



# CTgig Project

## Overview of Macquarie's Proposal

May 4, 2015

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# 01

## Macquarie Introduction & Fiber Experience

# Macquarie Overview



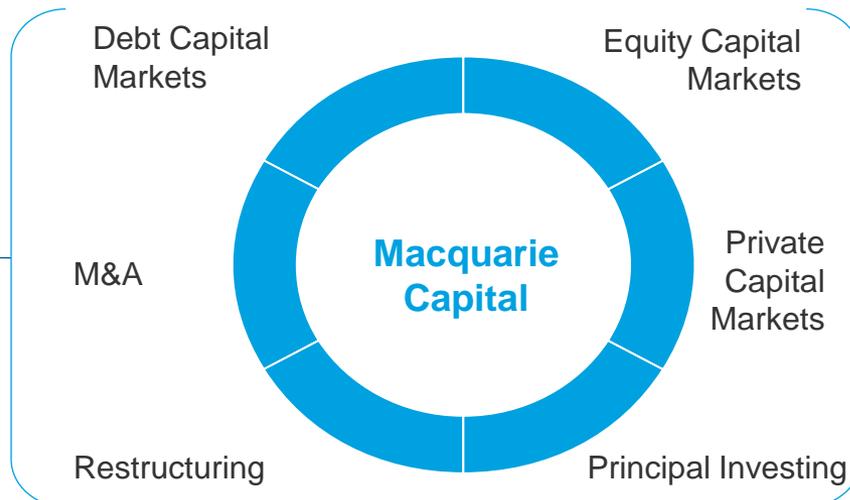
## A global, diversified financial services provider

### Macquarie Group at a Glance

- Global provider of banking, financial advisory, investment and funds management services
- Founded in 1969 as the Australian subsidiary of UK merchant bank Hill Samuel
- Established and growing presence in the US since 1994
  - ~3,000 staff in the US
- Listed on Australian Securities Exchange (ASX:MQG) since 1996
- A2/A credit rating (S&P)



### Macquarie Capital Overview



### Macquarie Group by the Numbers



### Macquarie Capital by the Numbers

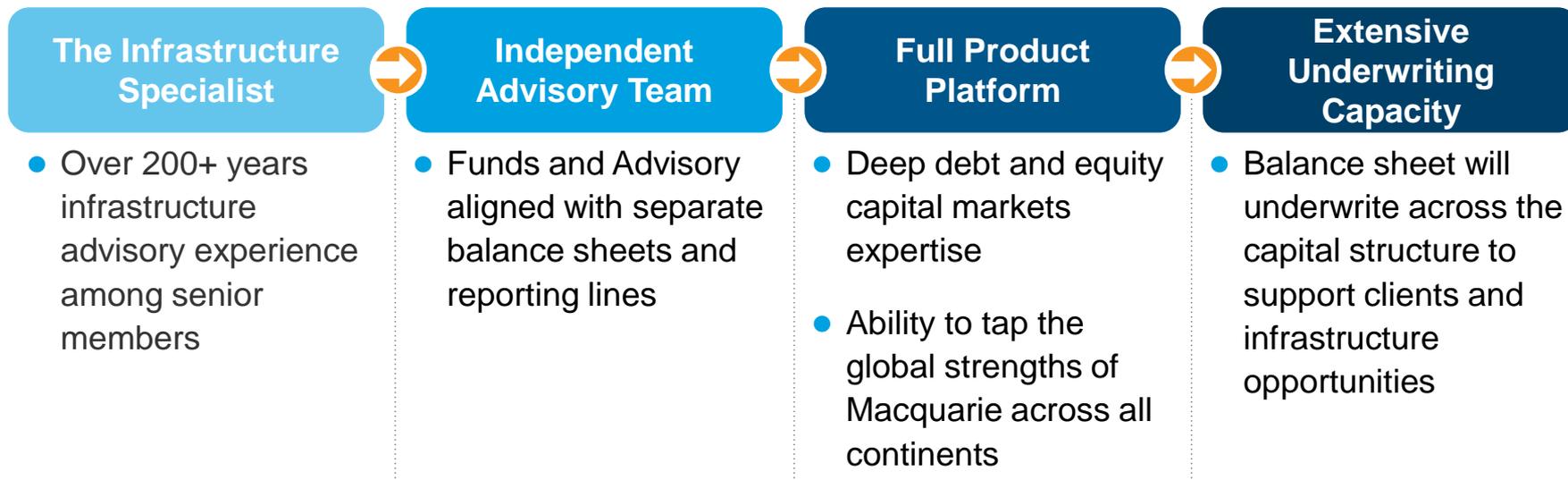


Note: Figures as of September 30, 2014; numbers exclude some JVs. Macquarie Capital statistics include acquisitions

# Commitment to Client Success



## Macquarie offers a full-service platform to clients



**We are a full-service, capital provider with a diverse client base and market leading presence**



**Best in Global Project Finance by Deal Value 2014**



**Most Innovative Bank Project Finance / Infrastructure 2014**



**Best Project Finance Advisor 2013**



**Global Social Infrastructure Deal of the Year 2013**

# Select Fiber & Telecom Experience



Macquarie has extensive experience in fiber optic and telecom transactions and was an original equity investor in one of Australia's first long-haul fiber networks



**\$250 - 350 million**

30-year concession for new statewide middle mile network in Kentucky

Sponsor, Debt Arranger, and Financial Advisor

**Pending**



**\$223 million**

P3 project to complete the UTOPIA FTTH network

Sponsor, Debt Arranger, and Financial Advisor

**Pending**



**A\$855 million**

Sale of 70% of Leighton Holding's fiber and telco assets to OTPP

Financial Advisor

**2012**



**A\$11 billion**

Structural separation of incumbent telco to allow for Australia's NBN

Financial Advisor

**2012**



**Confidential**

JV to form Mexico's second largest independent telecoms tower business, Mexico Tower Partners

Financial Advisor

**2014**



**US\$4.8 billion**

Sale of fourth largest tower company in the US owned by Macquarie Infrastructure Partners

Financial Advisor

**2013**



**£4.5 billion**

Advised and invested in refinancing of debt and equity

Principal Investor, Financial Advisor

**2013**



**Confidential**

Acquisition of remaining 50% from CPPIB

Principal Investor, Financial Advisor

**2011**

# Select PPP & Infrastructure Experience



## North American Infrastructure Specialist

**77%**  
US PPP market share based on total deal value since 2009<sup>1</sup>

**20+**  
Major North American infrastructure advisory mandates closed since 2010

**#1**  
Financial service firm for global infrastructure transactions as Financial Advisor in the last 5 years<sup>3</sup>

**67%**  
US PPP transaction involvement since 2009<sup>2</sup>

Advised on over **\$14bn** of transportation deals closed over the last 5 years

Advised on over **\$21bn** of utilities, power & renewables transactions in the last 5 years



**US\$1.2 billion**

39 year concession for the Goethals Bridge between NY and NJ

Financial Advisor  
**2013**



**US\$2.1 billion**

58 year concession of the Midtown Tunnel in Norfolk, Virginia

Sponsor, Financial Advisor  
**2012**



**US\$1.2 billion**

35 year concession of PR-5 and PR-22 Toll Roads in Puerto Rico

Financial Advisor  
**2011**



**US\$2.1 billion**

35 year concession of the Denver FasTracks commuter-rail project

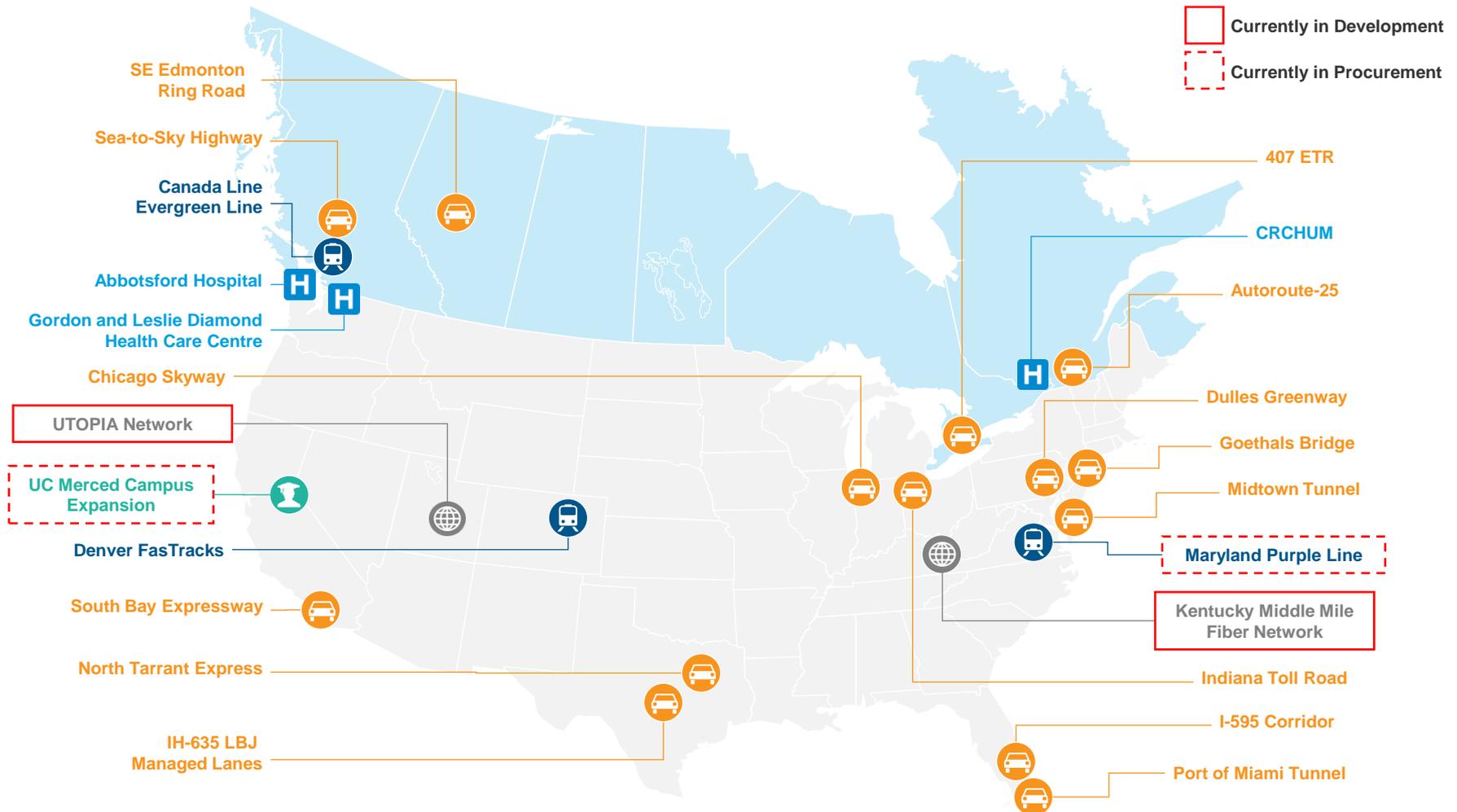
Sponsor, Financial Advisor  
**2010**

1. US P3 market share based on enterprise value of Macquarie-led transportation transactions 2009-2013 above \$500m; 2. US P3 transaction involvement based on number of Macquarie-led transportation transactions 2009-2013 above \$500m; 3. Infrastructure Journal Corporate Finance League Tables 2009-2013

# PPP Success in North America



Macquarie has successfully developed, invested, advised and arranged equity and debt financing for a full range of PPP projects in North America



# Trusted by Communities



Every day ~100 million people use essential services provided by Macquarie-managed businesses



## Airports

+97 million passengers per annum



## Roads

+13 million vehicles per day



## Rail

+3 million passengers per annum



## Ferries

+6 million passengers per annum



## Sea Ports

+4 million standard container units handled per annum



## Car Parks

+190,000 car spaces



## Communications

+76 million people through television, telephone and radio infrastructure



## Gas

+22 million households



## Water

+4 million households



## Electricity

+2 million households



## Aged Care / Retirement Villages

+3,250 beds



## Employees

+63,000 across the portfolio businesses

Note: Data as at 31 March 2014 or most recent.



# 02

## Broadband as a Utility

## Quote from FCC Chairman



# FCC

“Americans **lack real choices** among providers of high-speed internet services, with **fewer than 1 in 4 homes** having access to **two or more providers of the broadband speeds** that are quickly becoming ‘table stakes’ in modern communications”

*Tom Wheeler, FCC Chairman, September 2014*

# Broadband is a Utility



## CONSUMER DEMAND

*Enabling platform for new products*



**“Broadband is not just an infrastructure...it is a general purpose technology”**

**-World Bank**

**“As a general purpose technology, broadband can be used as a key input in nearly all industries”**

**-European Commission**



## ECONOMIC GROWTH

*Faster speeds, more opportunities*

Potential to add up to \$500 billion to the United States' GDP



## PRODUCTIVITY

*More connectivity enhances flexibility*

Broadband solutions generated \$7bn of savings in the healthcare sector



## JOB GROWTH

*Maximize participation opportunities*

Attract, train and retain workers  
Reduces entry barriers  
(transport, etc)



## CAPACITY CONSTRAINTS

*Future proof technology*

Fiber does not have the same capacity constraints as DSL and copper networks



## COMMUNITY

*Linking rural and urban areas*

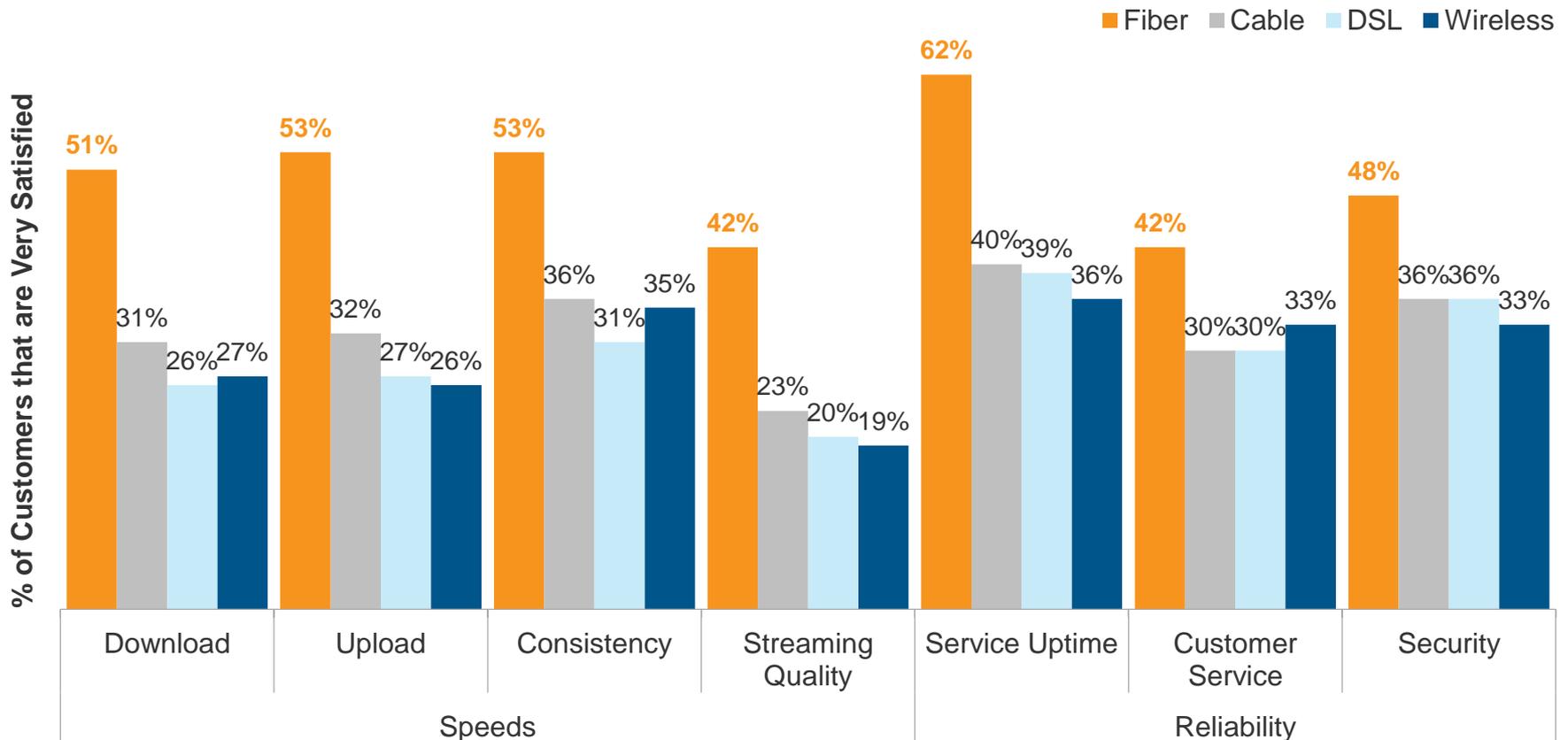
Broadband spans the digital divide and allows delivery of essential services

# Fiber Connections Achieve Greater User Satisfaction



Fiber is technologically superior to competing third party networks, and the performance based PPP model ensures reliability

2013 Customer Satisfaction Survey Results



Source: The State of North American FTTH, RVA LLC 2013

# Economic Development



Demand for change in the current state of broadband internet has created many unique infrastructure opportunities for Macquarie

## Chattanooga, Tennessee



- Volkswagen plant created **3,200 jobs** and **\$1.4 billion total tax revenues** for Tennessee
- Claris Networks moved data center from Knoxville “**just because of the network**”

## Bristol, Virginia



- **1,220 new jobs** by 2008
- **\$50 million** in private investment
- **\$37 million** in annual payrolls
- Diversifying coal-producing counties

“Chattanooga’s investment in community broadband has...made this **mid-size city in the Tennessee Valley** a hub for the **high-tech jobs** people usually associate with Silicon Valley”

*Tom Wheeler, FCC Chairman, June 2014*

# Greater Competition Delivers Greater Value for Users



Competition creates value for users by pushing incumbents to increase product quality and reduce prices

Impact of Gigabit Competition in Texas

## AUSTIN



- Developed its **own gigabit network, priced at \$70-100/month**
- Beat Google Fiber to market



- Developed its **own gigabit network, priced at \$65/month**
- Beat Google Fiber to market



- Introduced **300 Mbps** service tier
- Plans for a **citywide Wi-Fi** network

## GREATER TEXAS



- Introduced **300Mbps product for \$65/month, tripling previous maximum speeds** available near Austin
- Service **available to all residential premises** in Leader and Pflugerville, and potentially Georgetown



- Introduced **1 Gbps service** for San Antonio bedroom communities to **'get in front of Google Fiber'**
- Service **allows rural communities to compete for jobs** with San Antonio, **7th largest city in the US**

## Competition Drives Change



**at&t** “AT&T to **match Google Fiber speeds, prices** in Kansas City and suburbs... the company clearly **aimed its prices to compete with Google Fiber**”

*Kansas Star News, February 2015*



“**1 Gbps is such a leap in terms of speeds, it's** nothing we would have even considered doing **without Google in the market**”

*Matt Murphy, Grande CEO, April 2014*



# 03

## Open Access Network Model

# Open Access Network Model Overview



What is Open Access?

**A network operating under the open access model usually exhibit one or more of the following:**

1. Critical infrastructure made available to all network users on an equal basis
2. Transparent and reasonable pricing on network services; possibly at regulated prices
3. Operator of the network does not compete directly with users of the network

Why is Open Access Necessary?

- Majority of networks are proprietary and new entrants face significant capital hurdles to compete
- Lack of competition often leads to higher prices and lower quality services for consumers
- Proprietary networks owned by incumbents who also provide service present major conflicts of interest

# Benefits of Open Access



- 1 Reduction in barriers of entry for local ISP's
- 2 Promotes competition among service providers
- 3 Elimination of conflicts of interest
- 4 Uniform technical and commercial standards

## Lack of Basic Broadband in America

- Nearly **one-fifth of all Americans (~55 million)** lack access to **basic broadband services** based on new definition (25 Mbps down/ 1 Mbps up)
- Under **old definition of broadband** (4 Mbps down/ 1 Mbps up), nearly **one-fourth of rural Americans** lack access to **basic broadband services**

## More Competition Leads to Better, Faster, and Cheaper Broadband

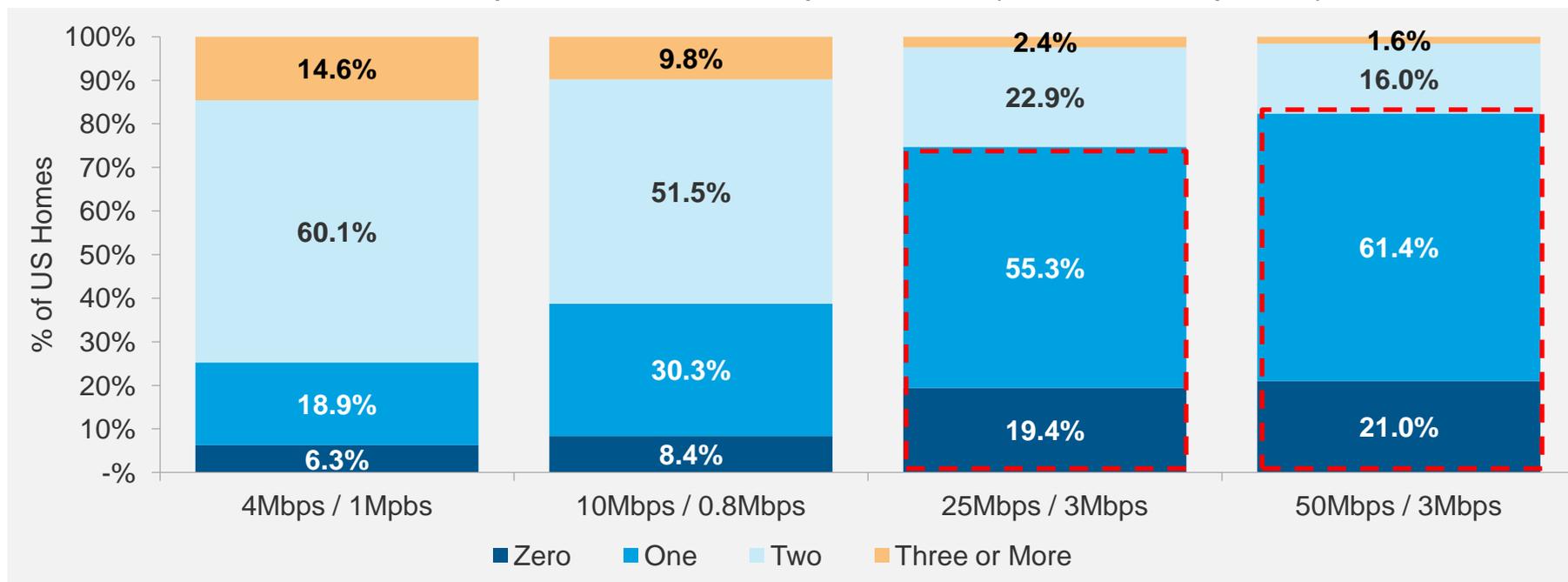
- Kansas saw a **97% surge in speeds** to 34.4 Mbps after Google announced its fiber deployment

# Importance of Open Access



Increased competition from the open access model will lead to greater consumer choices and lower end user prices

Internet Service Provider Options at Various Speed Tiers (Advertised Speeds)



Extremely Limited Choice at Higher Speed Tiers

- Almost **75%** and **82%** of homes have **no choice in providers** at 25 Mbps / 3Mbps and 50 Mbps / 3 Mbps speed tiers respectively
- Even at mid-tier speeds nearly **39%** of homes have no choice in providers



# 04

## The Public-Private Partnership (PPP) Model

# The Macquarie Model



## SCALE

- Having a project with significant scale will maximize competition benefits and attract market leading vendors to bid for the contract



## GOVERNMENT BACKSTOP

- Government backing is important both politically and commercially as creditors require strong financial backing to allow for significant leverage at efficient cost of capital



## OPEN ACCESS

- Open access model drives significant economic impact for cities / state while increasing competition amongst service providers on and off the network



## UPSIDE SHARING

- Alignment of benefits between private sector and the government promotes collaboration and reduces ongoing financial burden



## LONG-TERM

- Duration of contracts that span 15-30 years ensure that all stakeholders are committed to delivering a sustainable and successful project



# Benefits of the Macquarie Model



## DELIVERY SCHEDULE

- PPP delivery will typically result in significantly faster design and construction delivering an operating system as much as two years earlier than conventional procurement

## RISK TRANSFER

- Design-Bid-Build approach leaves the public sector with significant design and interface management risk, which requires monitoring and often leads to cost overruns and delays
- PPP delivery ensures on-time and on-budget completion and provides certainty of quality performance within the operating and maintenance budget for the entire concession

## COST SAVINGS

- PPP delivery will attract a broader and more competitive design and construction market, which is currently delivering in excess of 20% cost savings in civil projects globally
- Integration of design and construction with operations and maintenance under PPP delivery typically achieves lifecycle cost savings in excess of 20%

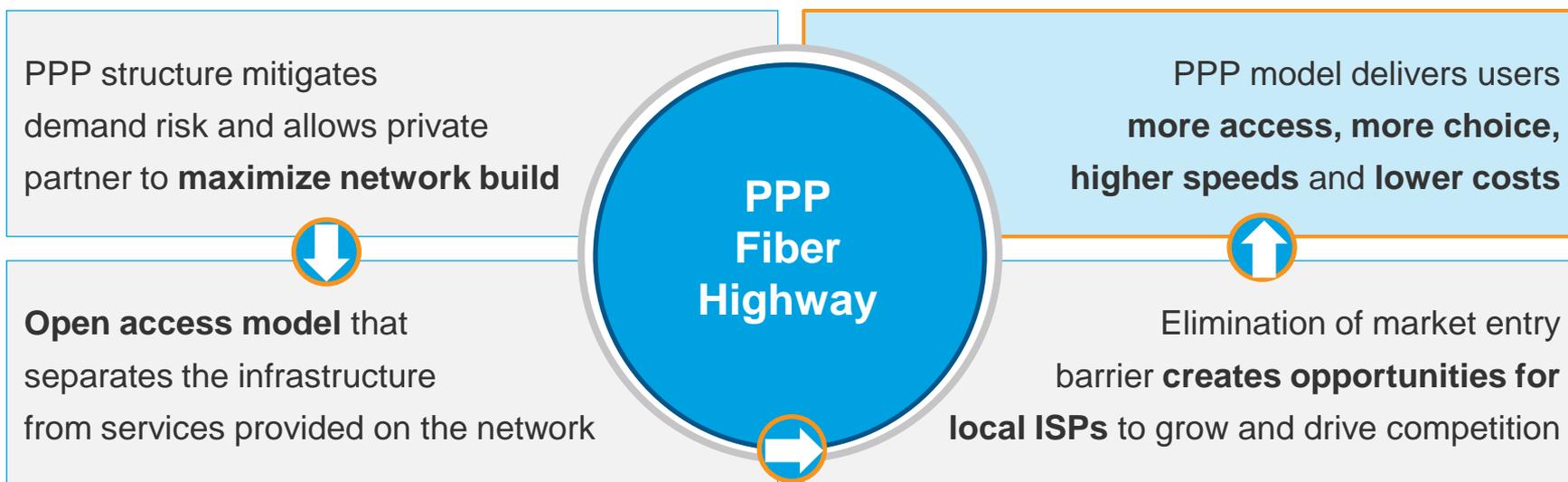
## FUNDING AVAILABILITY

- Faster delivery, risk transfer, and cost savings will allow the public sector to get more projects done with the same allocation of funding sources

# PPPs Promote Competition



PPP model provides users real choice through a guaranteed open access network



FCC's strong support for greater competition is potentially a defense against incumbents challenging the model

# Risk Transfer in PPP Structures



DBFO(M) approach maximizes long-term transfer of risk to the private sector

Private Sector Risk	DB	DBO(M)	DBF	DBFO(M)
	Design-Build	Design-Build-Operate-Maintain	Design-Build-Finance	Design-Build-Finance-Operate-Maintain
Design Risk	✓	✓	✓	✓
Construction Risk	✓	✓	✓	✓
Maintenance Risk	Public	✓	Public	✓
Operations Risk	Public	✓	Public	✓
Finance Risk	Public	Public	✓	✓
Ownership Risk	Public	Public	Public	✓
Demand Risk	Public	Public	Public	Public / Shared

Increasing transfer of risk from Government to Private Sector

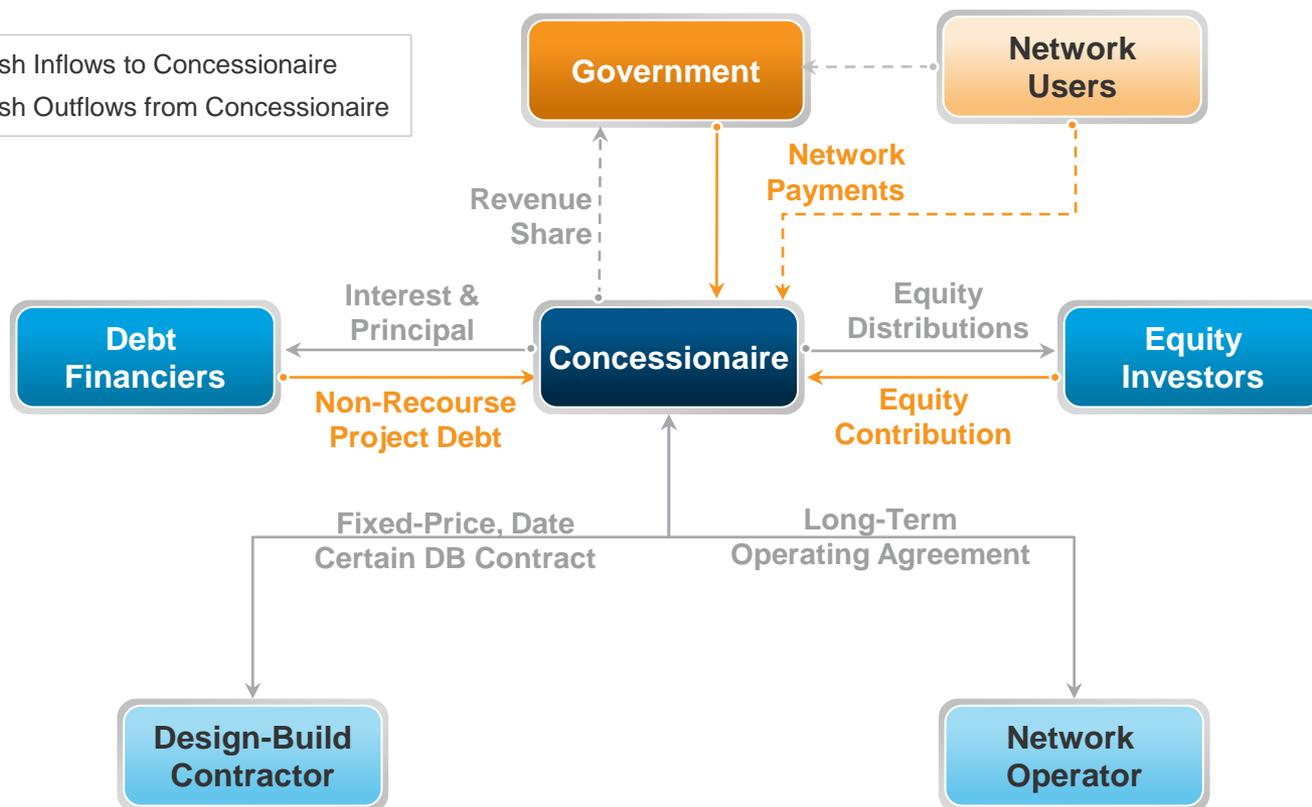
# PPP Contractual Structure



Fixed nature of the cashflows minimizes lenders' risk exposure and permits a highly leveraged capital structure with an efficient cost of capital

## LEGEND

- Cash Inflows to Concessionaire
- Cash Outflows from Concessionaire



# Funding Models for Fiber PPPs



A wide range of flexible funding models exist for governments to support PPPs

## Middle Mile (Kentucky)

- State makes monthly availability payments directly to Project Co for 30 year term
- Payments replace current payments to incumbents
- State collects from, or doesn't provide funding to, individual sites
- State provides the "backstop" for the payments

## Last Mile

- Governments can consider payment directly from tax base or pledge specific tax revenue to fund expenses
- Funding mechanic is similar to the one used for roads, schools, libraries etc.

## Last Mile (UTOPIA)

- All home and business owners in the footprint pay a Utility Fee and are entitled to a Basic Service
- Utility Fee is collected by Cities
- Cities remit Availability Payment sized to be the sum of the Utility Fees to Project Co
- Cities backstop Utility Fee in event of shortfall

Government receives significant share of incremental revenues generated from the Network

# E-Rate Overview



Latest round of E-Rate modernization creates significant opportunities for schools and libraries to develop fiber and broadband networks

## Overview

- E-Rate aims to make telecommunications and information services more affordable for eligible schools and libraries by providing discounted services
- The E-Rate discount is determined using eligibility in the National School Lunch and Breakfast Programs
- Latest round of modernization in December 2014 added incentives such as:
  - Equalizing the Treatment of Lit and Dark Fiber
  - Permitting Self-Construction of High-Speed Broadband Networks
  - Additional Discounts When States Match Funds for High-Speed Broadband Construction (10% cap)
  - Increased E-Rate Cap to Meet the Program’s Connectivity Goals

## E-Rate Discount Calculation





# 05

## Overview of the Pre-Development Agreement

# PPP Procurement Methods



Macquarie recommends the PDA approach to maximize interaction between the Cities and contracting partner to deliver a bespoke solution that meets all requirements

1

## Pre-Development Agreement

- “PDA” approach aims to partner with the Cities through an exclusive, legally binding contract that utilizes a series of milestones to deliver the project in an open-book manner
- A comprehensive feasibility study on the viability of the PPP, including not-to-exceed project costs and preliminary contracts are typically delivered as the first Milestone
- Milestone approach allows Cities to retain flexibility to pursue alternative options should the PPP not deliver value for money

2

## RFP - Qualifications

- Focused on qualifications and proposed approach to network deployment
- Less time and cost intensive approach increases competitive tension while allowing Cities to evaluate various approaches
- Results in selection of preferred business model and partner to work on a exclusive basis to finalize project cost and contractual terms
- Successfully utilized by the Commonwealth to select Macquarie to implement its statewide middle mile network

3

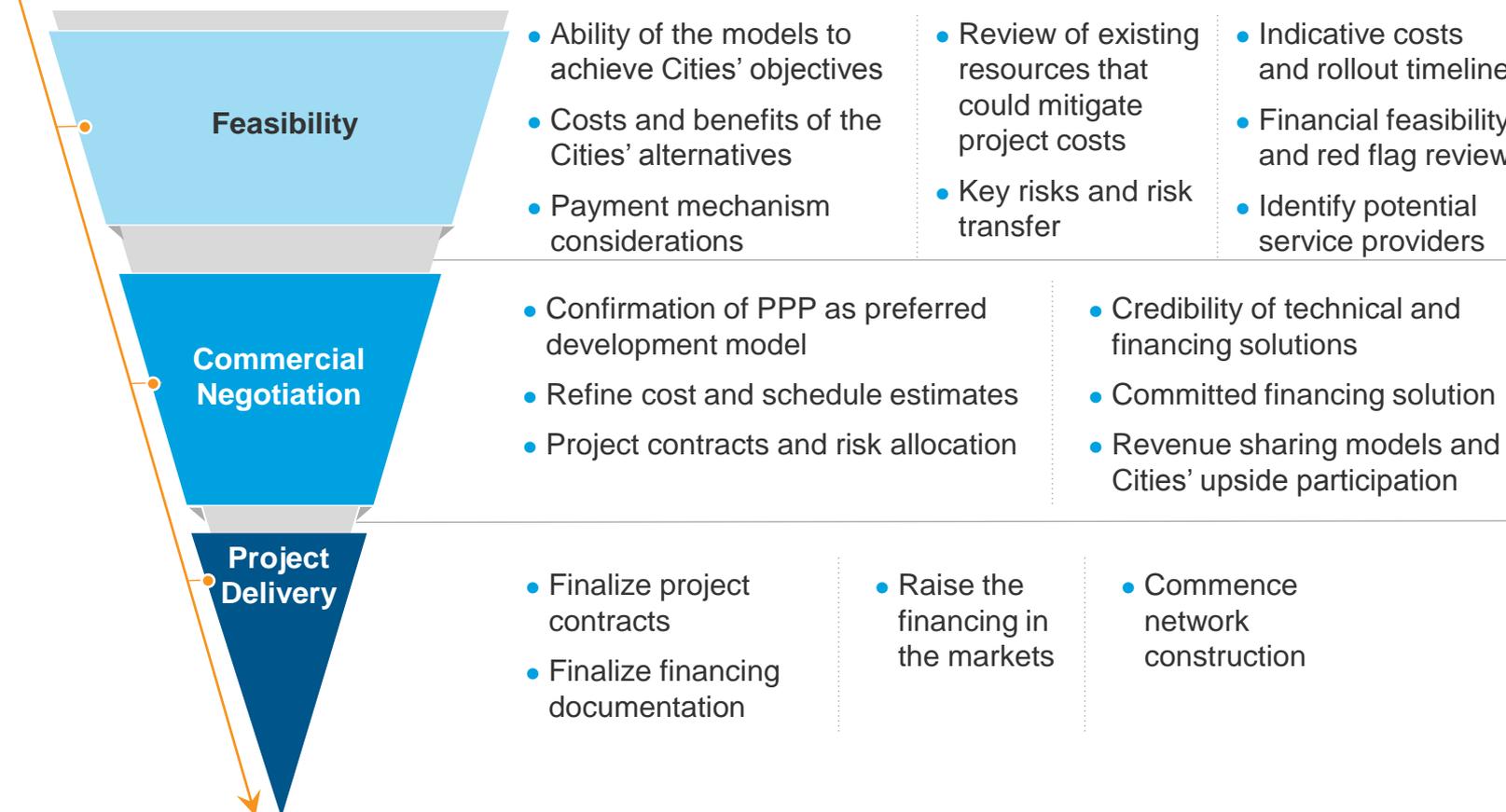
## RFP – Hard Money

- Cities creates project scope and requirements
- Typically involves a process to shortlist qualified respondents before proceeding with RFP
- Requires respondents to submit substantially complete proposals
- High cost of bidding may have deterring effect and limit the number of entities willing to respond
- Stipends for unsuccessful bidders can be offered to incentivize participation in the RFP

# Benefits of the Milestone Approach



Staged process to efficiently develop a technically and financially feasible network solution, maximizing the Cities' opportunity to capitalize on growth opportunities from a reliable, ubiquitous fiber network



# The Pre-Development Agreement



Pre-development agreement establishes an efficient framework that expedites the PPP's implementation but provides sufficient flexibility for the Cities to achieve value for money

- Pre-development agreement (PDA) establishes a framework to bring the project to financial close
  - Exclusive, legally binding contract
- Milestone approach creates tangible decision points for the Cities, and facilitate off-ramps for the Cities
  - Off-ramps provide Cities sufficient flexibility during development process to maximize value for money
  - Completion of each milestone represents greater certainty and greater commitment by the parties
- All development costs incurred up to financial close will be funded by Macquarie and its partners
  - These costs will only become reimbursable by the Cities if an off-ramp is selected
    - Budgets are agreed prior to each milestone
    - Cities are responsible for costs of its own advisors
- PDA will be superseded by binding project contracts at financial close
- Initial milestone estimated to cost ~\$500,000 to \$1 million with a duration of 4 – 6 months

# Critical Success Factors



We believe the following elements are critical in delivering a successful broadband PPP project

## GOVERNANCE & EXECUTION

- Critical that Cities create effective governance structure to interface with developer and move project forward efficiently
- Considerable dedication of internal and external resources will be required

## STRONG POLITICAL WILL

- Incumbents may resist strongly
- Payment stream may be contentious
- Streamlined permitting and ROW process critical to mitigate cost

## GLOBAL VIEW

- Consider broader impact on issues such as economic development, shrinking the digital divide, and educational and healthcare benefits

## EDUCATION

- Stickiness of incumbents not to be underestimated
- Effective awareness campaign

## OPEN ACCESS NETWORK

- Minimizes barriers to entry
- Improves end user pricing
- Promotes innovative services
- Incentivizes efficient deployment of capital

## STAKEHOLDER ALIGNMENT

- Shared upside with government and ISPs
- Balanced incentives to maximize uptake & stakeholder participation
- “Buy Local”



MACQUARIE



# 06

## Current Projects

# Kentucky Middle Mile



Development of an integrated, statewide fiber network to consolidate the State's existing infrastructure, bridge the digital divide in rural areas and encourage economic development

## Project Overview

- Commonwealth of Kentucky is developing a statewide, middle mile fiber network to connect key sites and support economic development
- Selected as highest ranked bidder by the Commonwealth in October 2014 following a competitive RFP process
- Macquarie-led consortium includes First Solutions P3, Leducor Group, Black & Veatch, Fujitsu Network Communications, and local firm Bowlin Group
- Expedited development process as Commonwealth is seeking to complete priority fiber rings as soon as possible to increase access in underserved areas

## Key Objectives of the Commonwealth

1

### Promote economic development

- Share the backbone with private sector
- Use the backbone to recruit companies to Kentucky

2

### Support collaboration between private and public sectors

- Research opportunities
- Education and public sector opportunities

3

### Access to Eastern Kentucky and rural areas

- Network will bridge service gaps and enable private vendors to better deliver network services

4

### Increase economies of scale

- Elimination of duplicate network infrastructure projects
- Combine buying power of public sector

**“We are on an aggressive timeline and believe that the Macquarie team’s technical capabilities and history of innovative solutions are the best fit for this important project...”**

**-Steve Beshear, Governor of Kentucky, December 2014**

# UTOPIA FTTH – Utah State



Application of the PPP model to new sector, delivering 1 Gbps fiber connections to over 100k+ premises in Utah

## Overview

- UTOPIA is a fiber to the home (FTTH) network in Utah
  - Macquarie seeking to expand the partially built network as a PPP as the developer and equity investor in both the PPP and Wholesaler
  - Exclusively negotiations with Macquarie governed by a Pre-Development Agreement
- PPP financing to be secured by introduction of mandatory Utility Fee payable by all addresses
  - Payment of Utility Fee entitles users to basic connectivity at no charge
  - Open access business model aimed at facilitating competition

## Participating Vendors



#1 ranked fiber manufacturer globally  
*(still in competition for DB contract)*



#1 ranked telecommunications contractor 2010-2014  
*(still in competition for DB contract)*



World's 3<sup>rd</sup> largest provider of IT services



#1 broadband access provider globally (48% share)