	15.07

Appendix

Asset Allocation Assumptions

Asset Class	Arithmetic Return Assumption	Standard Deviation Assumption
Domestic Equity	7.30	16.00
International Equity	9.70	18.30
Private Investments	10.00	22.00
Natural Resources/Real Assets	5.00	11.50
Core Real Estate	5.75	12.50
Core Fixed Income	2.50	5.00
Non-Core Fixed Income	7.50	10.00
Cash Equivalents	1.50	2.00

	Domestic Equity	International Equity	Private Investments	Natural Resources/Real Assets	Core Real Estate	Core Fixed Income	Non-Core Fixed Income	Cash Equivalents
Domestic Equity	1.00	0.84	0.75	0.65	0.22	0.13	0.65	0.01
International Equity	0.84	1.00	0.74	0.77	0.30	0.00	0.70	-0.07
Private Investments	0.75	0.74	1.00	0.59	0.34	-0.32	0.56	-0.02
Natural Resources/Real Assets	0.65	0.77	0.59	1.00	0.36	0.24	0.66	-0.02
Core Real Estate	0.22	0.30	0.34	0.36	1.00	-0.08	0.09	0.02
Core Fixed Income	0.13	0.00	-0.32	0.24	-0.08	1.00	0.23	0.30
Non-Core Fixed Income	0.65	0.70	0.56	0.66	0.09	0.23	1.00	-0.06
Cash Equivalents	0.01	-0.07	-0.02	-0.02	0.02	0.30	-0.06	1.00

RVK

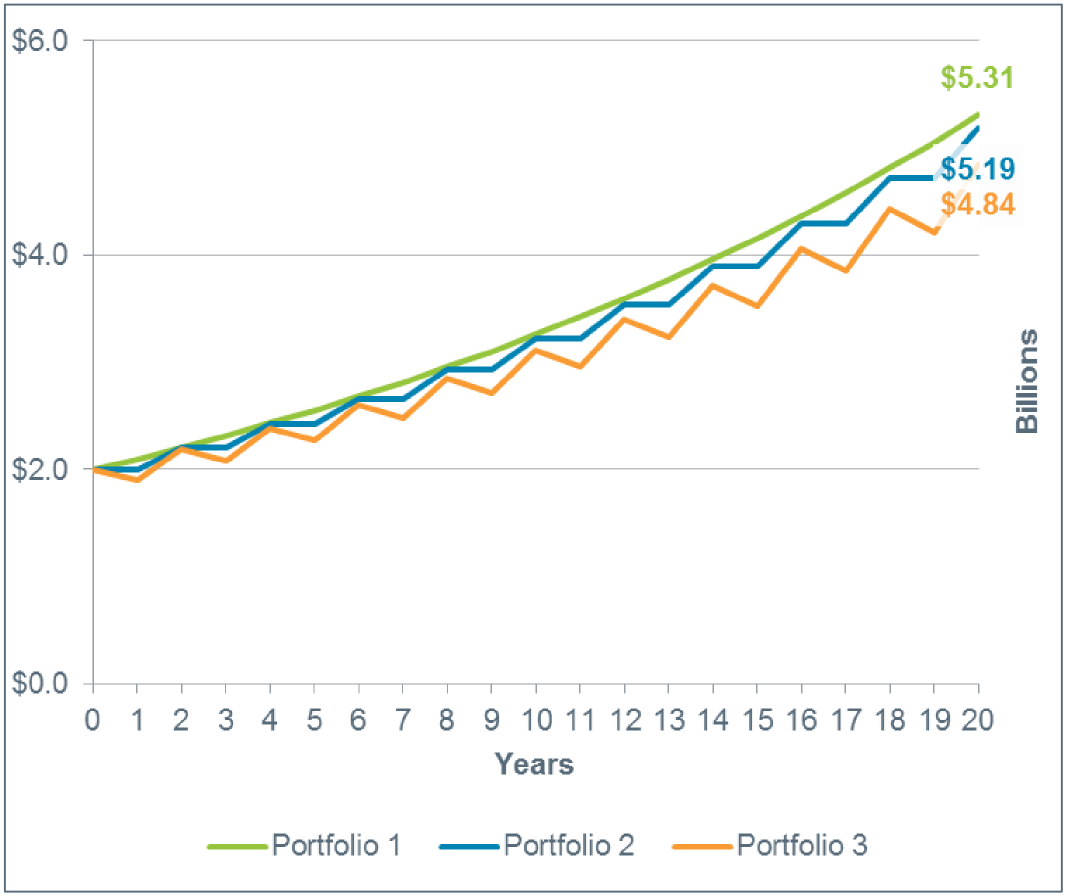
Volatility Erodes Portfolio Wealth

All things equal, portfolios with greater volatility will underperform less volatile portfolio mixes over time.

All portfolios start with $2 billion and have the same average return over 20 years.

Years	Portfolio 1	Portfolio 2	Portfolio 3
1	5.0%	0.0%	-5.0%
2	5.0%	10.0%	15.0%
3	5.0%	0.0%	-5.0%
4	5.0%	10.0%	15.0%
5	5.0%	0.0%	-5.0%
6	5.0%	10.0%	15.0%
7	5.0%	0.0%	-5.0%
8	5.0%	10.0%	15.0%
9	5.0%	0.0%	-5.0%
10	5.0%	10.0%	15.0%
11	5.0%	0.0%	-5.0%
12	5.0%	10.0%	15.0%
13	5.0%	0.0%	-5.0%
14	5.0%	10.0%	15.0%
15	5.0%	0.0%	-5.0%
16	5.0%	10.0%	15.0%
17	5.0%	0.0%	-5.0%
18	5.0%	10.0%	15.0%
19	5.0%	0.0%	-5.0%
20	5.0%	10.0%	15.0%

Average	5.0%	5.0%	5.0%
Std. Deviation	0.0%	5.1%	10.3%
Compound Return	5.0%	4.9%	4.5%



RVK

Correlation and Diversification Matter

Portfolios comprised of less correlated investments will provide better protection in down market environments (as indicated by a lower portfolio standard deviation).

Portfolio I (Higher Correlation)

Investments	A	B
Allocation (%)	56.0%	44.0%
Return	10.0%	7.0%
St Dev.	12.0%	8.0%
Correlation	0.90	
Portfolio Expected Return		**8.7%**
Portfolio St Dev.		**10.0%**

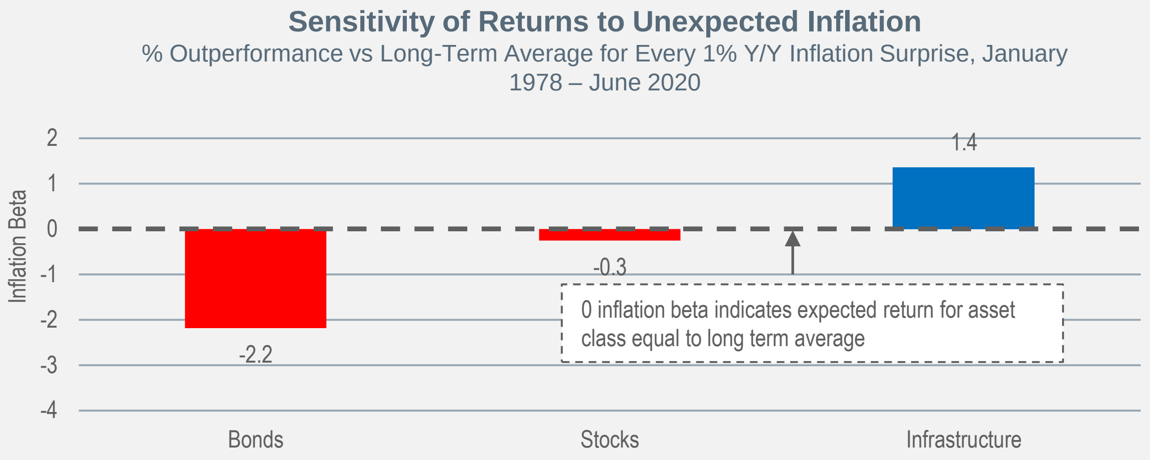
Portfolio II (Lower Correlation)

Investments	A	B
Allocation (%)	56.0%	44.0%
Return	10.0%	7.0%
St Dev.	13.2%	8.8%
Correlation	0.10	
Portfolio Expected Return		**8.7%**
Portfolio St Dev.		**8.7%**

Potential Benefits of Infrastructure Investments

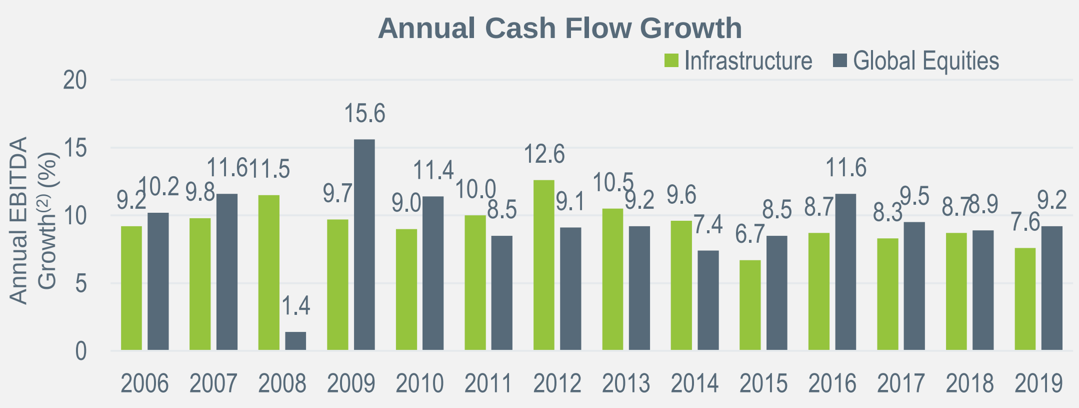
❶ Inflation Protection

Asset values and cash flows often show a strong, positive correlation to unexpected inflation.



❷ Robust Income Generation

Investments typically provide stable and predictable cash flows from mature assets that benefit from stable demand.



Source: RVK, Inc. (2020); Cohen & Steers (2020).

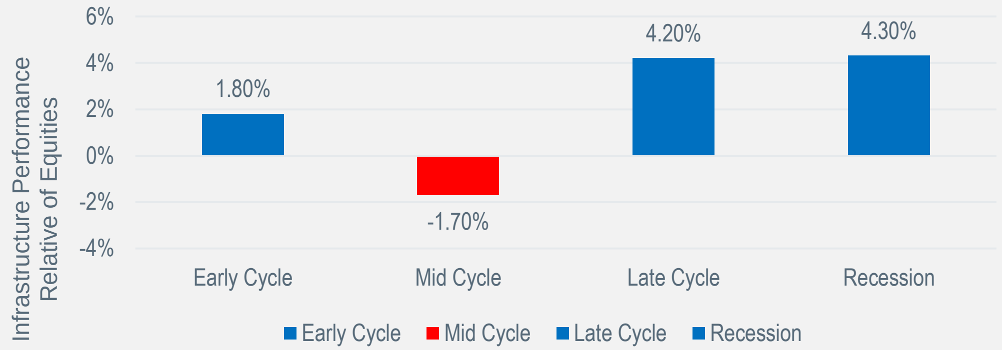
RVK

Potential Benefits of Infrastructure Investments

❸ Business Cycle Resilience

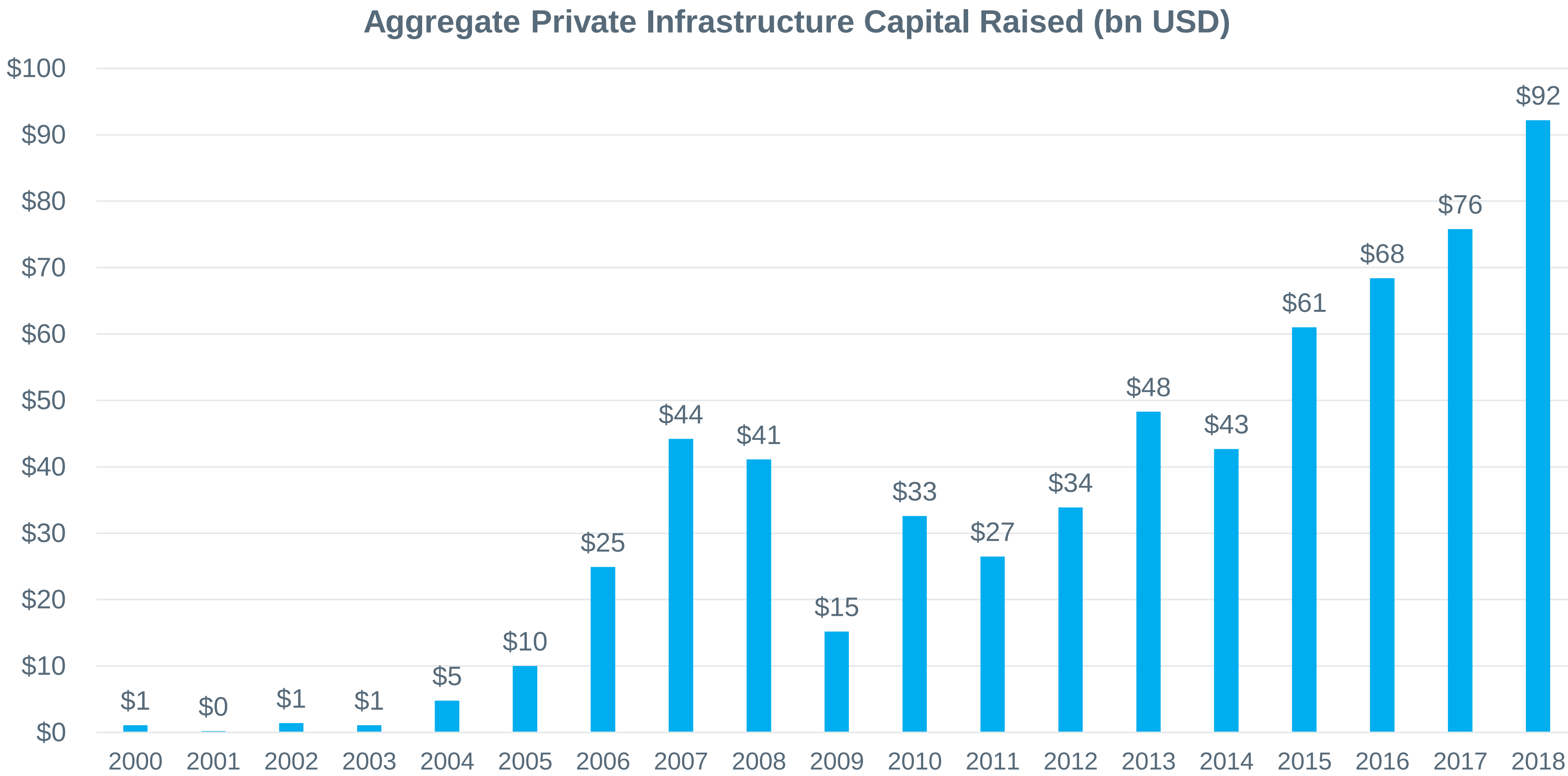
Combination of inelastic demand, monopolistic market positioning, and regulatory protections provide resilience to economic shocks.

Relative Returns vs. Equities across Business Cycles(1)



Source: RVK, Inc. (2020); Cohen & Steers (2020).

Infrastructure Fundraising

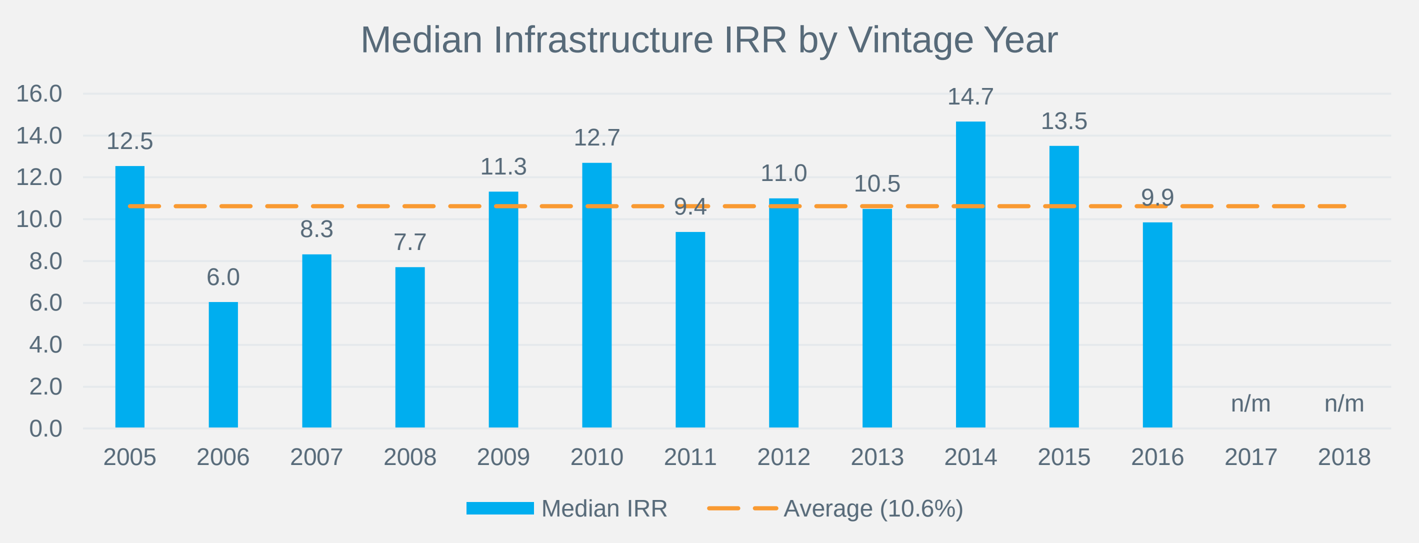


Infrastructure fundraising levels have increased, similar to other alternative assets. Elevated levels of fundraising raise prices and can reduce expected returns.

Source: Preqin (2019).

Performance

Private Closed-end Infrastructure (as of 12/31/2018)



- Closed end infrastructure funds have achieved, on average, a 10.6% internal rate of return from 2005 through 2016
- High distribution of outcomes: 4th quartile managers average a 5.1% return while 1st quartile managers average a 15.5% return

Private Open-end Infrastructure & Listed Infrastructure (as of 03/31/2019)

Firm/Product	QTD	YTD	1 Year	3 Years	5 Years	7 Years	10 Years
IFM: Global Infrastructure Fund	2.6	2.6	13.2	15.3	13.8	12.7	12.0
JP Morgan: Infrastructure Fund	1.2	1.2	2.7	6.2	4.4	5.2	5.4
Ullico: Infrastructure Fund	2.4	2.4	14.5	11.2	10.3	---	---
MSCI World Infra Index	11.7	11.7	9.7	5.6	3.5	6.3	9.0

- Limited pre-crisis track records across both listed listed and unlisted
- Wide distribution of performance among unlisted strategies due to differentiation among portfolios

Source: Preqin (2019) and MSCI (2019).

RVK

PORTLAND BOISE CHICAGO NEW YORK

RVK

MONTANA BOARD OF INVESTMENTS

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TO: Members of the Board

FROM: Jon Putnam, Chief Investment Officer

DATE: October 13, 2020

RE: Proposed Asset Allocation for November vote

After discussion with staff and RVK, I am proposing changes to MBOI's asset allocation as shown in the table below. The redline of the proposed Montana Public Retirement Plans Investment Policy follows this memo.

Asset Class	Current Range	Proposed Range	Current Midpoint	Proposed Midpoint	Midpoint Difference
Domestic Equity	24 - 36%	24 - 36%	30%	30%	0
International Equity	11 - 21%	12 - 22%	16%	17%	+1
Private Investments *	11 - 17%	11 - 19%	14%	15%	+1
~~Natural Resources~~ Real Assets **	1 - 7%	2 - 8%	4%	5%	+1
Real Estate	5 - 13%	5 - 13%	9%	9%	0
Core Fixed Income	15 – 25%	10 - 20%	20%	15%	-5
Non-Core Fixed Income	3 –7%	4 - 8%	5%	6%	+1
Cash Equivalents	0 - 4%	0 - 6%	2%	3%	+1

Benchmark Changes

* MSCI USA Small Cap Index and S&P Leveraged Loan Index weighted to MBOI's Private Equity and Private Credit allocation

** 1/3 TIPS Index, 1/3 MSCI ACWI Commodity Producers Index, 1/3 MSCI ACWI Infrastructure Index

<u>Asset Allocation Changes</u>

The rationale for each of the asset allocation changes are discussed below.

1. Reduce the midpoint of Core Fixed Income from 20% to 15%

We have enjoyed a multi-decade decline in interest rates which has been a tail wind to bond returns. However, an investment in the Bloomberg Barclays Aggregate Bond Index currently indicates an annual return of approximately 1%, assuming no change in interest rates or credit spreads.

In addition, the diversification benefit of bonds may be more limited going forward. The prospect for price appreciation to offset equity declines appears limited with interest rates approaching 0%. Rising interest rates could cause both equities and bonds to suffer.

2. Change the Natural Resources Asset Class to the Real Assets Asset Class

The Real Assets Asset Class is commonly used by peers to categorize a group of investments that offer inflation protection or a "real return".

There are three main categories of Real Assets:

- *Commodities – Basic goods such as energy, timber, minerals and agricultural products*
- *Inflation Linked Bonds – Government bonds that pay a coupon and the principal fluctuates with inflation*
- *Infrastructure – Assets used to transport, store, and distribute goods, energy, people and information*

MBOI already owns the first two types of Real Assets (Natural Resources and TIPS).

Infrastructure would be an addition to staff's allowable investments under current policy. Infrastructure investments typically generate steady cash flows (similar to bonds) in addition to potential capital appreciation. Staff believes that there are attractive opportunities in this sub-asset class which would be additive to the return of the pension portfolio.

3. Increase the midpoint of Real Assets from 4% to 5%

The TIPS portfolio is currently held in Core Fixed Income and would be moved to Real Assets. This would add approximately 1.3% to the Real Assets allocation. The move would provide the added benefit of increased clarity for Core Fixed Income performance because TIPS are not in the Bloomberg Barclays Aggregate Bond Index.

In addition, we would expect to add infrastructure investments to the portfolio over time. As mentioned, these investments typically offer steady cash flows and would be expected to generate a higher rate of return than Core Fixed Income.

4. Increase the midpoint of International Equity from 16% to 17%

International Equity is expected to have a higher return than Core Fixed Income over the long term. In addition, International Equity is expected to have a slightly higher return than Domestic Equity over the long term. Finally, we have been over-weight the current midpoint for International Equity over the last year given valuations.

5. Increase the midpoint of Private Investments from 14% to 15%

Private Investments is expected to have a higher return than Core Fixed Income over the long term. MBOI staff continues to find attractive opportunities in both Private Equity and Private Credit that are additive to the performance of the portfolio.

Given our increasing weight in Private Investments, I am also proposing to expand the size of the range. The illiquid nature of the asset class makes it difficult to quickly adjust our position within the range. In the short term, our weight in the portfolio is driven by movement in public markets. This will give us a bit more room and is consistent with our strategy of continuing to add to the asset class.

6. Increase the midpoint of Non-Core Fixed Income from 5% to 6%

Non-Core Fixed Income is expected to have a higher return than Core Fixed Income over the long term. The planned addition of Preferred and Emerging Market Debt strategies will move our allocation to approximately 6%.

7. Increase the midpoint of Cash from 2% to 3%

Currently, there is minimal sacrifice of return for holding Cash versus Core Fixed Income. Increasing the range of Cash from 0 -4% to 0-6% will provide increased flexibility during volatile periods.

Remember that significant cash is no longer held within the individual Asset Classes.

Additional Investment Policy Changes

1. Change the Private Investments benchmark from the MSCI USA Small Cap Index to a blend of the MSCI USA Small Cap Index and the S&P Leveraged Loan Index

The blended benchmark would be the weighted average of our allocation to Private Equity (MSCI USA Small Cap) and Private Credit (S&P Leveraged Loan). This would align the benchmark with the appropriate risk/return profile of the underlying investments.

The current benchmark may misrepresent the performance or risk/return characteristics of the Private Investments portfolio. An equity only benchmark may encourage an underweight to Private Credit strategies despite attractive returns that are additive to our actuarial hurdle.

2. Benchmark for Real Assets would be a blend of 1/3 TIPS Index, 1/3 MSCI ACWI Commodity Producers Index, 1/3 MSCI ACWI Infrastructure Index

There is no perfect benchmark for the Real Assets Asset Class given the variety of potential investments.

However, the proposed blended benchmark encompasses each of the three main categories of Real Assets. In addition, the three index components of the proposed benchmark are public and readily observable.

MBOI would also track a secondary benchmark of the Consumer Price Index (CPI) +2.0% which would offer a view of inflation plus an illiquidity/risk premium.

Additional Questions

1. Why not reduce Core Fixed Income more?

We don't know the future and we could be wrong about the direction of interest rates. In addition, Core Fixed Income provides significant liquidity to the portfolio. Finally, the diversification benefit could be greater than anticipated in some environments.

2. Why isn't Real Estate included in Real Assets?

Real Estate is a Real Asset and could be included. However, there are several good reasons for keeping it separate:

- *The size of the Real Estate Asset Class is much greater than other investment opportunities in Real Assets*
- *Real Estate investments are more homogenous than other types of Real Asset investments*
- *There are well defined benchmarks for Real Estate investing that allow the board, staff and external parties to evaluate the performance of the Real Estate portfolio*

3. What are the return expectations for Infrastructure?

Returns can vary significantly between different types of infrastructure assets. However, broad expectations are 5-12% for core infrastructure assets. Most assets would generate steady cash flows in addition to price appreciation of the asset commensurate with GDP growth.

4. Does the proposed asset allocation have sufficient liquidity?

We believe that we have more than enough liquidity built into the portfolio. The portfolio is designed to have plenty of cash and liquid securities in addition to steady cash flow from owned assets. These sources of liquidity will allow us to meet all our obligations.

5. Are we increasing the risk of the portfolio?

Yes. We are adding to asset classes that have a higher risk profile than Core Fixed Income. We believe that is offset by greater opportunity for return which will help us achieve our actuarial goals over the long term. We believe the total increase in risk to the portfolio is modest and a reasonable response to the current environment.

In addition, we are also increasing our potential allocation to cash which would act as a stabilizer and source of liquidity during a market decline.

6. What is the impact on fees?

Fees will be slightly higher as we shift away from our lowest cost asset class, Core Fixed Income. However, we believe the proposed changes will result in higher returns net of fees.

7. When would these changes take effect?

The board will vote on the proposal at the November board meeting.

If the board approves the proposal at the November meeting, the asset allocation changes would take effect at that time. Changes to the benchmarks would be implemented as of January 1, 2021.

MONTANA PUBLIC RETIREMENT PLANS
INVESTMENT POLICY

Approved April 5, 2017

~~Last Revised June 9~~Proposed November 18, 2020

Table of Contents

Page

1. Introduction:

Montana Public Retirement Plan assets are commingled for investment purposes into a Consolidated Asset Pension Pool (CAPP) created by the Board. The use of a commingled pool allows for simplified investing and accounting, broader diversification and thus less risk than would otherwise be available for the smaller Plans and provides additional opportunities for fee savings. The Consolidated Asset Pension Pool invests directly in the underlying Asset Classes. Each Asset Class has an underlying set of investment objectives and investment guidelines. Each of the nine Plans, CAPP, and each of the Asset Classes are separately identified for accounting and record keeping purposes.

This policy is effective upon adoption and supersedes all previous Investment Policy Statement (IPS) related to the investment management of the Montana Public Retirement Plans.

2. Purpose:

The purpose of this policy statement is to provide a broad strategic framework for the Montana Public Retirement Plans' investments under the guidance of the Montana Board of Investments.

3. Legal and Constitutional Authority:

Article VIII, Section 13, of the Montana Constitution requires that the Legislature provide for a Unified Investment Program for public funds. Section 17-6-201, Montana Code Annotated (MCA), established the Unified Investment Program, created the Montana Board of Investments (the "Board") and gave the Board sole authority to invest state funds, including the public retirement plans (Plans) in accordance with state law and the state constitution.

Section 17-6-201(1), MCA, requires the Board to operate under the "prudent expert principle," define as:

1) "discharging its duties with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent person acting in a like capacity with the same resources and familiar with like matters exercises in the conduct of an enterprise of like character with like aims;
2) diversifying the holdings of each fund to minimize the risk of loss and maximize the rate of return, unless under the circumstances it is clearly prudent not to do so; and
3) discharging its duties solely in the interest of and for the beneficiaries of the funds managed."

Section 17-6-201 (2) (a), MCA states… "Retirement funds may be invested in common stocks of any corporation."

Section 17-6-201 (3) (b), MCA states… "The Board is urged under the prudent expert principle to invest up to three percent (3%) of retirement funds in Venture Capital companies. Whenever possible, preferences should be given to investments in those Venture Capital companies which demonstrate an interest in making investments in Montana."

Section 17-6-201 (3) (c), MCA states… "In discharging its duties, the board shall consider the preservation of purchasing power of capital during periods of high monetary inflation."

The Board, as the investment fiduciary of the Plans, is responsible for establishing the investment parameters for the Plans. The Board has the authority to allocate portfolios to any previously board-approved asset class in the proportions it considers prudent, under the prudent expert rule. There are currently no statutory or constitutional restrictions on the investment of the Plans. Asset allocation decisions made by the Board must be made in a public meeting.

4. Strategic Investment Objectives

The Board's overall objective is to achieve the highest level of investment performance that is compatible with its risk tolerance and prudent investment practices. Because of the long-term nature of the state's various pension liabilities, the Board maintains a long-term perspective in formulating and implementing its investment policies, and in evaluating its investment performance.

5. Time Horizon

The Board expects to meet or exceed these objectives over a long-term investment horizon. Over shorter periods, the anticipated market volatility and specific actions, including risk mitigation efforts of the Board, may lead to unfavorable, but expected, deviation from these objectives.

6. Performance Measurement

Investment performance is measured by three integrated long-term return objectives:

a) The ***actuarial target rate of return*** is the key actuarial assumption affecting future funding rates and liabilities. Investment performance that exceeds or underperforms the target rate may materially impact future funding rates and liabilities. The Board seeks to generate long-term investment performance that will exceed the maximum actuarial annual target rate of return of 7.65%, as determined by the governing boards of the public retirement systems, net of all investment and administrative expenses. There may be years, or a period of years, when the Plans do not achieve this goal followed by years when the goal is exceeded. But over a long period, the Board seeks to achieve an average net rate of return of 7.65%, as determined by the governing boards of the public retirement systems, at risk levels (measured by expected volatility) broadly consistent with other public fund peers.

b) The ***investment policy benchmark*** for the Retirement Plans is calculated by applying the investment performance of the benchmarks to any of the underlying asset classes to the Plans' actual allocation to these investments during the measurement period. The investment policy benchmark represents the return that would be achieved if the Plan implemented a passively managed portfolio. Deviations from the policy benchmark measure the contribution of active management, rebalancing policy and its execution, and investment implementation generally.

c) The Board also compares each Plan's total performance, before all fees, to appropriate ***public plan sponsor universes***. This process permits the Board to compare its total performance to other public pension plans. While the Board seeks to rank consistently in the top half of comparable public pension plans, the Board recognizes that other plans may have investment objectives and risk tolerances that differ substantially from the Board's.

7. Roles and Responsibilities

a) **Board of Investments** – The Board is responsible for approving the Investment Policy Statement (IPS) for the Montana Public Retirement Plans and has the authority to allocate portfolios to any asset class in the proportions it considers prudent, subject to such limitations as contained in law and the Constitution. The Board reviews this document periodically and, as needed, approves any changes to the policy.

As described in the Board of Investments Governance Manual, the Board delegates authority to the Executive Director, Chief Investment Officer (CIO), and other Staff to execute the day to day duties required to carry out the Board's mission.

b) **Executive Director –** The Executive Director is empowered by the Board to sign all documents required to conduct Board business, unless there are specific written policies or instructions from the Board to the contrary. The Executive Director and the CIO are authorized jointly to contract for investment manager services and if deemed appropriate, terminate them.

c) **Chief Investment Officer –** The CIO is empowered by the Board to serve as the principal staff person responsible for overseeing the investment activities under the Board's jurisdiction in compliance with the Board's policies. The CIO, with the support of other staff, is responsible for recommending IPS changes for Board approval.

d) **Staff –** The staff is responsible for:

I. Managing day-to-day operations and delegating work to external resources as appropriate;
II. Monitoring allocations and overseeing all investment manager due diligence activities and recommending changes to the CIO;
III. Monitoring and reporting to the Board the performance of each asset class and the individual managers' performance;
IV. Informing the Board of any new managers or terminations; and
V. Reporting any deviations from the IPS Policy to the Board.

e) **Investment Consultant** – The investment consultant assists the CIO and staff with policy recommendations and provides advice to the Board. The investment consultant also assists staff in monitoring all external managers and reports to the Board independently.

f) **External Managers** – Managers are responsible for all aspects of portfolio management as set forth in the contract specific to each manager. Managers must communicate with staff as needed, regarding investment strategies and results. Managers must also cooperate fully with staff regarding administrative, accounting, and reconciliation issues as well as any requests from the investment consultant and the master custodian.

8. Strategic Asset Allocation

The Board finds that it is in the best interest of the state's nine retirement Plans to set out investment policies for the Plans in one comprehensive document.

<u>Nine Public Retirement Plans:</u>
Public Employees Retirement System
Teachers Retirement System
Police Officers Retirement
Firefighters Retirement
Sheriffs Retirement
Highway Patrol Retirement
Game Wardens Retirement
Judges Retirement
Volunteer Firefighters Retirement

The current asset allocation ranges for the Plans are in **Appendix I**. The asset allocation ranges are subject to change as modifications are adopted by the Board, at which time **Appendix I** will be revised to reflect these changes. The Board will formally affirm or revise the asset allocation ranges for the Plans at least annually.

9. Rebalancing

The actual asset allocation mix may deviate from time to time from the approved asset allocation ranges due to financial market performance, cash flows, and manager performance. Material deviations from the asset allocation ranges can alter the expected return and risk of the Plans. Rebalancing the Plans' assets to remain within the Board-approved allocation ranges is delegated to the CIO, in consultation with the Executive Director. Any necessary rebalancing will be made in a timely manner and will take into consideration associated costs and current market conditions. In addition to maintaining actual allocations within the ranges, the CIO will also consider contractual investment commitments to private investments, the liquidity necessary to meet benefit payments and administrative costs for the Plans, and current market conditions. This may prompt asset rebalancing when asset allocations fall within the established ranges. The CIO shall inform the Board of rebalancing activity at the Board's next regularly scheduled quarterly meeting.

10. Risk Management

a) **Evaluation of Investment Managers**
The Investment Manager Evaluation Policy is a distinct policy that is regularly reviewed and updated separate from the Retirement Plans Investment Policy because staff utilizes the Investment Manager Evaluation Policy to oversee and manage other assets in addition to the retirement plan assets.

b) **Liquidity**

Based on the percentage of total plan assets necessary for ongoing benefit payments and other plan expenses, the liquidity needs for the Retirement Plans are generally low and participant capital is not expected to change dramatically on short notice. However, illiquidity risk still needs to be monitored and managed by staff on a regular basis to ensure that assets are not required to be sold too quickly, or at an unfavorable time, and potentially at a discount to fair value to meet the cash needs of the Retirement Plans.

A significant percentage of the investments in the Real Estate, ~~Natural Resources~~Real Assets and Private Investments Asset Classes are considered illiquid. Due to the limited liquidity of these assets, it will typically be impractical to fund plan cash needs or correct deviations from policy ranges through the purchase or sale of these assets.

The investments held in the Domestic Equity, International Equity, Core Fixed Income, and Non-Core Fixed Income Asset Classes are categorized as publicly traded securities. In "normal market" conditions many of the underlying assets from these Asset Classes can be liquidated in a relatively short period to accommodate both expected and unexpected withdrawals as well as any repositioning of the asset allocation to stay within approved ranges.

To improve liquidity and manage both the expected and unexpected Retirement Plans need for cash, this Investment Policy specifies a strategic allocation to the Cash Asset Class, which invests in approved investments including the Short-Term Investment Pool (STIP).

c) **Monitoring/Reporting – Transparency**

Managers shall submit periodic reports to facilitate Staff's monitoring of the Managers' conformance to investment restrictions and performance objectives.

Staff shall provide regular reporting to the Board regarding the asset allocation and performance of the pension plans as well as the characteristics and performance of the Asset Classes to confirm these items are known and adhere to all IPS requirements and expectations.

Staff will discuss and communicate any key information discovered due to the ongoing Manager monitoring process that might assist the Board in understanding the underlying investment manager structure or risks embedded in the investment characteristics of the Retirement Plan asset allocations.

d) **Leverage**

Leverage is a significant risk factor. Investment managers may utilize leverage only when permitted in the manager's investment guidelines approved by Staff. Staff shall monitor the use of leverage and its impact on risk and return.

The use of derivative securities can generate additional leverage even if the derivative is being used to reduce the risk in other investments. Investment managers may only use derivatives when permitted in the manager's investment guidelines approved by Staff.

e) **Cash Investments**

Cash investments held at the Retirement Plan, CAPP level, or any managed account within it, entail an element of credit risk. Thus, only approved cash investment vehicles are permitted. These include: any cash vehicle at the Custodial Bank; STIP; or any SEC-registered money market fund approved by the CIO for internally managed funds or employed by an external asset manager which specifically address credit risk in their respective investment guidelines.

11. Securities Lending

Section 17-1-113, MCA, authorizes the Board to lend securities held by the state. The Board may lend its publicly traded securities through an agent, to other market participants in return for compensation. Currently, through an explicit contract, the state's Custodial Bank, manages the state's securities lending program. The Board seeks to assess counterparty and reinvestment risk, associated with each aspect of its securities lending program. The Board requires borrowers to maintain collateral at 102 percent for domestic securities and 105 percent for international securities. To ensure that the collateral ratio is maintained, securities on loan are marked to market daily and the borrower must provide additional collateral if the value of the collateral falls below the agreed-upon ratio of over-collateralization. In addition to the strict collateral requirements imposed by the Board, the credit quality of approved borrowers is monitored continuously by the contractor. From time to time, Staff or the investment manager may restrict a security from the loan program upon notification to the Custodial Bank. Staff will monitor the securities lending program, and will periodically report to the Board on the status of the program. The Board's participation in securities lending may change over time given Plan activity, market conditions and the agent agreement.

12. Exercise of Shareholder Rights

The Board recognizes that publicly traded securities and other assets of the Plans include certain ancillary rights, such as the right to vote on shareholder resolutions at companies' annual shareholders' meetings, and the right to assert claims in securities class action lawsuits or other litigation. The Board will prudently manage these assets of the Plans for the exclusive purpose of enhancing the value of the Plans for its participating systems' members and beneficiaries through such means as adopting and implementing a proxy voting policy and undertaking productive, cost-effective action to exercise its rights as shareholders or claimants in litigation.

a) **Proxy Voting**

Active voting of proxies is an important part of the Board's investment program. Under the contractual arrangements between the Board and its investment managers, the responsibility for voting proxies on the investments is delegated to the managers. Managers are contractually required to establish a proxy voting program in coordination with Board Staff and are required to vote proxies, excluding shares on loan under the Board's securities lending program, in the interest of the Plans' beneficiaries. Records of proxy votes shall be maintained by the Managers, and/or its third-party designee, and submitted to Staff and/or an external service provider annually.

Staff will monitor the proxy voting practices of the Board's external investment managers. External service providers may be retained by either the Board or the Managers to assist in monitoring efforts. This monitoring will be coordinated with each manager to reasonably assure the Staff that Managers are fulfilling their fiduciary responsibilities with respect to proxy voting.

b) **Class Action Litigation**

Claims under state and federal securities laws arising out of losses on securities under the Board's management are assets subject to the Board's fiduciary duty of prudent management. The Board shall take reasonable, cost effective steps to identify, pursue and collect upon claims under securities laws for losses suffered by the Board on its investment. Accordingly, the Board maintains a detailed litigation policy, including process steps, outlined in the Board's Governance Manual, Appendix F.

13. Investment Policy Statement Review

Per Board's Governance Policy, "the Board shall create, maintain, and revise as necessary Investment Policy Statements (IPS) for each separate account it manages. The IPS shall cite the law establishing the account if such law exists, the permissible investments authorized by law, and establish an investment range for each of the permissible investments. The Board shall review such policies at least annually or more frequently at the request of Board staff. IPS may only be revised in a public meeting. All IPS shall be posted on the Board's web site for review by the public."

Appendix I: Montana Public Retirement Plans Asset Allocation Ranges

Permitted Ranges:

Approved November 18,2020~~19, 2019~~

Asset Class Allocations		
Asset Class	**Range Low**	**Range High**
Domestic Equities	**24**	**36**
International Equities	**12~~11~~**	**22~~21~~**
Private Investments	**11**	**19~~17~~**
~~Natural Resources~~Real Assets	**2~~1~~**	**8~~7~~**
Real Estate	**5**	**13**
Core Fixed Income	**10~~15~~**	**20~~25~~**
Non-Core Fixed Income	**4~~3~~**	**8~~7~~**
Cash[1]	**0**	**6~~4~~**
Total		

[1] The combined cash at the plan level and the CAPP level is subject to the range.

[2] Montana Public Retirement Plans shall have no greater than 5% of the Net Asset Value managed by any one external manager using an active investment strategy.

Appendix II: Investment Objectives and Guidelines

Schedule II-A:
Investment Objectives and Guidelines
Domestic Equities Asset Class

Effective Date of Schedule: June 9, 2020

This Schedule is effective upon adoption by the Board and supersedes all previous Investment Objectives and Guidelines for Domestic Equities.

Statement of Purpose:
The purpose of these objectives and guidelines is to:

1. Establish the investment objectives and performance standards of the Asset Class; and
2. Provide diversified exposure to the domestic equity market in a prudent and cost-effective manner.

Investment Objective:

Strategic:
The objective of the Domestic Equities Asset Class is to attain the highest possible total return within the parameters of the Investment Guidelines set forth below.

Performance:
Success in achieving this objective will be measured by comparing the risk and after-fee return of the Domestic Equity Asset Class to the **MSCI USA Investable Market Index** (the "Benchmark"). Performance results will be monitored and evaluated quarterly. However, the success in achieving the objective will be measured on a three-year, five-year, and ten-year annualized basis.

Investment Guidelines:

Staff will have full discretion to manage this Asset Class consistent with the investment guidelines stated below. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

Most of the Domestic Equity investments will be managed by external investment managers.

The Domestic Equities Asset Class may utilize public long-only and long/short strategies.

It is expected that Domestic Equities Asset Class shall invest in public market investments that provide liquidity and meaningful transparency to portfolio characteristics and risk exposures.

Permitted Investments:

The Domestic Equities Asset Class may invest only in the following:

1. Domestic equity securities and derivatives held in separate accounts, commingled funds, limited partnerships, or limited liability companies managed by external investment managers and governed by their respective investment management contracts and investment guidelines;
2. Exchange-Traded Funds (ETFs) based on a domestic equity index that is approved by the CIO and purchased and monitored by Staff; and
3. Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the Custodian, or an SEC registered money market fund that is considered a "US Treasury" or "US Government" money market fund per the SEC regulations.

Other Restrictions:

1. The Domestic Equities Asset Class percentage of Net Asset Value invested in "small-cap" equities shall not exceed +10% above the Benchmark weight in "small cap";
2. The Domestic Equities Asset Class percentage of Net Asset Value invested in passive/index strategies shall be greater than 45%.

If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any cases that the Domestic Equity Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the Domestic Equities Asset Class back within guidelines or a plan to do so.

Schedule II-B:
Investment Objectives and Guidelines
International Equities Asset Class

Effective Date of Schedule: June 9, 2020

This Schedule is effective upon adoption by the Board and supersedes all previous Investment Objectives and Guidelines for International Equities.

Statement of Purpose:
The purpose of these objectives and guidelines is to:

1. Establish the investment objectives and performance standards of the Asset Class; and
2. Provide diversified exposure to the international and global equity markets in a prudent and cost-effective manner.

Investment Objective:

Strategic:
The objective of the International Equities Asset Class is to attain the highest possible total return within the parameters of the Investment Guidelines set forth below.

Performance:
Success in achieving this objective will be measured by comparing the risk and after-fee return of the International Equities Asset Class to the **MSCI All Country World ex-US Investable Market Index** (the "Benchmark"). Performance results will be monitored and evaluated quarterly. However, the success in achieving the objective will be measured on a three-year, five-year, and ten-year annualized basis.

Investment Guidelines:

Staff will have full discretion to manage the International Equities Asset Class consistent with the investment guidelines stated below. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

Most of the International Equities Asset Class investments will be managed by external investment managers.

The International Equities Asset Class may utilize public long-only and long/short strategies.

It is expected that the International Equities Asset Class shall invest in public market investments that provide liquidity and meaningful transparency to portfolio characteristics and risk exposures.

Permitted Investments:

The International Equities Asset Class may invest only in the following:

1. International equity securities and derivatives held in separate accounts, commingled funds, limited partnerships, or limited liability companies managed by external investment managers and governed by their respective investment management contracts and investment guidelines;
2. Exchange-Traded Funds (ETFs) based on an international equity index that is approved by the CIO and purchased and monitored by Staff; and
3. Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the Custodian, or an SEC registered money market fund that is considered a "US Treasury" or "US Government" money market fund per the SEC regulations.

Other Restrictions:

1. The International Equities Asset Class percentage of Net Asset Value invested in "small-cap" equities shall not exceed +10% above the Benchmark weight in "small cap";
2. The International Equities Asset Class percentage of Net Asset Value invested in passive/index strategies shall be greater than 42%;
3. The International Equities Asset Class percentage of Net Asset Value invested in Emerging Market securities shall not exceed + or - 10% above the Benchmark weight in Emerging Market securities.

If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any cases that the International Equities Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the International Equities Asset Class back within guidelines or a plan to do so.

Schedule II-C:
Investment Objectives and Guidelines
Private Investments Asset Class

~~Approved~~ Effective Date of Schedule: ~~June 9~~November 18, 2020

This Schedule is effective upon adoption by the Board and supersedes all previous Investment Objectives and Guidelines for Private Investments.

Statement of Purpose:
The purpose of these objectives and guidelines is to:

1. Establish the investment objectives and performance standards of the Asset Class; and
2. Provide diversified exposure to the Private Investment markets in a prudent and cost-effective manner.

Investment Objective:

Strategic:
The objective of the Private Investments Asset Class is to attain the highest possible return within the parameters of the Investment Guidelines set forth below.

Performance:
There is no generally accepted benchmark index for private investment performance comparisons. Characteristically, private partnership investments are impacted by the "J-curve" effect, in which fees and transaction costs create negative returns during the initial investment years before distributions are realized. Private investments require a long-time horizon to realize the value provided by the creation or restructuring of private companies.

The performance objective for the Private Investments Asset Class is the achievement of long-term net returns (after management fees and general partner's carried interest) above a benchmark reflecting public ~~equity~~ market returns.

Success in achieving this objective will be measured by comparing the net return of the Private Investments Asset Class to the weighted average of the **MSCI USA Small Cap Index** **(Private Equity) and the S&P Leveraged Loan Index (Private Credit)** (the "Benchmark") on an annualized basis. Performance results will be monitored quarterly. However, the success in achieving the objective will be measured on a five-year and ten-year annualized basis.

Investment Guidelines:

Staff will have full discretion to manage the Private Investments Asset Class consistent with the investment guidelines stated below. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

Most of the Private Investments Asset Class investments will be managed by external investment managers via a partnership structure in which the MBOI will have a limited partnership interest.

Permitted Investments:

The Private Investments Asset Class may invest only in the following:

1. Private Investment partnership interests. These private partnerships may be direct limited partnerships, limited liability companies, or vehicles that primarily invest in partnerships, including Fund-of-Funds and Secondary Funds;
2. Investments held in separate accounts or commingled funds managed by external investment managers and governed by their respective investment management contracts and investment guidelines;
3. The Private Investments Asset Class may co-invest with private investment managers in transactions that are suitable for inclusion into a private investment partnership;
4. Individual public or private securities received as distributions from funds;
5. Exchange-Traded Funds (ETFs) based on a public equity index that is approved by the CIO and purchased and monitored by Staff; and
6. Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the Custodian, or an SEC registered money market fund that is considered a "US Treasury" or "US Government" money market fund per the SEC regulations.

Other Restrictions

1. The Montana Public Retirement Plan assets as a percentage of Net Asset Value invested in a single Direct Limited Partnership shall be no greater than 2.0%;
2. No more than 30% of the aggregate of the Private Investments Asset Class net asset value plus uncalled committed capital should be considered "Non-U.S." exposure based on the primary objective of the Fund, Partnership, Separate Account, or Index;
3. No more than 10% of the aggregate of the Private Investments Asset Class net asset value shall be invested in direct co-investments;
4. Individual public securities received as distributions will be liquidated over a reasonable time-period dependent on market conditions.

The following table provides a guideline range with respect to Private Investments strategy diversification. It is important to note that these ranges reference the sum of the Private Investments Asset Class net asset value and uncalled commitments.

Strategy	Policy Range
Buyout and all other private equity related strategies not related to Venture Capital or Private Credit	50% - 100%
Venture Capital	0% - 25%
Private Credit	0% - 50%

For the purpose of the ranges provided above, funds will be classified in the category that is most reflective of the underlying investments in the funds.

If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any cases that the Private Investments Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the Private Investments Asset Class back within guidelines or a plan to do so.

Schedule II-D:
Investment Objectives and Guidelines
~~Natural Resources~~Real Assets Asset
Class

Effective Date of Schedule: ~~June 9~~November 18, 2020

This Schedule is effective upon adoption by the Board and supersedes all previous Investment Objectives and Guidelines for ~~Natural Resources~~Real Assets.

Statement of Purpose:
The purpose of these objectives and guidelines is to:

1. Establish the investment objectives and performance standards of the ~~Natural Resources~~Real Assets Asset Class; and
2. Provide diversified exposure to the ~~Natural Resources~~Real Assets markets in a prudent and cost-effective manner.

Investment Objective:

Strategic:
The objective of the ~~Natural Resources~~Real Assets Asset Class is to attain the highest possible return within the parameters of the Investment Guidelines set forth below.

Performance:
There is no generally accepted performance comparisons benchmark index for private partnership investments in ~~Natural Resources~~Real Assets. Characteristically, private partnership investments are impacted by the "j-curve" effect, in which fees and transaction costs create negative returns during the initial investment years before distributions are realized. Private partnership investments usually require a long-time horizon to realize the value provided by the creation or enhancement of private companies.

The long-term performance objective for the ~~Natural Resources~~Real Assets Asset Class is the achievement of net returns (after management fees and general partner's carried interest) above a benchmark reflecting public ~~equity Natural Resources~~Real Assets market returns.

Success in achieving this objective will be measured by comparing the long-term net return of the ~~Natural Resources~~Real Assets Asset Class to ~~the~~ **1/3 MSCI ACWI Commodity Producers Index, 1/3 US TIPS Index, 1/3 MSCI ACWI Infrastructure Index** (the "Benchmark") on an annualized basis. Performance results will be monitored quarterly. However, the success in achieving the objective will be measured on a five-year and ten-year annualized basis.

Investment Guidelines:

Staff will have full discretion to manage the ~~Natural Resources~~Real Assets Asset Class consistent with the investment guidelines stated below. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

Most of the ~~Natural Resources~~Real Assets Asset Class investments will be managed by external investment managers via private investment partnerships in which the MBOI will have a limited partnership interest; however, the ~~Natural Resources~~Real Assets Asset Class may also utilize public long-only and long/short strategies.

Permitted Investments:

The ~~Natural Resources~~Real Assets Asset Class (for the purpose of these guidelines, "~~Natural Resources~~Real Assets" includes investments in inflation linked bonds, infrastructure, timber, energy, agriculture, ~~water,~~ and other commodities) may invest only in the following:

1. Private investment partnership interests in ~~Natural Resources~~Real Assets. These private investment partnerships may be direct limited partnerships, limited liability companies, or vehicles that primarily invest in partnerships, including fund-of-funds and secondary funds;
2. The ~~Natural Resources~~Real Assets Asset Class may co-invest with private investment managers in transactions that are suitable for inclusion into a ~~Natural Resources~~Real Assets private investment partnership;
3. Individual public or private securities received as distributions from funds;
4. Separately managed accounts, open-ended funds, closed-ended funds, or exchange-traded funds (ETFs), managing publicly traded ~~Natural Resources~~Real Assets related investments, where the investments are approved by the CIO and purchased and monitored by Staff;
~~4.~~5. U.S. Treasury Inflation Protected Securities (TIPS) which are purchased and monitored by Staff; and
~~5.~~6. Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the custodian, or an SEC registered money market fund that is considered a "US Treasury" or "US Government" money market fund per the SEC regulations.

Other Restrictions

1. The Montana Public Retirement Plan assets as a percentage of Net Asset Value invested in a single investment within ~~Natural Resources~~the Real Assets Asset Class shall be no greater than 2.0%;
2. No more than 30% of the aggregate of the ~~Natural Resources~~Real Assets Asset Class Net Asset Value plus uncalled committed capital should be considered "Non-U.S." exposure based on the primary objective of the fund, partnership, separately managed account, or index;
3. No more than 10% of the aggregate of the ~~Natural Resources~~Real Assets Asset Class Net Asset Value shall be invested in direct co-investments; and
4. Individual public securities received as distributions will be liquidated over a reasonable time~~-~~ period dependent on market conditions.

The following table provides a guideline range with respect to the ~~Natural Resources~~Real Assets Asset Class strategy diversification. It is important to note that these ranges reference the sum of the ~~Natural Resources~~Real Assets Asset Class Net Asset Value and uncalled commitments.

Strategy	Policy Range
~~Energy~~Commodities Related	25~~30~~% - 75%
~~Timber~~Infrastructure Related	0% - 50~~45~~%
~~Broad Natural Resources~~Inflation Linked Bonds	0% - 50%
~~Public Natural Resource Securities~~	~~0% - 40%~~

For funds with exposure across categories, the fund will be classified in the category that is most reflective of the underlying investments in the funds.

Timber Fund Leverage

Leverage is a significant risk factor. On an individual fund basis, the leverage level can range up to 30.0%. It is important to note; however, that in aggregate, leverage consists of the combined borrowing at the property level and the fund level. On a select basis, the leverage may exceed 30.0% at the combined property and fund investment level, if it is determined to be reasonable to do so, particularly in the early stages of the fund investment cycle when a fund level credit facility is utilized to finance early fund investments on a short-term basis prior to committed capital being drawn. While Staff will monitor leverage on this combined basis, the leverage statistic Staff will focus on most for purposes of compliance with this policy is the stabilized long-term leverage at the overall fund investment level once it has completed its acquisition phase, paid down outstanding short-term credit facility balances used to fund capital calls and the investment period has ended. New investments shall be made with the intention that the total timber fund investment leverage shall not exceed 30%.

Strategy	*Leverage Policy Range*
Timber	*0% - 30%*

If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any cases when the ~~Natural Resources~~Real Assets allocations were outside of the limits and either inform the Board of the actions that were taken to return the ~~Natural Resources~~Real Assets Asset Class back within guidelines or a plan to do so.

Schedule II-E:
Investment Objectives and Guidelines
Real Estate Asset Class

Effective Date of Schedule: June 9, 2020

This Schedule is effective upon adoption by the Board and supersedes all previous Investment Objectives and Guidelines for Real Estate.

Statement of Purpose:
The purpose of these objectives and guidelines is to:

1. Establish the investment objectives and performance standards of the Real Estate Asset Class; and
2. Provide diversified exposure to Real Estate in a prudent and cost-effective manner.

Investment Objective:

Strategic:
The objective of the Real Estate Asset Class is to attain the highest possible return within the parameters of the Investment Guidelines set forth below.

Performance:
Success in achieving this objective will be measured by comparing the risk and after-fee return of the Real Estate Asset Class to the **NCREIF Fund Index – Open End Diversified Core Equity (NFI-ODCE)** (the "Benchmark"). Performance results will be monitored and evaluated quarterly. However, the success in achieving the objective will be measured on a five-year, and ten-year annualized basis.

Investment Guidelines:

Staff will have full discretion to manage the Real Estate Asset Class consistent with the investment guidelines stated below. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

Most of the Real Estate Asset Class investments will be managed by external investment managers via private investment partnerships in which the MBOI will have a limited partnership interest; however, the Real Estate Asset Class may also utilize public long-only and long/short strategies.

Permitted Investments:

The Real Estate Asset Class may invest only in the following:

1. Separate accounts, open-ended funds, closed-ended funds, exchange-traded funds (ETFs), or real Estate investment trusts (REITs) managing publicly traded real estate, where the investments are approved by the CIO and purchased and monitored by Staff;

2. Private investment partnership interests. These private partnerships may be direct limited partnerships, limited liability companies, or vehicles that primarily invest in partnerships, including fund-of-funds and secondary funds;
3. The Real Estate Asset Class may co-invest with private investment managers in transactions that are suitable for inclusion into a private real estate investment partnership;
4. Separate accounts investing in private real estate direct investments;
5. Individual public or private securities received as distributions from funds are also permitted to be held in the Real Estate Asset Class; and
6. Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the custodian, or an SEC registered money market fund that is considered a "US Treasury" or "US Government" money market fund per the SEC regulations.

Other Restrictions

1. The Montana Public Retirement Plan assets as a percentage of Net Asset Value invested in a single investment within the Real Estate Asset Class shall be no greater than 2.0%;
2. No more than 30% of the aggregate of the Real Estate Asset Class Net Asset Value plus uncalled committed capital should be considered "Non-U.S." exposure based on the dominant geographic exposure of the Fund, Partnership, Separate Account, or Index;
3. No more than 10% of the aggregate of the Real Estate Asset Class Net Asset Value shall be invested in direct co-investments; and
4. Individual public securities received as distributions will be liquidated over a reasonable time-period dependent on market conditions.

The following table provides a guideline range with respect to the Real Estate Asset Class strategy diversification. It is important to note that these ranges reference the sum of the Real Estate Asset Class Net Asset Value and uncalled commitments.

Strategy	Policy Range
Core Real Estate	20% - 50%
Core-plus/Non-Core Real Estate	25% - 65%
Real Estate Debt	10% - 40%
Public Real Estate Securities	0% - 40%

For funds with exposure across these categories, the fund will be classified in the category that is most reflective of the underlying investments in the funds.

Leverage

Leverage is a significant risk factor. On an individual fund basis, the leverage level can range up to 75.0%. It is important to note; however, that in aggregate, leverage consists of the combined borrowing at the property level and the fund level. On a select basis, the leverage may exceed 75.0% at the combined property and fund investment level, if it is determined to be reasonable to do so, particularly in the early stages of the fund investment cycle when a fund level credit facility is utilized to finance early fund investments on a short-term basis prior to committed capital being drawn. While Staff will monitor leverage on this combined basis at the fund investment level, the leverage statistic Staff will focus on most for purposes of compliance with this policy is the stabilized long-term leverage at the overall fund investment level once it has completed its acquisition phase, paid down outstanding short-term credit facility balances used to fund capital calls and the investment period has ended. New investments shall be made with the intention that the total Real Estate Asset Class leverage shall not exceed 60%.

Strategy	Leverage Policy
Core Real Estate Investments	0% - 50%
Core-plus/Non-Core Real Estate	0% - 75%
Real Estate Debt	0% – 75%

If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any cases that the Real Estate Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the Real Estate Asset Class back within guidelines or a plan to do so.

While no formal diversification ranges are set forth for property type diversification or regional diversification within the United States, it is expected that the Real Estate Asset Class shall remain diversified across these factors. These and other factors shall be monitored and reported to the Board at least annually.

Schedule II-F:
Investment Objectives and Guidelines
Core Fixed Income

Approved Date of Schedule: June 9, 2020

This Schedule is effective upon adoption by the Board and supersedes all previous Investment Objectives and Guidelines for Core Fixed Income.

Statement of Purpose:
The purpose of these objectives and guidelines is to:

1. Establish the investment objectives and performance standards of the Core Fixed Income Asset Class; and
2. Provide diversified exposure to Core Fixed Income in a prudent and cost-effective manner.

Investment Objective:

Strategic:
The objective of the Core Fixed Income Asset Class is to attain the highest possible total return within the parameters of the Investment Guidelines set forth below.

Performance:
Success in achieving this objective will be measured by comparing the risk and after-fee return of the Core Fixed Income Asset Class to the **Bloomberg Barclays US Aggregate Bond Index** (the "Benchmark"). Performance results will be monitored and evaluated quarterly. However, the success in achieving the objective will be measured on a three-year, five-year, and ten-year annualized basis.

Investment Guidelines:

Staff will have full discretion to manage the Core Fixed Income Asset Class consistent with the investment guidelines stated below. Core Fixed Income is defined as strategies primarily invested in marketable, publicly traded, investment grade fixed income securities denominated in U.S. dollars. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

The Core Fixed Income Asset Class may invest only in the following:

Internally Managed Permitted Investments:

1. Dollar denominated debt obligations of the U.S. Government, including its agencies and instrumentalities;
2. Dollar denominated debt obligations of Quasi and Foreign Government entities;
3. Dollar denominated debt obligations of domestic and foreign corporations;

4. Dollar denominated securitized assets, including U.S. Agency mortgage backed and commercial mortgage backed securities (MBS/CMBS), U.S. Agency collateralized mortgage obligations (CMO's) and asset backed securities (ABS);
5. Dollar denominated Non-agency mortgage backed securities (RMBS) and Non-agency commercial mortgage backed securities (CMBS);
6. Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the Custodian, or an SEC registered money market fund that is considered a "US Treasury" or "US Government" money market fund per the SEC regulations.

<u>Other Internally Managed Restrictions</u>

1. The average duration of any internally managed portfolio will be maintained in a range of + or – 20% of the Benchmark duration;
2. A minimum of 20% of the Net Asset Value of any internally managed portfolio will be held in U.S. Government securities, including U.S. Treasuries, TIPS and Agency securities;
3. Securities must be rated investment grade by at least two nationally recognized statistical rating organizations (NRSRO), with the exception of securities issued or guaranteed by agencies or instrumentalities of the U.S. Government. In the case of split-rated securities, the lower rating is used;
4. Securities that drop below investment grade as defined above may be held to maturity, however any internally managed portfolio may not hold more than 10% of its Net Asset Value in securities rated below investment grade;
5. Securitized assets must be rated a minimum of the 4th highest rating by any nationally recognized statistical rating organization (NRSRO) at the time of purchase;
   a. Securitized assets that drop below the 4th highest rating of any NRSRO may be held to maturity, however any internally managed portfolio may not hold more than 5% of its Net Asset Value in these securities;
6. A maximum of 10% of the Net Asset Value of any internally managed portfolio may be held in dollar denominated quasi and foreign government securities;
7. A maximum of two times the Benchmark weight may be held in Corporate securities in any internally managed portfolio;
8. A maximum of two times the Benchmark weight in U.S. Agency MBS may be held in U.S. Agency MBS and CMO securities in any internally managed portfolio;
   a. A maximum of 20% of the Net Asset Value of any internally managed portfolio may be held in U.S. Agency CMO's;
9. A maximum of 5% of the Net Asset Value of any internally managed portfolio may be held in asset backed securities (ABS);
10. A maximum of 10% of the Net Asset Value of any internally managed portfolio may be held in U.S. Agency and Non-Agency commercial mortgage backed securities (CMBS);
11. A maximum of 10% of the Net Asset Value of any internally managed portfolio may be held in non-agency mortgage backed securities (RMBS);
12. A maximum of 3% of the Net Asset Value of any internally managed portfolio may be held in a single corporate parent issuer, foreign/quasi government issuer or securitized specific pool at the time of purchase;
    a. A maximum of 4% of the Net Asset Value of any internally managed portfolio may be held in a single corporate parent issuer, foreign/quasi government issuer or securitized specific pool at any time;

13. A maximum of 5% of the Net Asset Value of any internally managed portfolio may be invested in Cash;
14. The use of leverage is prohibited.

Externally Managed Permitted Investments:

1. Securities and derivatives held in separate accounts, commingled funds, limited partnerships, or limited liability companies managed by external investment managers and governed by their respective investment management contracts and investment guidelines;
2. Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the Custodian, or an SEC registered money market fund that is considered a "US Treasury" or "US Government" money market fund per the SEC regulations.

Other Externally Managed Restrictions

1. The average duration of any externally managed portfolio will be maintained in a range of + or – 25% of the index duration;
2. A maximum of 20% of the Net Asset Value of any externally managed portfolio will be invested in securities rated below investment grade as defined by any nationally recognized statistical rating organizations (NRSRO). In the case of split-rated securities, the lower rating is used;
3. A maximum of 10% of the Net Asset Value of any externally managed portfolio will be invested in Non-dollar debt; either hedged or unhedged;
4. A maximum of 5% of any externally managed portfolio will be invested in Cash.

If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any cases that the Core Fixed Income Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the Core Fixed Income Asset Class back within guidelines or a plan to do so.

Schedule II-G:
Investment Objectives and Guidelines
Non-Core Fixed Income Asset Class

Approved Date of Schedule: June 9, 2020

This Schedule is effective upon adoption by the Board and supersedes all previous Investment Objectives and Guidelines for Non-Core Fixed Income.

Statement of Purpose:
The purpose of these objectives and guidelines is to:

1. Establish the investment objectives and performance standards of the Non-Core Fixed Income Asset Class; and
2. Provide diversified exposure to the Non-Core Fixed Income markets in a prudent and cost-effective manner.

Investment Objective:

Strategic:
The objective of the Non-Core Fixed Income Asset Class is to attain the highest possible total return within the parameters of the Investment Guidelines set forth below.

Performance:
Success in achieving this objective will be measured by comparing the risk and after-fee return of the Non-Core Fixed Income Asset Class to the **Bloomberg Barclays US High Yield - 2% Issuer Cap Index** (the “Benchmark”). Performance results will be monitored and evaluated quarterly. However, the success in achieving the objective will be measured on a three-year, five-year, and ten-year annualized basis.

Investment Guidelines:

Staff will have full discretion to manage the Non-Core Fixed Income Asset Class consistent with the investment guidelines stated below. Non-Core Fixed Income is defined as strategies primarily invested in High Yield Corporate Debt, Emerging Market Debt, Convertible Debt and Preferred Securities. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

Permitted Investments:

The Non-Core Fixed Income Asset Class may invest only in the following:

1. Securities and derivatives held in separate accounts, commingled funds, limited partnerships, or limited liability companies managed by external investment managers and governed by their respective investment management contracts and investment guidelines;
2. Cash – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the Custodian, or an SEC registered money market fund that is considered a “US Treasury” or “US Government” money market fund per the SEC regulations.

Other Restrictions

1. A maximum of 10% of the Net Asset Value of the Non-Core Fixed Income Asset Class shall be held in Non-U.S. securities if they are denominated in a foreign currency;
2. The average duration of the Non-Core Fixed Income Asset Class will be maintained in a range of + or – 25% of the index duration.

If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board’s next regularly scheduled quarterly meeting, the CIO shall inform the Board of any cases that the Non-Core Fixed Income Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the Non-Core Fixed Income Asset Class back within guidelines or a plan to do so.

Schedule II-H:
Investment Objectives and Guidelines
Cash Asset Class

Approved Date of Schedule: June 9, 2020

This Schedule is effective upon adoption by the Board and supersedes all previous Investment Objectives and Guidelines for the Cash Asset Class that is part of the Consolidated Asset Pension Pool.

Statement of Purpose:
The purpose of these objectives and guidelines is to:

1. Establish the investment objectives and performance standards of the Cash Asset Class; and
2. Provide exposure to the cash-equivalent markets in a prudent and cost-effective manner.

Investment Objective:

Strategic:
The objective of the Cash Asset Class is to attain the highest possible total return within the parameters of the Investment Guidelines set forth below.

Performance:
Success in achieving this objective will be measured by comparing the risk and after-fee return of the Cash Asset Class to the **Federal Reserve US Treasury Constant Maturity 1-Month Index** (the "Benchmark"). Performance results will be monitored and evaluated quarterly. However, the success in achieving the objective will be measured on a three-year, five-year, and ten-year annualized basis.

Investment Guidelines:
Staff will have full discretion to manage the Cash Asset Class consistent with the investment guidelines stated below. Compliance with the following guidelines for permitted investments and other restrictions is the sole responsibility of the Staff. Any exceptions or compliance violations are to be reported to the Board at the next scheduled quarterly Board meeting.

Permitted Investments:

The Cash Asset Class may invest only in the following:

1. Cash and Cash Equivalents – either an investment in the Short-Term Investment Pool (STIP), a vehicle available through the Custodian, or an SEC registered money market fund that is considered a "US Treasury" or "US Government" money market fund per the SEC regulations.

If at any time, due to market fluctuations or any other circumstances, any of the guidelines are not maintained, Staff will use its best efforts to conform to these limits in a timely manner, while considering current market conditions and the associated costs of rebalancing. At the Board's next regularly scheduled quarterly meeting, the CIO shall inform the Board of any cases that the Cash Asset Class allocations were outside of the limits and either inform the Board of the actions that were taken to return the Cash Asset Class back within guidelines or a plan to do so.