

Transportation Infrastructure

Mike Dyadyuk

Macquarie Infrastructure and Real Assets

January 2019

NCTransportationSummit.com

#NCTransportationSummit



Important Notice

The name "Macquarie" in this document refers to the Macquarie Group which comprises Macquarie Group Limited ABN 94 122 169 279 and its worldwide affiliates. Macquarie comprises two separate sub groups, a banking group (including Macquarie Bank Limited ABN 46 008 583 542 ("MBL")) and a non-banking group which includes Macquarie Asset Management ("MAM"), a full-service asset manager. Within MAM, Macquarie Infrastructure and Real Assets ("MIRA") provides alternative asset management services in relation to real assets, including infrastructure, real estate, energy and agriculture.

This document does not constitute an offer to sell or a solicitation of an offer to subscribe or purchase or a recommendation of any securities and may not be distributed in any jurisdiction except in accordance with the legal requirements applicable in such jurisdiction. The information contained in this document is subject to discussion, completion and amendment. This document does not contain all the information necessary to fully evaluate the potential of an investment in any fund and does not take into account the investment objectives or financial circumstances of the recipient and, as such, no reliance should be placed on its contents. No person is authorized to give any information or to make any representation not contained in this document in connection with the matters described in this document, and, if given or made, such information or representation may not be relied upon as having been authorized.

This document and its contents are confidential to the person to whom it is delivered and must not be reproduced or distributed, either in whole or in part, nor its contents be divulged by such persons to any other person without the prior written consent of MIRA Americas, Inc. (the "Manager"). Nothing in this document constitutes a commitment from Macquarie to provide or arrange any facility or is otherwise imposing any obligation on Macquarie. Past performance is not an indication of future performance and Macquarie does not guarantee the performance of or return of capital from any investment in any fund.

Other than MBL, none of the entities noted in this document, including the Fund or the General Partner, is an authorized deposit-taking institution for the purposes of the Banking Act of 1959 (Commonwealth of Australia). The obligations of these entities do not represent deposits or other liabilities of MBL. MBL does not guarantee or otherwise provide assurance in respect of the obligations of these entities.

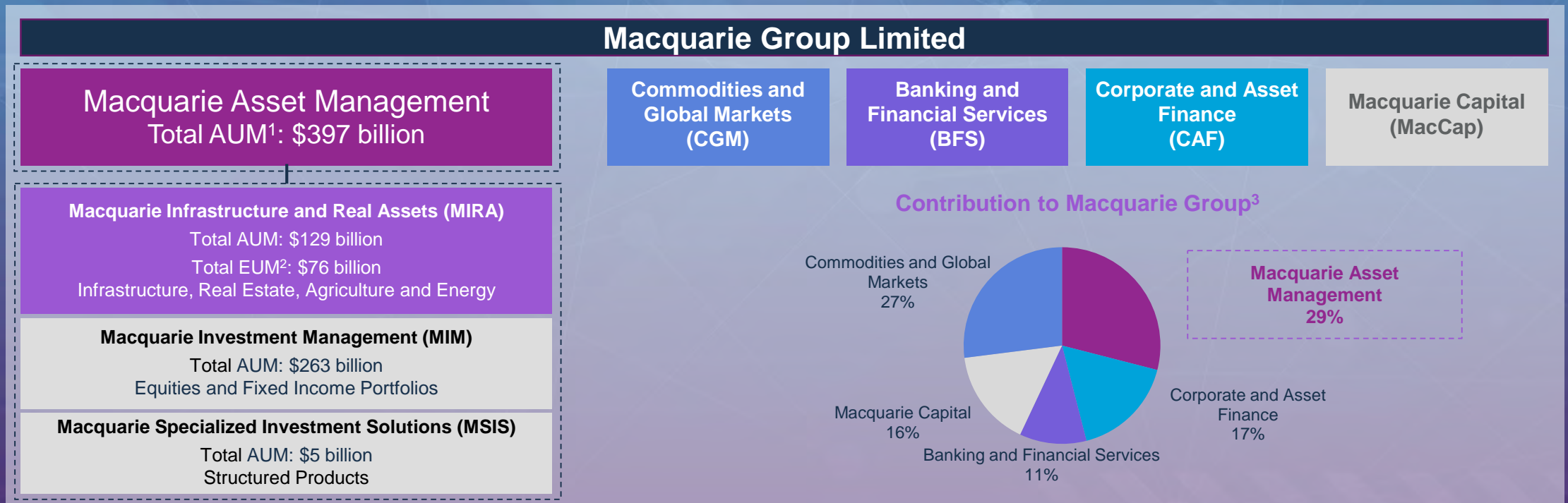
No action has been or will be taken which would allow an offering of securities to the public. Accordingly, the securities referred to in this document may not be offered, sold or delivered, and neither this document nor any offering material may be distributed or made available to the public.

The Manager has prepared this document on the basis of sources believed to be reliable. The accuracy of such information (including all assumptions) has been relied upon by the Manager and has not been independently verified by the Manager. Nothing in this document constitutes accounting, legal, regulatory, tax or other advice. Prospective investors should conduct their own independent investigation and assessment and should seek independent advice as to the validity of the information contained in this document, and the economic, financial, regulatory, legal, taxation, stamp duty and accounting implications of that information, including the merits of and any risks relating to any investment. Except as required by law, the Manager and its respective directors, officers, employees, agents and consultants make no representation or warranty as to the accuracy or completeness of the information contained in this document, and take no responsibility under any circumstances for any loss or damage suffered as a result of any omission, inadequacy, or inaccuracy in this document.

This document includes forward-looking statements, forecasts, estimates, targets, opinions and investment theses. No representation is made or will be made that any forward-looking statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results and operations to vary materially from the forward-looking statements. Similarly no representation is given that the assumptions disclosed in this document upon which forward-looking statements may be based are reasonable. There can be no assurance that the investment strategy or objective of any fund will be achieved or that investors will receive a return of the amount invested. Investment in any fund is subject to significant risks of loss of income and capital. This document does not contain all the information necessary to fully evaluate any transaction or investment, and you should not rely on the contents of this document. Any investment decision should be made based solely upon appropriate due diligence and, if applicable, upon receipt and careful review of the private placement memorandum or other offering document for any applicable fund as amended, supplemented, restated and otherwise modified from time to time (the "Memorandum"). This document includes forward-looking statements that represent our opinions, expectations, beliefs, intentions, estimates or strategies regarding the future, which may not be realized. Forward-looking statements include statements about the investment strategy, regional allocation, risk level, principal target sectors, gross yield, internal rate of return and fund vintage. These statements may be identified by the use of forward-looking terminology such as "may," "can," "will," "would," "seek," "should," "expect," "anticipate," "project," "estimate," "intend," "continue," "target," or "believe," or the negatives thereof or other variations thereon or comparable terminology. The forward-looking statements reflect our views and assumptions with respect to future matters as of the date of this document and are subject to risks, uncertainties and changes. Actual and future results and trends could differ materially from those described by such statements due to various factors, including those beyond our ability to control or predict. Given these uncertainties, you should not rely on the forward-looking statements. We do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Certain information in this document (including certain forward-looking statements and financial, economic and market information) has been obtained from sources that we consider to be reliable, based on present circumstances, market conditions and beliefs. We have not independently verified this information and cannot assure you that it is accurate or complete. Unless otherwise noted, the information in this document is presented as of its date. It does not reflect any facts, events or circumstances that may have arisen after that date. We have no obligation to update this document or correct any inaccuracies or omissions in it. Any financial targets, including the target gross yield and the target internal rate of return, have been prepared and set out for illustrative purposes only and do not in any manner constitute a forecast.

Macquarie Overview

MIRA is a standalone business within Macquarie Asset Management, with a 24-year track record in infrastructure and real asset investment and management



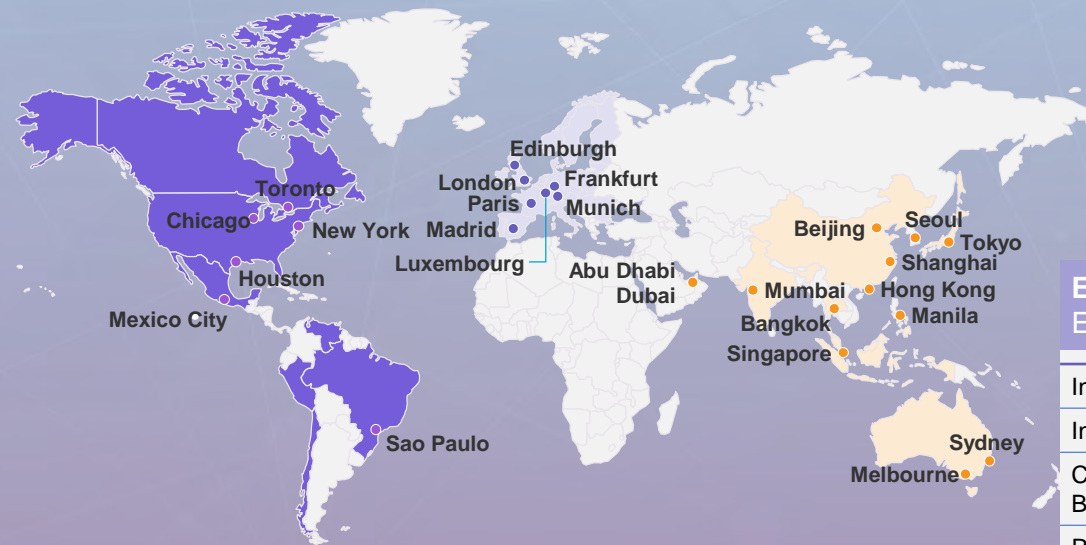
1. For MIRA, AUM represents the enterprise value of assets under management in U.S. Dollars based on enterprise value in proportion to the MIRA-managed equity ownership of each investment, calculated as proportionate net debt and equity value. For MIM, AUM is inclusive of cash and equity under management, excluding leverage. For MSIS, AUM is inclusive of client equity under management. 2. EUM is defined as market capitalization plus fully underwritten or committed future capital raisings for listed funds, committed capital less any called capital returned to investors for unlisted funds and invested capital for other MIRA managed businesses. For jointly managed funds, amount is representative of Macquarie's economic ownership of the JV manager. Adjustments have been made where MIRA managed funds have invested in other MIRA managed funds. Information as of September 30, 2018. 3. Net profit contribution is management accounting profit before unallocated corporate costs, profit share and income tax. Pie chart is based on 1H19 net profit contribution from operating groups (as of September 30, 2018).

MIRA's Global Platform

MIRA's local approach to investing allows for differentiated market insights

MIRA's Global Team – Dedicated Investment Professionals Across 24 Offices Worldwide

Americas Established 2001	
North America (2001)	
Investment Staff:	85
Infrastructure EUM:	\$15b
Current Infrastructure Businesses:	26
Realizations:	16
Latin America (2009)	
Investment Staff:	16
Infrastructure EUM:	\$0.3b
Current Infrastructure Businesses:	5
Realizations:	1



Europe Established 1998	
Investment Staff:	102
Infrastructure EUM:	\$25b
Current Infrastructure Businesses:	40
Realizations:	26

Asia-Pacific Established 1994	
Asia (2002)	
Investment Staff:	77
Infrastructure EUM:	\$12b
Current Infrastructure Businesses:	51
Realizations:	17
Australia (1994)	
Investment Staff:	46
Infrastructure EUM:	\$8b
Current Infrastructure Businesses:	7
Realizations:	5

Office locations as of June 30, 2018. All other data is as of March 31, 2018. For informational purposes only. In this context, Infrastructure equity under management ("EUM") includes equity currently managed by MIRA funds and their predecessor funds. For unlisted funds, equity under management is measured as capital committed by investors less any called capital which has been subsequently returned to investors. For listed funds, equity under management is measured as the market capitalization plus fully underwritten or committed future raisings. Realizations includes full and partial realizations to third parties and internalizations.

MIRA's Investment Philosophy

MIRA's operational and financial professionals apply a structured approach to driving value at our portfolio companies

1

Positions of Control

seeking positions that provide significant influence over key business decisions

2

Active Asset Management

working with management to set the strategic direction and agree key business initiatives to drive value

3

Strong Alignment

incentivizing management to deliver operational and financial results

4

Robust Risk Management

establishing and reinforcing a culture of risk management, including ESG and OH&S

ESG at MIRA

We define sustainability as the management of ESG risks and opportunities by our portfolio companies in order to contribute to the sustainable long-term development of those businesses

Essential community assets must be managed with care	<ul style="list-style-type: none"> • Infrastructure assets are vital to the communities they serve • MIRA recognises its role as the custodian of investments and the importance of portfolio companies being managed responsibly
Areas of emphasis	<ul style="list-style-type: none"> • Emphasis on the ESG issues that are particularly material to each business and its employees, and the industry and community in which each portfolio company operates • Areas of emphasis currently include health and safety, governance and anti-corruption, human rights, the environment, stakeholder relations and community engagement
An embedded approach	<ul style="list-style-type: none"> • Assessment of ESG issues is embedded into investment decision making process • ESG risks assessed throughout investment life cycle
Strive for high standards	<ul style="list-style-type: none"> • Each portfolio company risk framework must be adequate to ensure compliance with relevant regulations and standards in the country and industry in which it operates • MIRA encourages portfolio companies to identify and undertake measures beyond compliance, looking to international and industry best practice



MIRA is a division within Macquarie Asset Management, which is a signatory to the United Nations supported Principles for Responsible Investment (PRI)¹



“Responsible investment is an approach to investment that aims to incorporate environmental, social and governance (ESG) factors into investment decisions, to better manage risk and generate sustainable long-term returns.” - PRI



MIRA has been a member of GRESB Infrastructure since its launch in 2016. GRESB Infrastructure provides systematic assessment, objective scoring, and peer benchmarking for ESG performance of infrastructure companies and funds.

1. For more information, please refer to MAM's transparency report on the PRI website: <https://reporting.unpri.org/surveys/PRI-reporting-framework-2017/13B6ED53-A84F-4819-8BD6-ACC7155175EF/79894dbc337a40828d895f9402aa63de/html/2/?lang=English&a=1>

For more information, please refer to MIRA's publication "ESG – Our Framework"

MIRA Roads Experience

Significant experience in toll-road investments and management globally

Current Toll Road Investments

France
 ■ APRR

United Kingdom

■ M6 Toll

Germany

■ Warnow Tunnel

Mexico

■ Decarred

U.S.

- Dulles Greenway
- Midtown Tunnel
- Goethals Bridge



India

- Ashoka Concessions
- Gujarat Roads & Infrastructure
- Swarna Tollways Private Limited

South Korea

- Baekyang Tunnel
- Cheonan-Nonsan Expressway
- Gwangju 2nd Beltway Section 1
- Gwangju 2nd Beltway Section 3-1
- Incheon Grand Bridge
- Incheon International Airport Expressway
- Machang Bridge
- Seoul Chuncheon Expressway
- Soojungsan Tunnel
- Woomyunsan Tunnel
- Yongin-Seoul Expressway

21 toll roads under management

> 5,000 km of roads

>1 million vehicles per day

MIRA Airports Experience

MIRA has significant experience managing airports across the globe¹

MIRA: Airport Experience Overview

MIRA has experience managing 14 airport portfolio businesses and currently oversees 7 investments globally

- MIRA's current airport portfolio comprises controlling or joint-controlling interests in Aberdeen, Brussels, Glasgow, Hobart and Southampton airports, and minority interests in Delhi and Hyderabad airports through an interest in GMR Airports
- MIRA has previously held controlling or joint-controlling interests in Birmingham, Bristol, Newcastle, Rome and Sydney airports, Copenhagen, and minority interests in Grupo Aeroportuario del Sureste de Mexico (ASUR)



MIRA: Airport Investments

Current Portfolio Businesses		
Business	Acquisition Year	2017 pax (m) ²
Aberdeen	2014	3.1
Brussels	2004	24.8
Glasgow	2014	9.3
Hobart	2008	2.5
Southampton	2014	2.1
Delhi	2011	63.5
Hyderabad	2011	18.3

Prior Portfolio Businesses	
Business	Investment Period
Birmingham	2001-2007
Bristol	2002-2014
Newcastle	2005-2012
Rome	2003-2007
Sydney	2002-2014
ASUR	2007-2010
Copenhagen	2005-2017

1. Passenger numbers sourced from individual airport websites. Information as of July 2018.

MIRA in North America

MIP consistently invests across a diverse range of core and core-plus infrastructure sectors

\$8.8 billion invested in 30 portfolio companies¹

\$7.7 billion returned to investors²



32% invested in Utilities³

8% invested in Power and Midstream³

32% invested in Transportation³

17% invested in Communications³

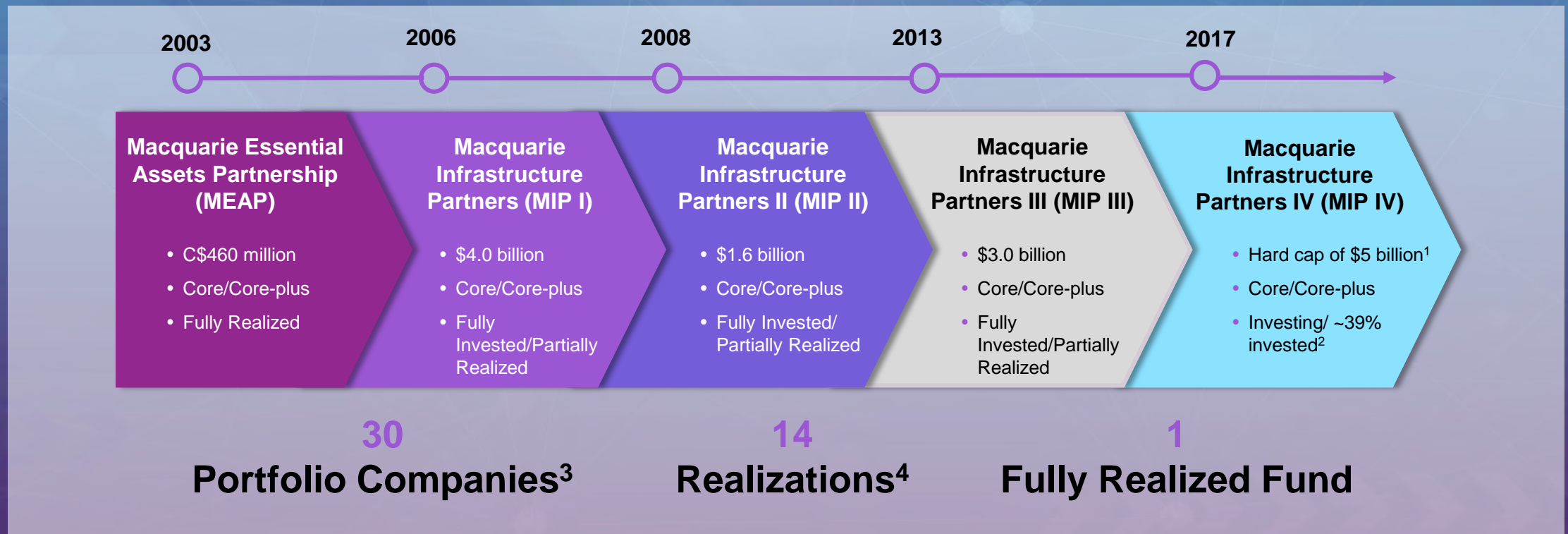
11% invested in Waste Management³

Items in italics represent fully realized investments as of September 30, 2018.

Note: Past performance is not necessarily indicative of future results of an investment in MIP IV and there can be no assurance that the Fund will achieve comparable results, that the returns generated by the Fund will equal or exceed those of other Macquarie-managed funds or that MIP IV will be able to implement its investment strategy or achieve its investment objectives. 1. Represents capital invested in and binding commitments to invest capital in portfolio companies owned by MEAP, MIP I, MIP II, MIP III and MIP IV as of September 30, 2018. 2. Represents capital distributions to MEAP, MIP I, MIP II and MIP III limited partners as of September 30, 2018. 3. The % invested in each sector is calculated based on invested capital amounts, including capital committed but not yet invested under binding commitments, for MEAP, MIP I, MIP II, MIP III and MIP IV as of September 30, 2018. 4. Binding agreements to divest MIP I, MIP II and Macquarie Group's combined 44.0% interest were signed on August 8, 2018. The sale is subject to customary closing conditions, including approvals from the Washington Utilities and Transportation Commission, Federal Energy Regulatory Commission and Committee on Foreign Investment in the United States. Please note that there is no guarantee that any signed transactions pending closing will be realized or, if realized, that terms will be as set forth or assumed herein.

Proven Strategy and Track Record

Consistent strategy and strong track record of infrastructure investment since 2003



Note: As of September 30, 2018 ¹. Represents the hard cap on Limited Partner capital commitments. ². Includes capital invested and binding commitments to invest capital as of September 30, 2018. ³. Total count of distinct infrastructure businesses (realized and unrealized) owned by private infrastructure funds investing in the U.S. and Canada as of September 30, 2018. ⁴. MIP I and MIP II's realization of Global Tower Partners, and MEAP and MIP I's realization of Aquarion are each treated as one realization.

Defining Infrastructure

Infrastructure is generally defined as a set of characteristics:

Essential services provide for relatively inelastic demand and therefore lower risk of volatility throughout market cycles

Capital intensity, regulation and/or incumbency provide **barriers to new entrants**

Predictable cash flows over long-term, generally allowing mature infrastructure to deliver recurring yield to investors

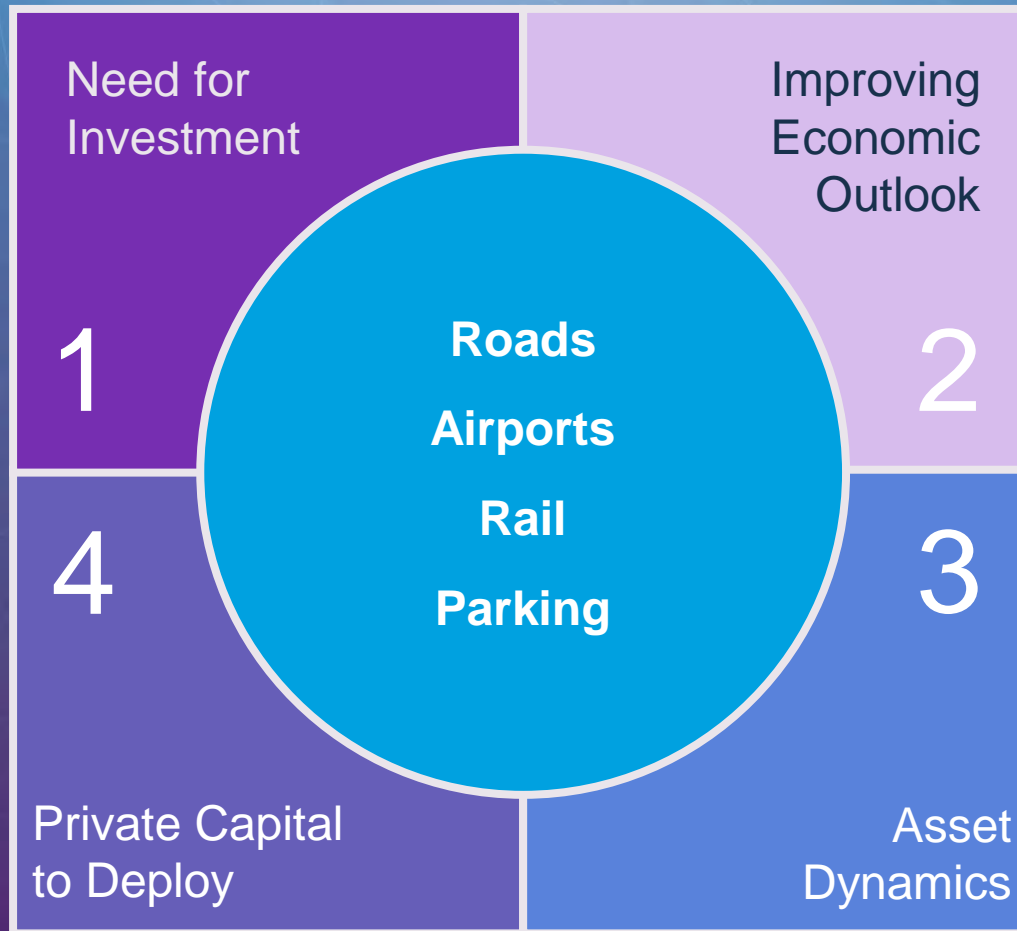
Inflation hedge benefits through revenue streams directly or indirectly linked to CPI and/or economic activity

Lower correlation to traditional asset classes provide portfolio diversification benefits.

Key Themes

Declining quality of infrastructure
Increasing political recognition
Constrained public sector funding options

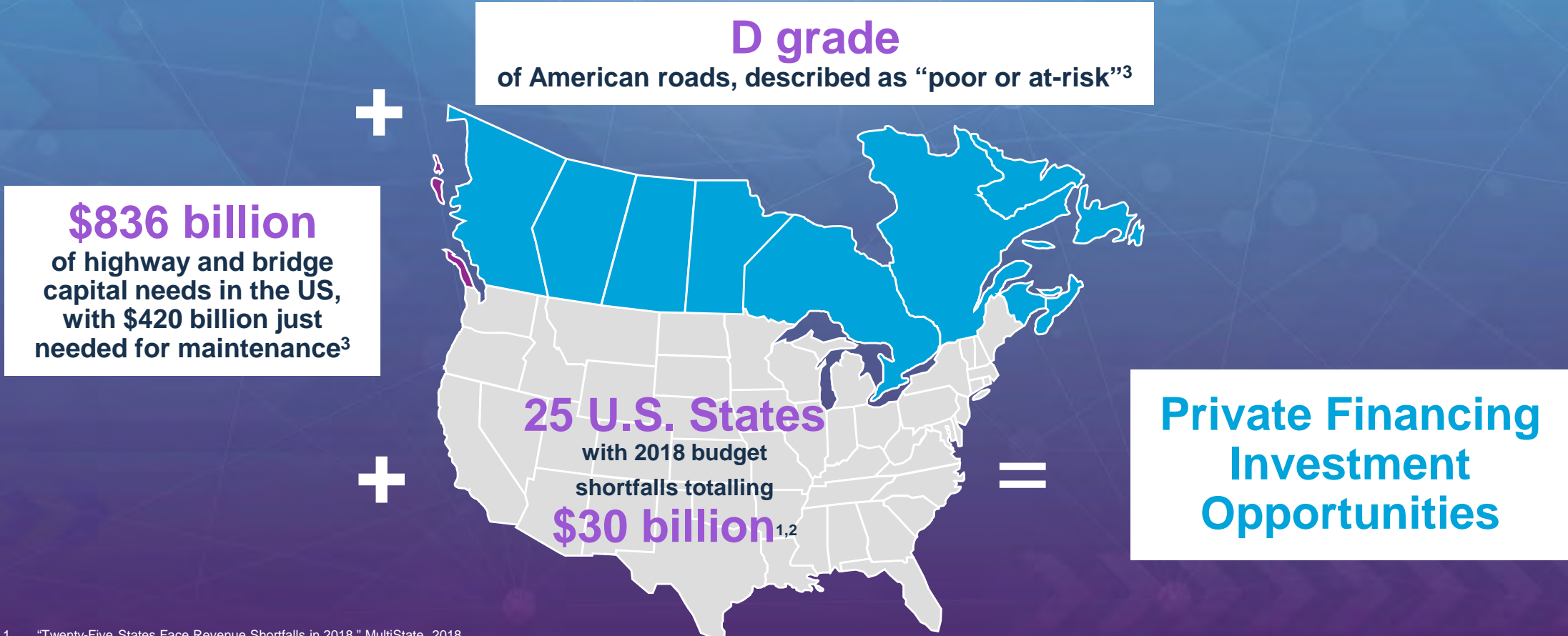
Significant demand from private capital investors
Proactive engagement to provide solutions



GDP-linked assets generating growth

Risk / return profile can vary considerably based on idiosyncratic drivers including local demographics, alternatives, and contract structures

Transportation Sector: Need for New Investment



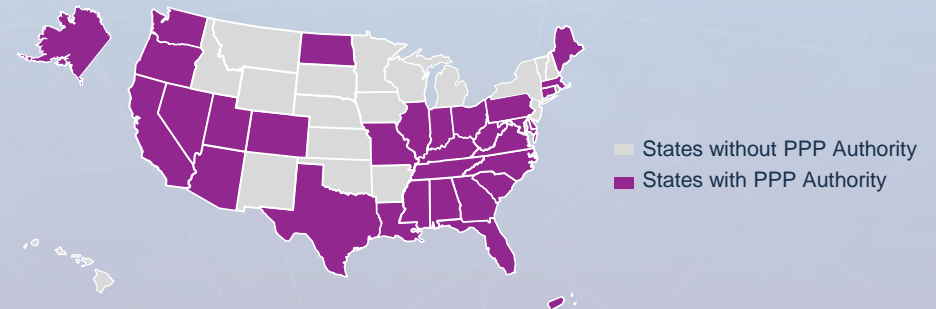
1. “Twenty-Five States Face Revenue Shortfalls in 2018.” MultiState. 2018.
2. “State Budget Shortfalls, SFY 2017 and SFY 2018.” KFF.
3. ASCE. “2017 Report Card for America’s Infrastructure.” 2017.

Public Private Partnerships (PPPs)

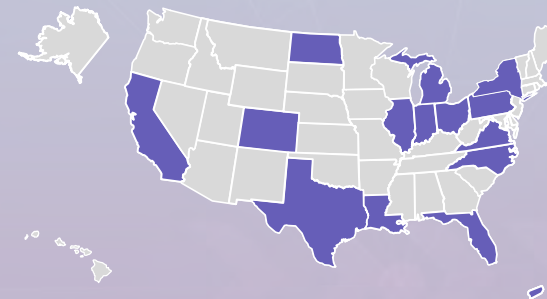
PPPs transfer risk to the private sector and can deliver optimal solutions

- More states are implementing and evaluating PPP frameworks
- PPPs create efficiencies and unlock value by transferring risks involved in projects away from the public sector to private parties that can be better positioned to manage them
 - Benefits include cost savings, expedited delivery and improved service standards
- However, local and state level political hurdles are often significant
 - Processes can be lengthy
 - Equity checks often too small to generate significant private interest

States with PPP Authorization in 2017¹



States with Active or Near-term PPP Opportunities²



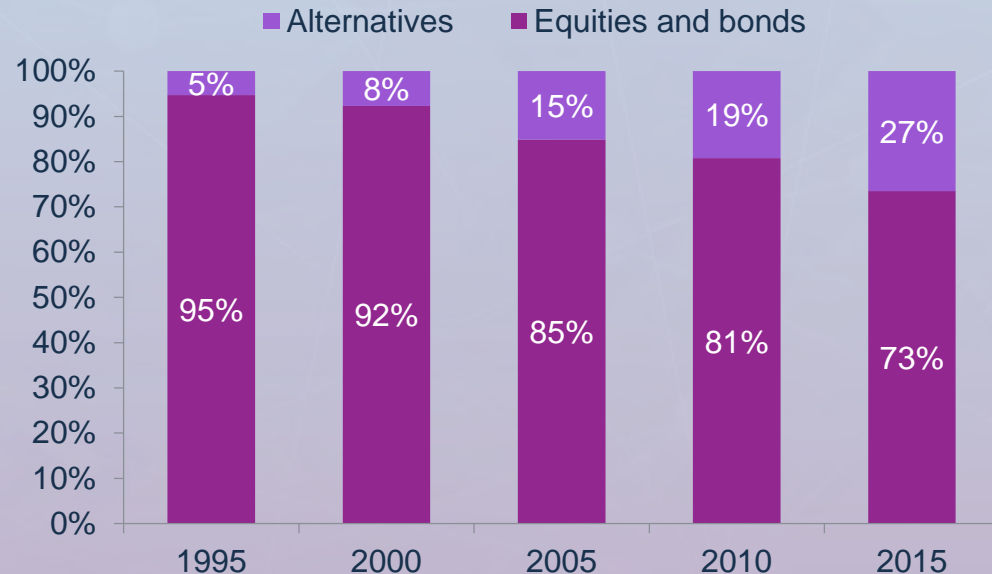
1. InfraAmericas, March 2017.

2. MIRA Estimates.

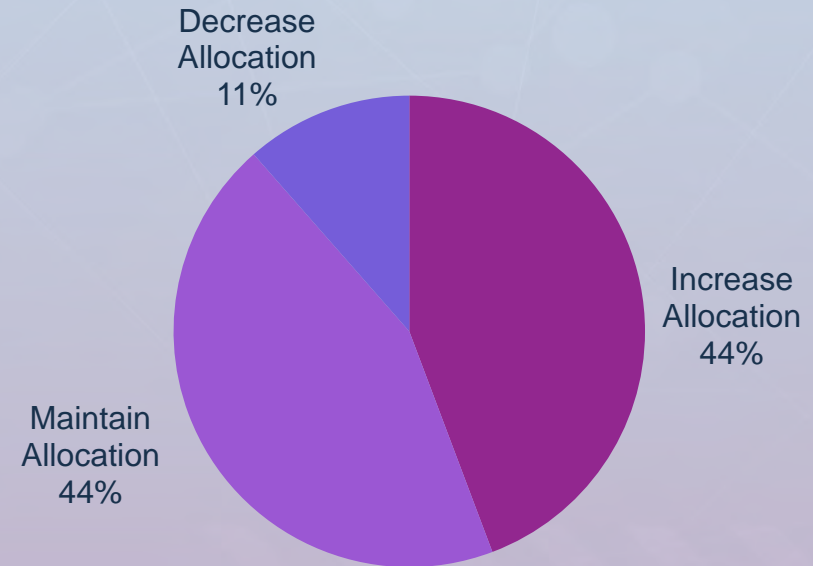
Infrastructure: The rumors are (mostly) true

Investors have been increasing their allocation to infrastructure and want to increase it further

Allocations to alternatives are rising



Investor intentions for their infrastructure allocation over the long-term



Considering the Underlying Risks

While certain sectors are generally considered infrastructure, differing underlying risks need to be considered

REGULATED

Electricity Transmission
and Distribution
Gas Transmission
and Distribution
Water and
Waste-Water

CONTRACTED

District Energy
Midstream Energy
Power Generation
Communications Towers
Storage
Waste

THROUGHPUT

Roads
Tunnels
Bridges
Airports
Rail Links
Ports
Waste

CONCESSION

Social PPPs
Transportation PPPs
Energy PPPs

Transportation Sector Overview

Roads & Other



- ~4m miles of road and ~611,000 bridges to maintain¹
- U.S. ranked 13th worldwide for road quality²
- 32 states currently have enacted PPP legislation³
- 20 notable deals closed in the past five years in North America³
- U.S. parking market generates \$9bn+ in revenue per annum and remains highly fragmented⁴

1. US DOT Bureau of Transportation Statistics, Federal Highways Administration, 2017.
2. World Economic Forum ranking.
3. InfraAmericas.
4. IBISWorld - Parking Lots & Garages in the US: Market Research Report.

Rail



- With ~140,000 track miles, the U.S. has the largest and most sophisticated network of freight railroads in the world transporting 50% of U.S. freight by distance-weighted volume¹
- Significant cost advantages in heavy hauls over medium to long distances vs. trucking and other modes of freight transport
- Despite heavy private sector investment, resurgence in demand is placing a strain on the system

1. Federal Railroad Administration.

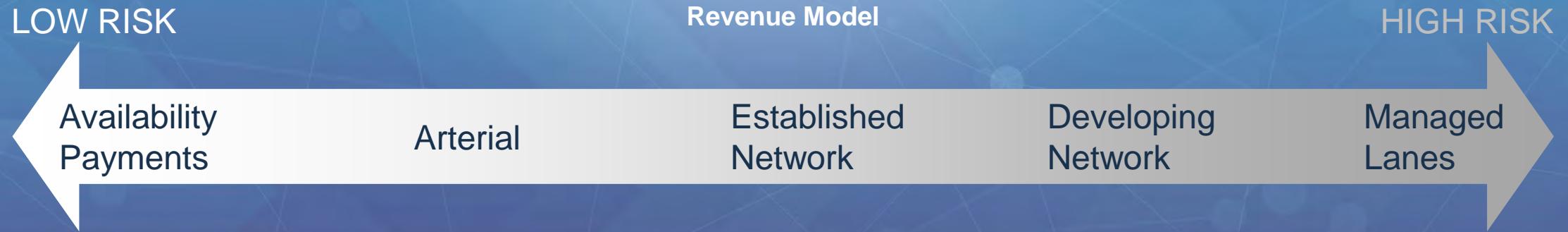
Airports



- Over 5,000 public airports, of which 86 served over 1m passengers in 2016¹
- 4 of the world's top 10 busiest airports are in the U.S.²
- ~932m passenger enplanements at U.S. airports in 2016³
- FAA analysis shows 12 of the 30 "core" U.S. airports are expected to be severely congested by 2030¹
- 12 significant airport-related transactions completed in North America over the last ten years⁴

1. Federal Aviation Administration data & FACT 2017.
2. Airports Council International 2016 rankings.
3. US DOT Bureau of Transportation Statistics.
4. InfraDeals

Revenue Models



Most opportunities involve construction risk with revenue models existing across the risk spectrum

Availability-based deals require successful teaming, cost management and structuring
e.g. Goethals Bridge

Managed lanes carry significant traffic risk, not suitable for certain infrastructure investors
e.g. Texas State Highway 130

Transportation Funding Characteristics

Transportation assets benefit from increased economic growth and can provide an effective hedge against rising inflation

Asset	Revenue Drivers	Improvement Initiatives	Debt
 Roads	<ul style="list-style-type: none"> • Most tolls CPI-indexed with downside protection • Volume-based revenue 	<ul style="list-style-type: none"> • Capex and tolling management 	<ul style="list-style-type: none"> • Long-term debt, often hedged • Debt can be tax-exempt
 Airports	<ul style="list-style-type: none"> • Contracted assets; airlines usually agree to inflation escalators; upside from retail and parking • Traffic has historically grown faster than GDP 	<ul style="list-style-type: none"> • Mix of traffic / route and retail / property improvements • Capex management 	<ul style="list-style-type: none"> • Long-term debt, often hedged • Debt can be tax-exempt
 Rail	<ul style="list-style-type: none"> • Real price increases above CPI • Volume exposure to U.S. Manufacturing (~0.8x GDP) 	<ul style="list-style-type: none"> • Capex management • Roll ups / M&A growth 	<ul style="list-style-type: none"> • Lower leverage due to cyclicity • Mostly long-term debt
 Car Parks	<ul style="list-style-type: none"> • Market based pricing dynamics; CPI in PPPs • Volume based on localized demand 	<ul style="list-style-type: none"> • Capex management • Roll ups / M&A growth • Pricing discipline and technology 	<ul style="list-style-type: none"> • Lower leverage due to cyclicity

Case Study: Autoroute 25 (“A25”) – MIP I

Key transportation link between Laval and Montréal carrying nearly 50,000 vehicles per day

Sub-Sector	Roads
Asset Type	Greenfield
Ownership	100%
Acquired	2007
Divested	2018
Invested Capital ¹	\$252 million



Asset Overview	<ul style="list-style-type: none"> 7.2 kilometer road including a 1.2 kilometer cable stayed-bridge with free-flowing automatic tolling system Connects Laval with Montréal across the Rivières des Prairies with average daily traffic of nearly 50,000 vehicles 	<ul style="list-style-type: none"> MIP I is the sole equity investor for a 35-year concession through a PPP to finance, construct, operate and maintain the A25. MIP I partnered with Kiewit-Parsons for the design and construction of the A25 Traffic continues to be consistent with Manager's forecasts
Investment Thesis	<ul style="list-style-type: none"> Protected revenue profile with combination of availability payments, guaranteed minimum toll income, and toll sharing with the local traffic authority Construction risk effectively transferred to Kiewit-Parsons design-build joint venture via a fixed-price, fixed-time contract 	<ul style="list-style-type: none"> Prior to construction completion, competing bridges were operating at or above capacity demonstrating strong local traffic demand
Manager Value-Add	<ul style="list-style-type: none"> Manage Risk. Negotiated favorable fixed-price Design-Build Contract with Kiewit -Parsons JV that delivered project under budget and ahead of schedule, with no significant quality issues since completion. Roadway maintenance and rehabilitation risk were subcontracted to Miller Group for the entire concession term. Optimize Capital Structure. Applied Manager's debt expertise to complete refinancing in 2015 which reduced the average interest rate for A25's debt and returned nearly 60% of MIP I's original invested capital (in CAD). 	<ul style="list-style-type: none"> Stakeholder Engagement. Developed and maintained excellent relations with the Transportation Ministry of Québec and other key stakeholders. Focus on safety led to only two lost time injuries over a construction period of nearly four years. Focus on Operations. In Q3 2017, Manager completed the transition of toll operators. The transition has had a number of benefits, including a lower monthly cost, real-time data availability, improved customer service, and motorcycle detection.

1. Invested capital reflects conversion from C\$229 million utilizing exchange rate at date of investment.
2. CAGR based on CAD EBITDA to eliminate exchange rate impact.



Case Study: Goethals Bridge Replacement Project – MIP III

Goethals Bridge Replacement Project is a landmark availability PPP (no traffic volume risk), which reached substantial completion in Q3 of 2018

Sub-Sector	Roads
Asset Type	Greenfield
Ownership	90.0%
Acquired	2013
Committed Capital	\$106 million



Asset Overview	<ul style="list-style-type: none"> Design and construction of a new 1.4-mile, six lane replacement Goethals Bridge between Elizabeth, NJ and Staten Island, NY and demolition of the old bridge Project was procured by the Port Authority of New York and New Jersey (“PANYNJ”) as a 35 year availability payment PPP to design, build, finance, operate, and maintain for the Project via a public auction process Financed through both Private Activity Bonds and TIFIA financing Construction has been delayed by approximately three months primarily due to crane issues and scope changes, which the Manager expects to be contractually compensated for First of two spans of the bridge opened in June 2017 with substantial completion achieved in late 2018
Investment Thesis	<ul style="list-style-type: none"> Stable and predictable revenue through an availability payment mechanism eliminating demand (traffic volume) risk Prudent capital structure relative to asset risk profile expected to provide secure cash yield post construction Ability to drive value and manage risk through holding a controlling interest; particularly focused on successful construction delivery
Manager Value-Add	<ul style="list-style-type: none"> Stakeholder Engagement. To deliver the best value to the PANYNJ, MIP III partnered with Kiewit, a partner on several successful MIRA projects including A25 and Sea-to-Sky Highway. Kiewit’s experience with such complex projects proved instrumental in securing the opportunity and with executing the construction process to date. Leadership. Project benefits from an experienced SPV management team, including executives that have worked on other MIP I projects. Focus on Operations. Self-perform strategy on operations, maintenance and rehabilitation for this particular project is expected to best manage risk and costs.

1. Not applicable given asset is currently under construction.