

UTOPIA Network PPP



UTOPIA Network PPP: Milestone One Report
Macquarie Capital

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1. EXECUTIVE SUMMARY

Macquarie Capital (“Macquarie”) and First Solutions P3 Alliance (“First Solutions”) have significantly advanced our plan for the completion and long term operation of the Utah Telecommunications Open Infrastructure Agency (“UTOPIA”) and Utah Infrastructure Agency (“UIA”, and together with UTOPIA, the “Agencies”) fiber to the premises network since execution of the Pre-Development Agreement (“PDA”) in December 2013 and are pleased to present this Milestone One Draft Proposal to the Agencies’ member cities (the “Cities”).

1.1 The Proposal

Macquarie’s proposal has been structured specifically to achieve the Agencies’ key objectives of providing a ubiquitous, open access network that increases competition and choice in the Cities, while eliminating the network’s existing operating deficit and defraying existing debt service obligations.

Furthermore, the Macquarie proposal reduces transaction execution risk for the Cities, and transfers development, financing, operating and maintenance risk to the private sector, all while maintaining ultimate ownership of the network.

MACQUARIE’S MILESTONE ONE PROPOSAL	
PROJECT NETWORK	<ul style="list-style-type: none">▪ Open access, active ethernet network providing a ubiquitous last mile gigabit fiber connection to all addresses in the Cities▪ Network portal will be installed on outside of standalone addresses (eg, single family homes), and in telecommunications closet of multiple dwelling units (“MDU”) and multi-tenant commercial buildings▪ Internet service providers (“ISPs”) will be responsible for completing connections inside the premises
PROJECT STRUCTURE	<ul style="list-style-type: none">▪ Utility fee-based public-private partnership (“PPP”) with 30 year term▪ PPP will build the network on a fixed-price, date certain basis within approximately 30 months of financial close▪ PPP will operate, maintain and refresh the network for 30 years on a fixed price basis subject to strict performance standards▪ Wholesaler will manage ISP relationships and help market the network▪ ISPs will service end users directly with little involvement from PPP or Wholesaler▪ PPP and Wholesaler will assume UTOPIA operating deficit from close
UTILITY FEE	<ul style="list-style-type: none">▪ Each address will be charged a utility fee, which is a direct reflection of the expected cost of building, operating, maintaining, and financing the network for 30 years▪ Preliminary range of \$18-20 per address per month<ul style="list-style-type: none">○ Escalated annually at a mutually agreeable index○ Addresses in MDUs to receive 50% discount○ Business addresses to be charged 100% premium▪ Grace period of up to 6 months from construction to allow time for ISPs to connect users

MACQUARIE'S MILESTONE ONE PROPOSAL	
BASIC SERVICE	<ul style="list-style-type: none"> ▪ Symmetrical basic service of up to 3 Mbps with a 20GB data cap available for free to all addresses ▪ ISPs operating on the network will be required to provide the basic service for free in exchange for ability to market premium services to users
PREMIUM SERVICES	<ul style="list-style-type: none"> ▪ ISPs will compete to provide premium data, voice and video offerings to network users ▪ ISPs will be charged transport fees related to the provision of premium services ▪ These revenues will then be split between the Agencies, the Wholesaler and the PPP, with the significant majority going to the Agencies

Macquarie has extensively reviewed alternative implementation options and transaction structures, and believes that delivery of the project as an availability PPP will create the best value for the Cities.

1.2 Key Proposal Benefits

Macquarie feels its proposal achieves the following key benefits.

KEY PROPOSAL BENEFITS	
ACHIEVABLE SOLUTION	<ul style="list-style-type: none"> ▪ Independent review of the proposed business model supports its feasibility ▪ Positive feedback from lenders suggests appetite for funding
RISK TRANSFER	<ul style="list-style-type: none"> ▪ Cities will not be required to contribute funding to the project's development ▪ All design-build, integration and ongoing operating and maintenance risks are transferred to the PPP ▪ The PPP will be required to operate the network to well-defined specifications ▪ Proposed upside sharing mechanism ensures alignment of interests between all parties
FINANCIAL UPSIDE FOR CITIES	<ul style="list-style-type: none"> ▪ Premium service revenues, assuming long-term upgrade rates of 30-50%, expected to total \$1.0-1.5 billion over the term ▪ Equivalent to approximately 2-3 times the existing debt service obligations ▪ Cities retain ownership of network assets and, upon handback at the end of the term, will receive an asset with expected annual free cash flows in excess of \$100 million
VALUE FOR MONEY	<ul style="list-style-type: none"> ▪ Significant majority of residents currently pay well in excess of the utility fee for their internet connectivity ▪ Symmetrical basic service of up to 3Mbps is comparable to competing products in the market area

KEY PROPOSAL BENEFITS	
GREATER COMPETITION	<ul style="list-style-type: none"> ▪ Separation of network infrastructure and services significantly reduces market entry and exit barriers ▪ Proposed step change in network scale has generated interest from regional and national ISPs ▪ Whether residents use the network or not, they will likely see pricing reductions from their incumbent providers, serving to offset the utility fee
SCALE AND UBIQUITY	<ul style="list-style-type: none"> ▪ Scale of project allows for efficiencies in financing, development and operating costs, and ability to attract world class design-build contractors, systems integrators and hardware providers ▪ Standardized demarcation point across network drives operating cost efficiencies ▪ Universal access will help shrink the digital divide ▪ Provides scale required to attract stronger ISPs, promoting competition and choice for consumers ▪ Connectivity amongst the cities lays a foundation for a collaboration platform amongst community services
ISP INVOLVEMENT	<ul style="list-style-type: none"> ▪ Clear distinction of responsibilities and handoff points between network and ISPs will ensure timely remedy of user issues and improved customer engagement ▪ Requirement to provide basic service for free will incentivise ISPs to invest in marketing premium services ▪ Large number of potential customers incentivizes ISPs to deploy significant resources to develop a robust service and maintenance operation
ALIGNMENT OF INTERESTS	<ul style="list-style-type: none"> ▪ Sharing amongst all parties in upside revenues ▪ Private funding model will not require the Agencies or Member Cities to contribute additional funding to realize the network's potential ▪ Speed of basic service will be competitive, if not superior, to incumbent offerings that have higher costs than the proposed utility fee ▪ All-in costs (utility fee plus ISP charge) of premium services will be competitive to incumbent offerings of inferior speed and quality ▪ Users will not be billed the utility fee until they have had the opportunity to connect to the network
PLATFORM FOR GROWTH	<ul style="list-style-type: none"> ▪ Complete network will command a much higher take-rate for premium service, which will provide additional revenues for the Cities ▪ Network can be expanded to include other cities and benefits of scale shared amongst a greater number of users

1.3 Comparison of Alternatives

The network currently faces significant capital constraints. Removing those constraints could unlock significant economic and civic benefits. A thorough evaluation of potential development models indicated that the PPP was the structure most likely to deliver these benefits, particularly given the Cities' desire to ensure the network remains open access as well as being ubiquitous across the Cities.

OBJECTIVE	PPP	SELL	SHUTDOWN
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OBJECTIVE	PPP	SELL	SHUTDOWN
Reduction in the Agencies' Operating Deficit	●	●	●
Defray Service Obligations on Existing Debt	●	●	●
Parity of the Network Build Across the Cities	●	●	●
Certainty of Execution	●	●	N/A
Expand the Existing Subscriber Base	●	●	●
Ubiquitous Last Mile Connection	●	●	●
Increase Service Offerings to Users	●	●	●
Provision of Civic Benefits (Public WiFi, etc.)	●	●	●
Increase Price Competition & Choice for Users	●	●	●

● High probability
● Medium probability
● Low probability

Macquarie believes the divestment model carries excessive execution risk to be considered a viable option. Firstly, the Cities lose control over the network and future investment will only occur if the acquirer considers it commercially viable. The capital cost of the project is substantial, and the benefits from a ubiquitous buildout are such that divestment would only be a viable alternative if there is a well capitalized buyer able to propose a feasible alternative to the PPP. Macquarie understands that no such bidders have tabled an offer to the Cities.

1.4 The Proposed Model

The business model has been developed to maximize efficiency and alleviate current operational issues through the implementation of clear handoff points between the PPP, the Wholesaler and the ISPs. The Agencies will not have an operational role in the network but will be responsible for overseeing the PPP and auditing its performance relative to the standards set out in the Concession Agreement.

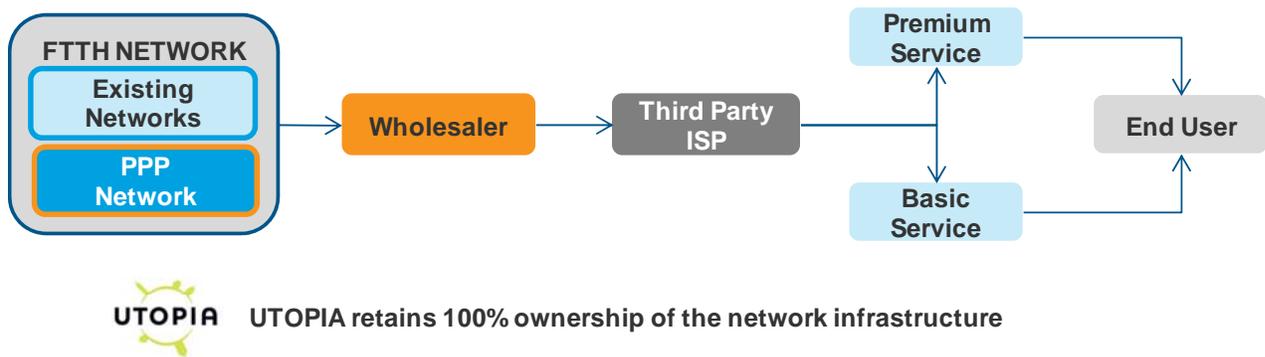
	Design-Build	Operations & Maintenance	Network Refresh	Sales & Marketing	Basic Service	End User Contact
Agencies	x	x	x*	x	x	x
PPP	✓	✓	✓	x	✓	x
Wholesaler	x	x	x	✓	x	x
ISPs	x	x	x	✓	✓	✓

*Agencies will only participate in the network refresh in the event network specifications are changed from those established in the Concession Agreement.

The PPP will build the network to a designated demarcation point on the outside of a residence or at the communications cabinet of a business or MDU. The ISPs will be responsible for completing the connection into the home or business. The PPP will subsidize the ISPs' installation costs, and ISPs will be prohibited from charging additional costs to the customer for a standard installation.

Users with installed connections will select a preferred ISP, who will be required to provide a symmetrical best efforts service of up to 3Mbps with a 20GB monthly data cap at no incremental charge above the utility fee. The ISPs will market products above this basic service as premium services for which they can charge a fee.

The Wholesaler will generate revenues from the transport fees paid by the ISPs for bandwidth used by premium service customers. UTOPIA will receive the significant majority of these revenues, while the Wholesaler will receive a share that increases with take rates. The PPP will also have modest participation in these revenues as part of a broader alignment of interests to operate the network in such a way that incentivizes users to upgrade, and in recognition of the increased costs of operating a network with more traffic.



1.5 Milestone One Work Program

Macquarie and First Solutions undertook a significant work program during Milestone One. The key components of that process are outlined below:

Design-Build	<ul style="list-style-type: none"> ▪ Prepared Request for Qualifications and solicited expressions of interest to complete the outside plant from 14 local, regional and national contractors ▪ Shortlisted two proponents, Black & Veatch and Corning <ul style="list-style-type: none"> ○ Each of these two contractors will develop fixed-price date-certain design-build proposals in competition to ensure the best value solution for the network ▪ Shortlisted proponents prepared indicative cost estimates for completion of the network buildout – expedited timeframe generated pricing 7 weeks after RFQ ▪ Commissioned an independent technical analysis of the existing network and UTOPIA's internal cost and scheduling estimates for network completion
Network Equipment & Systems	<ul style="list-style-type: none"> ▪ Solicited proposals for equipment and system integration from 4 world-class providers ▪ Coordinated highly competitive process to select equipment vendor (Alcatel-Lucent)

Integration	<p>and systems integrator (Fujitsu) partners</p> <ul style="list-style-type: none"> o Both partners provided detailed cost estimates
Operations, Maintenance & Refresh	<ul style="list-style-type: none"> ▪ Solicited proposals for ongoing network operations, maintenance and refresh services from a number of world class providers ▪ Investigated cost structure of current business operations, maintenance and refresh program, and identified a number of areas that can be improved to lift the network's overall performance and efficiency ▪ Developed estimates of operating costs under a variety of scenarios, including self-perform and partially outsourced (with Fujitsu) options
Market Analysis	<ul style="list-style-type: none"> ▪ Commissioned market feasibility report to assess competitive landscape, marketing considerations, take rate forecasts and transport fee levels, among other issues ▪ Commissioned a UTOPIA brand study with 700 respondents across the Cities to assess current market behaviors and attitudes to UTOPIA and other telecommunications providers ▪ Conducted focus groups to obtain a more detailed assessment of attitudes toward telecommunications providers and the Macquarie PPP proposal with 24 registered voters in Murray, Centerville and Orem ▪ Met with most of UTOPIA's current ISPs to discuss acceptability of the business model ▪ Met with ISPs not currently operating on the UTOPIA network, including national players, to discuss participation on the completed network
Public Relations	<ul style="list-style-type: none"> ▪ Met with city councils of West Valley City, Orem, Murray, Lindon and Brigham City to introduce the PPP structure and our proposed business model ▪ Regular, detailed updates to the Cities of each working group's progress through steering committees with appointees from each of the Cities
Financing	<ul style="list-style-type: none"> ▪ Initial discussions with 5 lenders to gauge potential market appetite for debt financing of this nature and validate our indicative financing assumptions ▪ Initiated discussions with UTOPIA bondholders to begin exploration of issues related to existing debt
Legal	<ul style="list-style-type: none"> ▪ Preliminary legal structure provided by the Cities ▪ Commenced analysis of integrating the project network into the existing network ▪ Commenced discussions with City Attorneys to begin exploring legal issues implicated by PPP's proposed business model and implementation approach

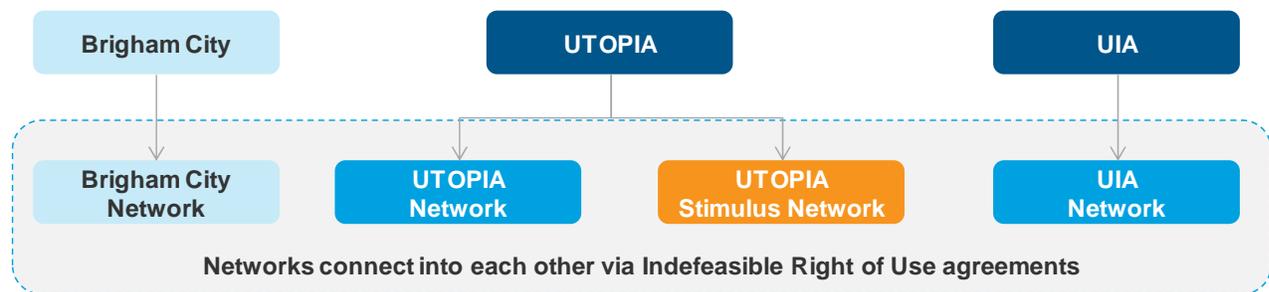
2. CURRENT STATUS AND EVALUATION OF OPTIONS

2.1 Current Network Status

UTOPIA was initially created to own and operate an advanced telecommunications network that would provide fiber optic services to residential, commercial, educational and institutional premises in the Greater Wasatch region of the State of Utah.

The UTOPIA initiative began in 2002 with a focus on providing an open access fiber highway that would facilitate delivery of next generation data, voice and video services to the citizens of the agency’s 5 non-pledging and 11 pledging Member Cities (the “Cities”). However, since construction began in 2004, the network has not been able to achieve its initial objectives, and as at January 2014, is built to approximately 10%, and passes approximately 40%, of its intended 160,000 premises. A number of factors, such as ongoing capital constraints, have contributed to the delays in achieving the network’s rollout. These factors have played a critical role in the network’s current lack of scale. As a result, expansion of the fiber build has often been on a piecemeal basis, and is further complicated by a complex legal structure that separates the UTOPIA build into four legally separate networks (together, the “Existing Network”).

Figure 1: The Existing Network



The Existing Network consists of over 2,100 miles of fiber, the majority of which is owned and maintained by UTOPIA and UIA. Approximately 70% of the build is underground, reflecting a high proportion of capital invested to complete the network core and trunk line.

Table 1: Existing Network Build

City	WVC	ORE	LAY	MUR	MID	BRG	CTR	PAY	LIN	TRM	PRY	Total
Fiber Miles Owned ¹	216	207	123	234	90	108	87	77	104	74	3	1,323
Total Passings	7.5k	12.8k	2.7k	13.7k	6.8k	6.3k	5.4k	2.5k	2.7k	2.8k	0.0k	63.3k
% Passing Completion	19%	42%	12%	63%	54%	93%	98%	42%	42%	96%	-%	41%
Active Connections	0.5k	3.1k	0.4k	2.0k	0.5k	1.3k	1.1k	0.5k	1.1k	0.3k	0.0k	10.9k
Non-Active Connections	0.4k	1.7k	0.2k	1.1k	0.3k	0.3k	0.0k	0.5k	0.2k	0.2k	0.0k	5.0k

¹ The Existing Network has an additional 811 miles of fiber not specific to any City, including 726 miles leased from Time Warner Cable and 53 miles maintained by American Fork City

City	WVC	ORE	LAY	MUR	MID	BRG	CTR	PAY	LIN	TRM	PRY	Total
Marketable Take Rate	14%	30%	20%	25%	19%	30%	26%	24%	46%	13%	67%	25%
Passing Take Rate	7%	23%	14%	13%	8%	18%	21%	22%	44%	11%	N/A	16%

The Existing Network passes over 63,300 premises, although only approximately 16,000 of these passings have been extended to the last mile and had drops installed. Macquarie understands that, consistent with the network's overall development, an inconsistent planning approach necessitated by ongoing capital constraints, and a general lack of market momentum have been key factors in the relatively low conversion of passed addresses into last mile connections. Table 2 identifies a number of key constraints that are contributing to the Agencies' current situation.

Table 2: Key Constraints in the Existing Network's Development

1	Lack of Scale	<ul style="list-style-type: none"> ▪ The network passes ~40% of total addresses and is currently available for connection to only 27% of total addresses ▪ Network build is fragmented and uneven across Cities <ul style="list-style-type: none"> ○ Hard for ISPs to sell the network if one street can receive service and the neighboring street cannot ○ Current build is concentrated in smaller Cities – difficult to get critical mass of customers and attract large scale / financially strong ISPs ▪ Lack of scale has material consequences for the Agencies' financial profile – limited top line revenue and significant costs required to market and deliver services
2	Capital Constraints	<ul style="list-style-type: none"> ▪ The Agencies have frequently operated at a loss, which has reduced cash reserves and now requires direct contributions from the Cities to stay afloat ▪ 2011 legislation restricting use of bond proceeds to capital expenditure has only limited UTOPIA's ability to connect new users ▪ Lack of available capital to connect customers necessitated UIA to establish a connection fee of approximately \$3,000 to support its investment in the network. The fee, payable either as an upfront payment or long-term contract, has been identified as a critical factor limiting user appetite to complete the last mile connection ▪ Limited political appetite for further public funding
3	Inconsistent Business Model	<ul style="list-style-type: none"> ▪ Agencies are established to be a wholesaler but often play a crossover role – including facing end users and blurring lines of responsibility ▪ Some smaller ISPs operating on the network have not had the financial capacity to build their own support infrastructure (truck rolls etc), requiring the Agencies to step in ▪ Mixed business model creates lack of accountability – end result is finger pointing and UTOPIA, as the entity responsible for the network, often suffers in the court of public opinion

Macquarie's view, that these constraints make the status quo an unacceptable outcome for all stakeholders, is consistent with the feedback we have received from the Agencies and the Cities.

2.2 Comparison of Alternatives

There are a number of alternatives available to the Cities to change the network's current situation. The fundamental decision is whether to continue the network's operations and invest further resources, both physical and financial capital, or close the network. The potential benefits available to the Cities from a fully built out, operationally sound network are substantial, and these benefits should significantly outweigh the investment required in the network.

The Cities have three options to complete the network, namely:

- (i) continued public delivery through the Agencies;
- (ii) sale or transfer of the network assets to a private third party in an arm's length transaction; or
- (iii) Macquarie's proposed public-private partnership ("PPP").

The PPP and sale options have been measured using an evaluation framework that addresses the Cities' key objectives and transaction-specific issues such as execution risk.

The PPP is focused on delivering maximum value to the Cities through certainty of execution and achievement of the Cities' key objectives

Continued public delivery of the project has not been incorporated into this analysis because it carries significant execution risk. The Agencies have not achieved their fundamental goals of delivering last mile connectivity to the Cities and operating the network profitably. Macquarie understands that users with active connections are satisfied with their service, but the Agencies have achieved neither ubiquity nor a critical mass of users sufficient to generate an operating profit. The constraints identified in Section 1 reflect a chronic lack of funding that raise material concerns about the Agencies' ability to efficiently complete the network. Additionally, the Cities appear to have limited appetite to pledge further sales or franchise tax revenue to the network; the outstanding revenue bonds and associated swap contracts could consume up to \$500 million of tax pledges between 2014 and 2040. The quantum of funding required to increase the number of last mile connections by a factor of 10, coupled with mixed attitudes towards the Agencies among key decision makers and the broader community, suggests that continued public delivery of the project network is not a viable option.

The sale approach also carries a significant level of execution risk. The Cities' ability to implement this approach is subject to a number of factors, most critically the number and quality of parties that table offers for the network. A lack of bidders reduces the competitive tension of any auction process, and could lead to a suboptimal outcome for the Cities. For example, Macquarie understands that Google Fiber was the only respondent to Provo's request for proposals on the iProvo network in early 2013. In addition to acquiring the network for \$1, press reports noted the extensive concessions Google Fiber had negotiated with Provo, such as preferential permitting processes and access to city poles and structures. Additionally, a lack of quality bidders, without the financial or technical wherewithal to implement the project, may significantly reduce the probability that the network remains open access, is delivered to all addresses and has sufficient resources to sustainably operate over the long term.

The evaluation of the PPP and sale approaches below is based on an assumption that there are a sufficient number of interested and qualified parties to acquire the network from the Agencies. We have not verified this assumption and indeed note that the Agencies have previously had preliminary discussions with Google Fiber, which were not progressed. Macquarie would consider it prudent for the Cities to investigate

potential appetite for the network in the market prior to devoting resources to an auction process. There are relatively few well-capitalized bidders with committed fiber investment programs.

2.2.1 Macquarie’s Recommendation

The PPP is the development model most likely to achieve the Cities’ key objectives, and as such is considered the most appropriate option under which to complete and operate the network.

Table 3: Evaluation of Alternative Options

OBJECTIVE	PPP	SELL	SHUTDOWN
Reduction in the Agencies’ Operating Deficit	●	●	●
Defray Service Obligations on Existing Debt	●	●	●
Parity of the Network Build Across the Cities	●	●	●
Certainty of Execution	●	●	N/A
Expand the Existing Subscriber Base	●	●	●
Ubiquitous Last Mile Connection	●	●	●
Increase Service Offerings to Users	●	●	●
Provision of Civic Benefits (Public WiFi, etc.)	●	●	●
Increase Price Competition & Choice for Users	●	●	●

● High probability
 ● Medium probability
 ● Low probability

The rationale for this recommendation and the ratings assigned to each evaluation criteria are discussed in the following sections.

2.2.2 Ability to Reduce the Agencies’ Operating Deficit

The Agencies’ relatively complex legal structure has generated an imbalance in cost and revenue profiles. Due to legislative restrictions on the use of bond proceeds, all new connections have been funded by UIA since 2011 even though the majority of staff and operating costs lie in UTOPIA. As a result, UTOPIA’s top line revenue growth is effectively capped at its existing customer base, with revenue from new connections flowing solely to UIA.

Macquarie’s proposal will eliminate the Agencies’ network operating deficit

The ceiling on UTOPIA’s revenue growth creates an operating deficit in each period that is funded by a combination of UIA free cash flow (if any) and direct contributions from the Member Cities. The contributions are voluntary and Macquarie understands that not all the cities are funding the amounts requested.

The ongoing cash drain on the Agencies increases the importance of selecting a transaction that resolves the operating deficit. Macquarie's PPP proposal provides the more effective solution in this context. Macquarie will commit to funding the Agencies' net operating deficit (i.e. the remaining deficit after application of available UIA free cash flow) throughout the construction period. The PPP will also be structured so that the Agencies receive an ongoing revenue stream once the network is operational, a mechanism outlined further in the next section. This structure has been specifically designed to ensure that the Member Cities and their residents are not required to provide any further funding to the Agencies. The structure reflects the flexibility of the PPP model, and its focus on creating a long-term partnership between the public and private partners.

Conversely, the sale of the network creates a transactional relationship only – the cities would potentially receive sale proceeds but unlikely an ongoing revenue stream. The acquisition price would also likely reflect the Agencies' history of operating losses and negative net equity balance. The most relevant transaction precedent is Google Fiber's acquisition of the iProvo network. The City of Provo had invested over \$30 million in the infrastructure; however Google Fiber acquired the assets for \$1.

2.2.3 Ability to Defray the Debt Service Obligations

The Agencies' FY2013 audited financial statements indicate total interest-bearing liabilities of \$343 million². The breakdown of these liabilities is detailed in Section 4, but the bulk of the debt consists of the revenue bonds refinanced in 2011 by UTOPIA, and the 2011 and 2013 UIA bond issues. Macquarie's analysis indicates that servicing these liabilities is due to cost the Cities \$15.7 million in FY2014, equivalent to approximately \$8.33 per address per month. This cost is expected to increase by 47% to a peak of \$23.1 million or \$12.30 per address per month in FY2037.

The Agencies will participate in revenue from premium service sales, with take rates of 30-50% generating revenues 2-3x greater than total debt payments

The Cities planned to service the debts using surplus subscriber fees generated from the Existing Network. However, the continued operating deficit has resulted in a material proportion of sales taxes and direct contributions being directed to the Agencies to fund their various obligations. Without the receipt of an ongoing revenue stream from the network, the Cities will need to reserve approximately \$500 million of sales taxes and franchise fees between FY2014 and FY2040 to fully repay the existing obligations.

Macquarie is cognizant of the burden that the existing debt places upon the Cities and has specifically designed the proposed PPP to provide an ongoing revenue stream that, on base case estimates, will defray the significant majority of the Cities' total debt service costs.

The Cities' material participation in the network's upside demonstrates the alignment of interests over the long-term that underpins the PPP model. Furthermore, it should be stressed that full control and economic benefit of the Network will revert to the Cities at the end of the contract term – a significantly valuable, cash flowing asset. At that time, the PPP would no longer have any economic interest in the Network and the Cities could choose to operate it if they see fit or sell it for a conservable sum.

Neither selling nor shutting down the network is likely to provide any material reduction in the Cities' debt service requirements. The debts incurred by the City of Provo in constructing the iProvo network were not impacted by Google Fiber's acquisition of the assets. The City of Provo remains wholly responsible for

² The FY2013 statements do not include the \$11.2m bonds issued by UIA in July 2013

servicing the outstanding debt, and has enacted a utility style fee on its residents to fund the paydown requirements over the next 12 years. While the Cities could attempt to negotiate a mechanism to provide some level of support over the medium or long term, such as a royalty, Macquarie would expect sale of the network to deliver the bulk of the network upside to the controlling third party rather than the Cities.

Selling the network, much like shutting it down, would thus result in the Cities continuing to service the existing debt from a combination of sales tax pledges and franchise fees.

2.2.4 Parity of the Network Build Across the Cities

The initial build of the network delivered last mile connections to the smaller of the Cities. The subsequent funding constraints have created a build in which the network as a whole is incomplete but some areas, such as Brigham City and Centerville, are almost fully built, while larger Cities such as Layton and West Valley are less than 20% complete. The disparity of network build has created a situation in which the larger Cities, holding greater ownership shares of the Agencies, have been committing sales taxes to service the Agencies' debt and remitting funds directly to cover operating losses with no or limited ability for their constituents to receive services. The network's completion under the PPP model removes this disparity.

Ubiquitous build and consistently applied utility fee ensures network parity

Selling the network to a third party reduces the probability that the network will be ubiquitous across the Cities. Macquarie understands parity is a critical issue that the Cities are seeking to resolve, and the flexibility of the PPP to accommodate these historical issues and incorporate their resolution into the project's delivery is a significant advantage of the model relative to alternative options.

2.2.5 Certainty of Execution

The PPP is designed as a long-term partnership with the Cities in which the transaction can be tailored to ensure achievement of particular goals for the Cities, for example the revenue sharing to align interests of all parties and provide an ongoing revenue stream to defray the Agencies' existing debt. This partnership approach, coupled with the open book milestone process under which the Agencies have full visibility into the calculation of the utility fee and the Macquarie team's proposed implementation approach allows key risk areas to be identified early and mitigated.

Furthermore, Macquarie's capabilities and experience as a PPP developer and our dedication to this process, indicate that our proposal, should it be accepted by the Cities, is highly likely to be carried through to successful completion.

Conversely, the sale model is an adversarial negotiation with significant execution risks, such as the number and quality of bidders. Commercial sensitivities and the competitive tension required to generate best value for the Cities also preclude an open book process. The subsequent loss of control over the network gives the Agencies less ability to effect change to the status quo and ensure their key objectives, which are the primary reason for pursuing completion of the network, are achieved in a timely manner.

2.2.6 Ability to Expand the Existing Subscriber Base

Approximately 16,000 addresses in the Cities currently have last mile connections. Importantly, these connections have primarily been made in clusters, with minimal growth in between these spikes in activity. The majority of the capital raised was devoted to building the network core and trunk line, and as such the

Agencies have recently relied significantly on end users to fund the last mile connection to the premises. Addresses that have connected to the network since UIA's establishment in 2011 have all paid, or are part way through paying, a connection fee of approximately \$3,000.

The connection fee could initially be paid as a lump sum upon connection, or borrowed from UIA and repaid over a 10 to 20 year period. While there has been modest user uptake since the fee was established, Macquarie's analysis indicates this fee has been a prohibitive cost for end users, who are able to receive connectivity from the incumbents with significantly lower installation fees. UIA has since switched to a less restrictive short-term lease model, however there continues to be minimal growth in active last mile connections.

PPP's business model has been designed to maximize network take rates

The PPP will be fully funded at financial close, and through implementation of the ubiquitous last mile buildout, ISPs operating on the network will have a potential subscriber base approximately 10 times greater than the current environment. The PPP provides the platform to expand the subscriber base, but increase in take rates will be subject to the ISPs providing competitive services. Additionally, the greater scale of the network and significant reduction in entry and exit barriers for ISPs may attract new ISPs with greater brand recognition.

A well-capitalized and recognized acquirer, such as Google Fiber, could potentially deliver similar increases in subscribers through brand recognition. For example, Google Fiber's fiberhood concept, which relied on Kansas City residents to generate a critical mass of interest in the platform before Google would commit to building fiber in the area, created significant community engagement and awareness of Google Fiber's product offering before the services were available. However, there have been no indications throughout Macquarie's preliminary discussions with the Cities that Google Fiber is interested in acquiring the network. Google Fiber's recent press releases have focused on the scoping and feasibility studies it is completing to expand its fiber platform to a subset of 34 target cities. The Cities were not included in the list of target cities and the intense competition for Google's platform (1,100 cities submitted proposals to be the first Google Fiber city) suggests potential network acquirers would likely be local or regional businesses rather than national firms. This pool of acquirers would be much less capable of delivering a world class network and much more likely to develop the network on a selective basis – the same approach used by the incumbents. The network could thus end up competing in the same economically viable areas for the same customers against established players that have potentially material cost advantages.

Separately, the Concession Agreement for the PPP will also mandate minimum performance standards to which the Concessionaire must adhere. These standards will typically cover critical operational measures such as ensuring the network has carrier class reliability and defining appropriate response periods to resolve network outages. In addition, the clear delineation of responsibilities between the PPP and the ISPs, outlined further in Section 3, are likely to ensure an efficient process to manage end user enquiries and technical support. Macquarie expects these improvements to the network's core operation will be a factor in reducing customer churn.

A third party controlling the network may not be subject to such explicit standards, but with incentives to maximize profit, it is likely this third party would be focused on operating its network as efficiently as possible and potentially at the expense of service quality – much like the current market environment.

2.2.7 Ubiquitous Last Mile Connection

Communities are increasingly becoming aware of the benefits of high speed connectivity. High speed broadband is increasingly being viewed as the fourth utility³, an essential service that has the potential to deliver significant economic and social benefits to communities. For example, a 2008 study estimated that a 7% increase in broadband penetration in the United States could produce approximately 2.4 million jobs in the United States, valued at a total economic impact of \$134 billion.⁴ However, a substantial proportion of the Cities' approximately 500,000 residents do not have sufficient connectivity to participate in the economic, productive and lifestyle opportunities provided by high speed broadband. Approximately 10% of premises have fiber connections and even less than that are active.

“We must...recognize that access to affordable, high speed broadband is just as important in today’s economy as access to a paved road, to a telephone line or to reliable electricity”- David A Paterson, Governor of New York (2009)

The Macquarie team has proposed a ubiquitous buildout that will deliver a last mile connection to all premises in the Cities. The PPP can commit this buildout because its incentives are substantially different from an integrated operator that both owns the infrastructure and provides retail services. The core revenue stream for an availability-based PPP is contracted over the long term, and is derived from providing high quality infrastructure, and making the infrastructure available for use for internet service providers (“ISPs”) and end users. In contrast, an integrated third party will use the infrastructure as a platform to deliver its core data, video and voice products very likely on an exclusive basis. These products operate in a competitive market and their revenue profile has substantially more volatility than the PPP. The third party is also incentivized to maximize profits and equity returns with a substantially shorter investment horizon than the PPP model allows, and therefore the third party may be more likely to expand the Existing Network only to neighborhoods that meet or exceed the third party’s investment criteria – potentially widening the digital divide in disadvantaged communities.

For example, Google Fiber required neighborhoods in Kansas City to meet a series of thresholds, particularly relating to take rates, rights of way, aerial infrastructure and housing density before it committed to building fiber in that neighborhood.⁵ Broker research covering Google Fiber’s rollout also noted that ‘selective deployment’ will be an important factor to ensure this segment remains a viable standalone business.⁶

Network shutdown will preclude any further investment in the Existing Network and is a suboptimal solution that reduces residents’ ability to benefit from services beyond the incumbents’ current platform.

2.2.8 Ability to Provide Greater Service Offerings

The network’s current lack of scale and fragmentation across the Cities limits its marketability to users and thus attractiveness to ISPs. The ISPs currently operating on the Existing Network are generally either small- or medium-size regional players. These ISPs do not have the scale or market power of the incumbents which can constrain their ability to provide services that demonstrate the network’s greater

³ FCC Chairman Julius Genachowski, March 10, 2010, http://www.fcc.gov/Daily_Release/Daily_Business/2010/db0311/DOC-296808A1.txt.

⁴ University of Missouri, Community Policy Analysis Center, *The Benefits of Expanded Broadband for Missouri Farms & Agribusinesses*, October 2011

⁵ Evercore Partners, *More Good News About Fiber*, June 2013

⁶ Ibid

bandwidth capacity. For example, anecdotal feedback on UTOPIA's white label video platform suggests the picture quality is superior, but the content is so limited relative to the incumbents that there is minimal user demand for the product.

Completion of the network would bring a step change in scale, increasing the connected addresses by a factor of ten to 160,000. Regional and national ISPs have already indicated interest in commencing operations on the network, potentially as double and triple play providers. A ubiquitous, open access PPP network would allow all these players to provide services and compete to deliver the best product. A divestment scenario, however, is reliant on the market position of the acquirer to deliver greater content and services than users are currently able to access. For example, Google Fiber has content agreements comparable to basic cable providers, but extensive diligence would be required on local or regional bidders to determine if they had the capacity to improve on the services already provided by the ISPs on the network.

2.2.9 Ability to Provide Civic Benefits

Macquarie's analysis on the models' ability to deliver civic benefits focused on the potential amenities that residents could receive and the costs that the Cities could save. For example, Macquarie has had preliminary discussions with the Agencies in relation to WiFi hotspots in a select location of public areas such as parks, as well as a potential wireless overlay above the fiber network. Google Fiber is considering a similar rollout of WiFi hotspots as an additional benefit to its fiber platform.

At a technical level, both the PPP and divestment models will be equally likely of delivering civic benefits through value-add services such as WiFi, smart meters and wireless overlay. The advantage of a PPP, however, is that it creates a long-term partnership between the Cities and the Concessionaire, rather than a transactional relationship. The long-term nature of the PPP may create an atmosphere in which it is simpler to introduce additional services such as smart meters that could potentially deliver material benefits to the Cities.

2.2.10 Increase Price Competition & Choice for Users

The key differentiation between the PPP and divestment models in delivering greater internet services is the tradeoff between an open and closed network. The Google Fiber model has arguably increased the services available to residents in Kansas City and Provo, however to capitalize on the fiber speeds, residents in these cities only have access to proprietary Google products. In contrast, the open access model will be a core tenet of the PPP. The PPP will provide a fiber highway on which both the existing and new ISPs can operate, and Macquarie strongly believes users will reap extensive benefits both from downward pressure on prices forced by competition and the introduction of new products as ISPs seek new revenue streams.

The PPP is committed to providing world class infrastructure to all residents and businesses, and promoting stronger competition and customer choice

Currently, 18 ISPs are active on the Existing Network. Macquarie has received significant interest from, and continues to have an active dialogue with, ISPs that are keen to either expand their use or commence operations on the network. Importantly, Macquarie is confident that the competition created under the open access model will help decrease the all-in cost of connectivity in the market.

2.3 Overview of the PPP Model

2.3.1 Overview of the PPP Model

PPPs are a development model increasingly used by the public sector to deliver economic and social infrastructure. Municipal, state and federal governments and governmental authorities have pursued this model primarily to create value for money for their constituents – the core principle of a PPP is that the public sector can access the efficiencies of the private sector to design, construct, finance, operate and maintain specific infrastructure assets. In transferring development responsibility to a private entity, the public sector also transfers significant development risks, thereby reducing its exposure to cost overruns, schedule delays and design faults.

A PPP is an effective middle ground between full privatization and traditional procurement. Although the private sector bears the majority of project risks, the public sector also has an important oversight role throughout the construction and operations phases. The model has been active for over two decades and is increasingly being considered by the public sector as a potential solution to at least partially reduce the United States' infrastructure funding gap.

The contract structure is specifically designed to incentivize efficient delivery of high quality infrastructure. The overarching contract detailing all the private partners' responsibilities and allocating project risks between the public and private sectors, the Concession Agreement ("CA") will specify minimum performance standards that the private partner must meet in order to receive its periodic payment. Similarly, the private partner will nominate a specific date on which the asset will be available for use, and will be obligated to pay daily penalties to the contracting authority if this date is not achieved.

PPPs, on average, deliver schedule (up to 30%) and cost savings (up to 14%)

Empirical research on PPPs have shown that, on average, assets are typically delivered up to 30% faster and 14% cheaper than traditional procurement.⁷

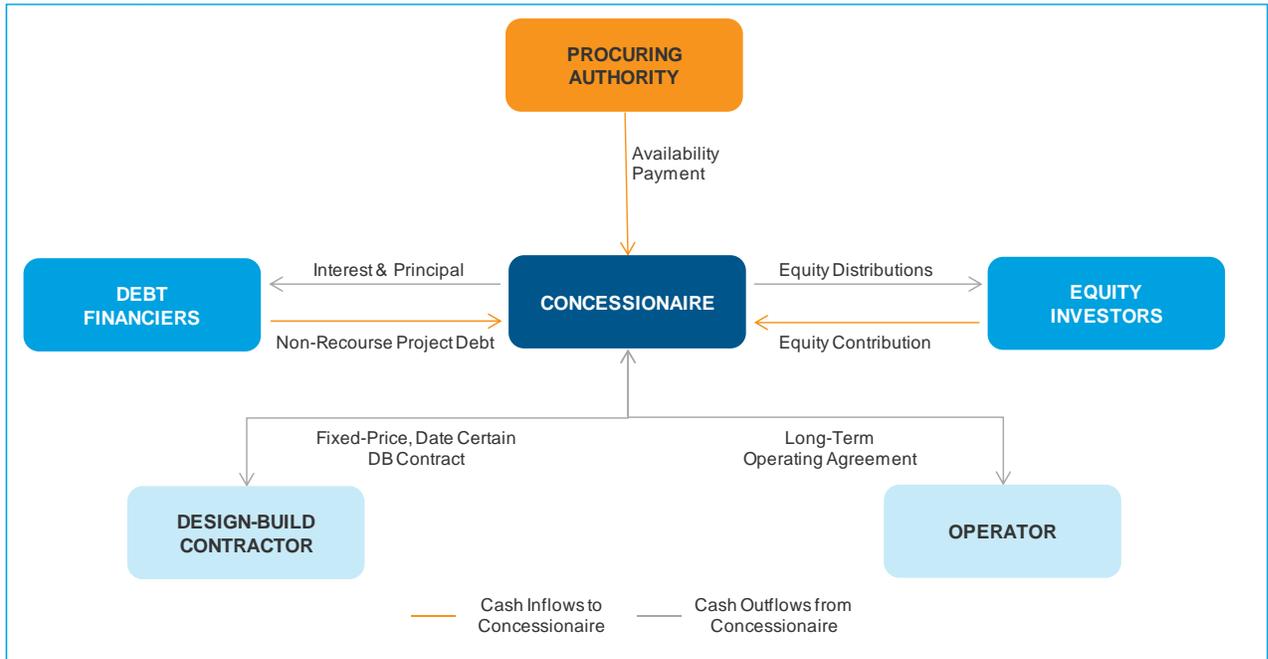
2.3.2 Transaction Structure

Figure 2 outlines the typical structure of an availability-based PPP. The Concession Agreement ("CA") is executed between the procuring authority and the Concessionaire, who retains responsibility for satisfying all private partner provisions under the CA.

The Concessionaire will typically subcontract with a Design-Build Contractor on a turnkey basis, and pass through the relevant design-build provisions of the CA to this contractor. On the operations side, the Concessionaire can select from two options, either outsourcing to a specialist contractor on a long-term basis, or self-performance. The model is geared towards minimizing the lifecycle costs of a project, and so the Concessionaire will typically only look to self-perform where it believes it has the necessary resources and skills to deliver cost efficiencies.

⁷ Allen Consulting Group, *Performance of PPPs & Traditional Procurement in Australia*, November 2007

Figure 2: Typical Structure of a Public Private Partnership



Debt raised by the Concessionaire is non-recourse and repaid solely by the cashflows from the project. The payment stream provided by the procuring authority in an availability-based PPP is highly certain, and leverage ratios often tend to be relatively high, in some cases up to 90% of total project costs.

The availability payment, supported in this project by the utility fee, is a fixed periodic (e.g. monthly) payment made by the public procuring authority to the Concessionaire. The availability payment commences only once the asset has been fully constructed and certified by an independent engineer that the Concessionaire’s commitments under the CA have been fully satisfied. Any increase in the availability payment will be agreed in the CA and will typically be tied to a published index, such as CPI or some other mutually agreed index. The CA will also specify a deduction regime, in which the authority is able to reduce the payment made to the Concessionaire if the contractually agreed performance standards have not been fully or consistently achieved.

2.4 Benefits of the Model for Utopia

The key benefits of the PPP model are detailed in Table 4 below

Table 4: Benefits of a Public Private Partnership

1	RISK TRANSFER	<ul style="list-style-type: none"> ▪ Cities transfer substantially all development and operational risks to the PPP <ul style="list-style-type: none"> ○ PPP bears all the design-build cost and schedule risk ○ Penalty regime to compensate Cities for any delay in project completion ○ Availability payment will be fixed in real dollars over the life of the CA, with any escalation tied to a pre-agreed, published index. PPP thus bears the risk of an increase in operating or maintenance costs ▪ Each City will not make any payments to Concessionaire until the network has been constructed and is fully operational in that City ▪ Payments to the Concessionaire will be subject to achievement of performance standards such as achieving carrier class reliability
2	COST EFFICIENCIES	<ul style="list-style-type: none"> ▪ Empirical evidence has shown that PPPs, relative to traditional procurement, can deliver projects up to 31% cheaper when measured from project inception <ul style="list-style-type: none"> ○ In Australia, 21 PPP projects worth a contracted \$4.9 billion experienced only \$58 million in cost overruns ○ By comparison, 33 traditionally procured projects worth a contracted \$4.5 billion incurred approximately \$673 million of net cost overruns ▪ Macquarie is conducting thorough and highly competitive design-build, systems integrator and equipment subcontractor selection process that will result in low cost, fixed price, date certain
3	ACCESS TO CAPITAL	<ul style="list-style-type: none"> ▪ PPP will be fully funded at financial close, allowing the Design-Build Contractor to execute its program efficiently with no impediment from funding constraints ▪ All capital raised will be private – the City will not incur any new debt obligations from the transaction <ul style="list-style-type: none"> ○ Macquarie is a significant financial institution in its own right <ul style="list-style-type: none"> ▪ \$16 billion market capitalization and \$360 billion of assets under management ○ Macquarie is the global leader in infrastructure finance, raising over \$23 billion of infrastructure capital in the last five years, over \$5 billion more than its closest competitor ○ Macquarie also has global relationships with institutional investors and pension funds that provides access to deep pools of institutional capital <ul style="list-style-type: none"> ▪ Macquarie's global debt capital markets team has raised over \$230 billion of debt facilities since 2007 ▪ Debt raised is non-recourse; neither the Concessionaire nor its lenders can come back and demand any funds from the Cities other than the availability payment in accordance with the terms of the CA
4	ASSET QUALITY	<ul style="list-style-type: none"> ▪ The CA will outline specific handback requirements that the Concessionaire must meet at the end of the contract term ▪ These provisions guarantee that the network will be operable and in good repair when the Concessionaire returns operational control to the Cities

5**TRANSPARENCY**

- PPP model establishes a long-term partnership between Macquarie and the Cities
 - Objective value for money analysis before execution of the CA, either via an open book process or an established, documented public sector comparator, ensures that the PPP is creating value for the Cities
 - Maximization of cost efficiencies often requires the PPP and the Cities to work collaboratively, particularly for critical path items such as right of way acquisitions and permitting
 - The CA will provide the Cities significant powers of oversight and formalize a regular reporting structure to ensure performance standards are fully achieved
-

3. PROPOSED BUSINESS MODEL

3.1 Overview of the Business Model

3.1.1 Issues with the Current Model

Macquarie has engaged widely with network stakeholders, collating key feedback from end users, survey participants, focus groups, the ISPs and the Agencies/Cities, to understand the historically gating issues that have constrained the Existing Network from generating take rates that reflect the infrastructure's superior capacity relative to DSL or cable. Positively, there has been a noticeable improvement in the perception of the Agencies' service over the past 24 months, though a number of key constraints still remain.

Table 5: Key Constraints of the Agencies' Current Model

CONNECTION FEE	<p>Capital constraints and persistent operating deficits forced a change in the Agencies' model following the creation of UIA in 2010, under which users began paying to use the network infrastructure. New users pay approximately \$3,000 for the last mile connection to their building, and users with existing connections have higher wholesale fees passed on by their ISPs.</p> <p>These fees are significantly higher than installation costs charged by incumbent providers and Macquarie believes the prohibitive cost has been a principal cause of the stagnation in connections in recent years</p>
SCALE	<p>The network is partially built and distributed unequally across the Cities. Importantly, the network is less than 10% complete in many of the larger Cities, and this fragmentation severely limits the effectiveness of marketing programs undertaken by network ISPs. For example, the ISPs may be reluctant to commit resources to a broad-based advertising campaign in a number of the Cities because the network is simply not available in all areas. The lack of scale resulted in an network that had difficulties attracting the commitment and investment of stronger ISPs.</p>
REACTIVE BUSINESS MODEL	<p>The Agencies have struggled to implement a coherent, consistent business model for an extended period of time. We understand the current model has not so much been a strategic shift to provide additional support to the ISPs but a reaction by the Agencies to perceived under- or non-performance of specific tasks by the ISPs.</p> <p>The lack of clear boundaries between the ISPs and the Agencies has increased the Agencies' interaction with users and made them a much more visible target for the community's disaffection with the network.</p>
LIMITED VIDEO PLATFORM	<p>Macquarie believes that without a high quality and competitive video platform, it becomes difficult to demonstrate the competitive advantage of the network's 1Gbps capacity relative to third party network providers.</p> <p>The Agencies' main video product does not compete effectively with the incumbents' offerings.</p>
PRICING PRESSURES	<p>Approximately two-thirds of the addresses across the Cities are single family residential homes. However, the Agencies have structured the transport fees to reflect only two connection types, being 100Mbps and 1Gbps connections. The lack of flexibility in the pricing structure arguably distorts the ISPs' ability to compete with third party providers and drive users onto the network.</p>

The impact of these issues has also played into the Cities' key objectives for the transaction. Macquarie and the Agencies have devoted significant resources to developing an approach that seeks to achieve the below primary objectives in a simple, measurable and competitive manner:

Table 6: Agencies' Key Objectives for the Network

1	Provide a last mile connection to all addresses in the Cities
2	Continue the open access model that will allow all eligible ISPs to operate on the network
3	Maximize the number of users that receive their data, video and voice services over the network
4	Create an ongoing revenue stream to assist the Cities defray their existing bond obligations

Macquarie believes our proposed model will not only achieve these objectives, but also simplify the pricing structure. Furthermore, it should be stressed that the Network will revert back to the Cities' full control at the end of the CA term, representing a highly valuable cash flowing asset for the Cities.

3.1.2 Proposed Model

The PPP will complete and operate the network as an availability-based PPP. The network buildout will deliver a last mile connection to a specified demarcation point at all addresses within the Cities, with ISPs to be responsible for completing the connection from the demarcation point into the home or business.

The availability payments will be funded primarily by the introduction of a utility fee payable by all addresses where a connection is made to the demarcation point. This utility fee will also entitle the occupants of the premises to a basic level of connectivity at no additional charge. Based on Macquarie's analysis, the analysis of CTC (our independent market feasibility consultant) and feedback from ISPs, the proposed basic service is a connection with speeds of up to 3 Mbps download and 3 Mbps upload with 20 GB of maximum monthly data usage. The Basic Service will be provided by the ISPs, and its specifications will be set such that it remains competitive with competing entry level products currently offered in the local and regional market. The PPP will not charge ISPs for basic service circuits.

ISPs will be required to provide the Basic Service as a condition of operating on the network. The ISPs will also have the opportunity to market upgraded or premium products to all users, which will be subscription services with connection speeds of up to 1Gbps.

The ISPs will have limited direct interaction with the PPP – these relationships will primarily be managed by a network Wholesaler, which will likely be a separate, but affiliated, entity of the PPP. The PPP's responsibility is to provide the network infrastructure and ensure that network participants adhere to certain performance standards. The separation of the PPP and the Wholesaler is a critical component of our proposed model.

Table 7: Roles & Responsibilities for the Network

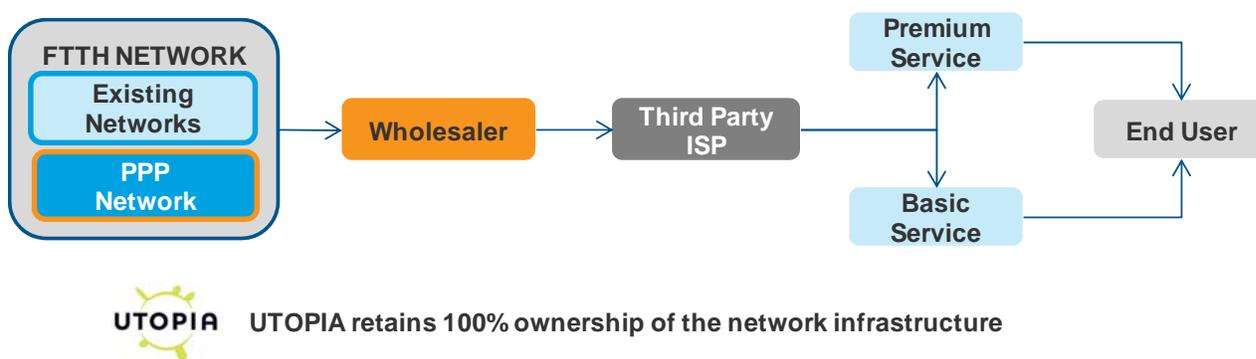
	Design-Build	Operations & Maintenance	Network Refresh	Sales & Marketing	Basic Service	End User Contact
Agencies	x	x	x*	x	x	x
PPP	✓	✓	✓	x	✓	x
Wholesaler	x	x	x	✓	x	x
ISPs	x	x	x	✓	✓	✓

*Agencies will only participate in the network refresh in the event network specifications are changed from those established in the Concession Agreement.

The Wholesaler will be responsible for managing the ISP relationships and attracting new ISPs and Cities onto the network. Importantly, the Wholesaler will not retail products to end users and thus will not compete with ISPs on the network. The proposed model intends that the Wholesaler will have no direct interaction with end users, and will only be recognizable to end users through broad-based marketing campaigns intended to raise awareness of the network and the benefits of a 1Gbps connection, thereby supplementing the ISPs' ongoing marketing efforts.

As shown in Figure 3, the proposed model is relatively reliant on the ISPs, both to provide the basic service and drive user upgrades beyond the basic service, which will be critical to generating revenues for the Cities.

Figure 3: Simplified Network Flow



The Agencies' role in this environment would shift substantially, from an operational role to oversight of the PPP and its contractual responsibilities.

Our proposed model is discussed in greater detail throughout the remainder of the section, but Macquarie believes it not only maximizes the probability of achieving the Cities' objectives but also creates clear handoff points across critical network functions, which not only increases clarity for network stakeholders but also promotes greater accountability.

3.1.3 Network Rebranding

Macquarie expects to rebrand the network to be consistent with the introduction of the private partners and the reduced operational role of the Agencies. This initiative would be led by the Wholesaler, with ongoing research and focus groups through the milestone process to ensure that the program would be ready to launch at financial close.

3.2 Scale of the Buildout

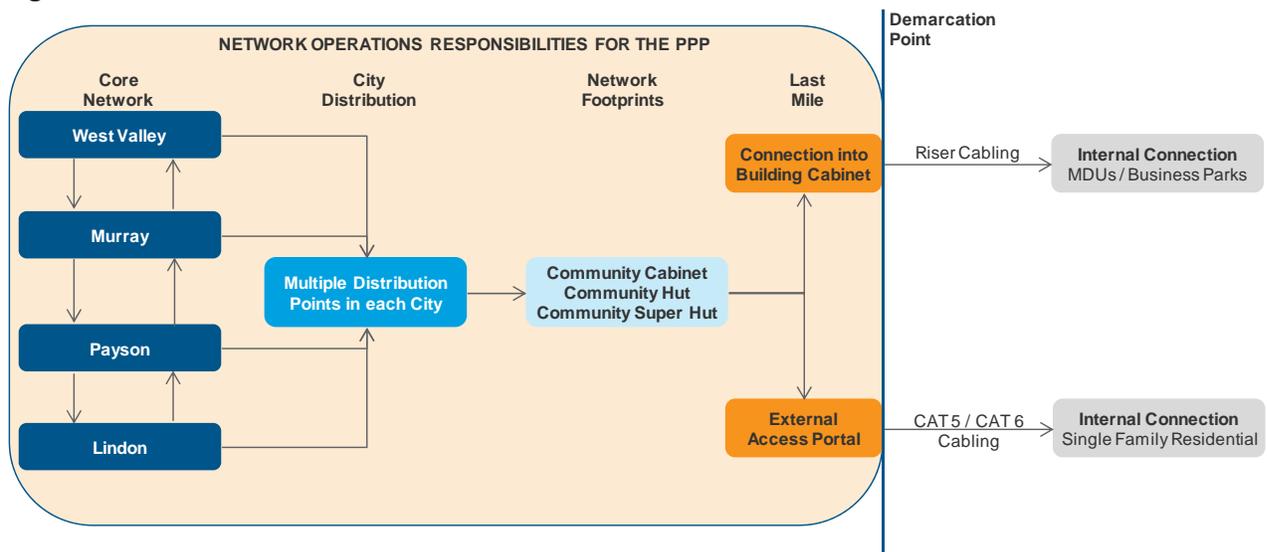
3.2.1 The Demarcation Point

A demarcation point is typically the dividing line that determines who is responsible for the installation and maintenance of wiring and equipment. The key drivers of our approach in selecting the demarcation point have been responding to the Cities' request that all addresses receive a last mile connection and ensuring the buildout can proceed efficiently.

The PPP will, in partnership with a specialist design-build contractor and network integrator, build the network such that each address has an access portal placed either on the external surface of single-use premises (e.g. single family homes) or into the main communications cabinet of multi-use premises (e.g. MDUs and multi-office locations).

Figure 4 highlights the network architecture, from the four redundant network core connections in West Valley, Murray, Payson and Lindon through to the demarcation point on the premises.

Figure 4: the Demarcation Point



This approach is notably different from the Agencies' current strategy. The Agencies are building the last mile connection from the network footprint beyond the PPP's proposed demarcation point and into the home. Macquarie believes this approach, although comprehensive, significantly increases the complexity of a large scale rollout, primarily because the design-build contractor would be required to negotiate access into the building with its occupants. The contractor has limited control over schedule delays caused by these negotiations, and thus placing the demarcation point inside the premises would materially impact the risk transfer benefits of the PPP structure.

3.3 The Network Stakeholders

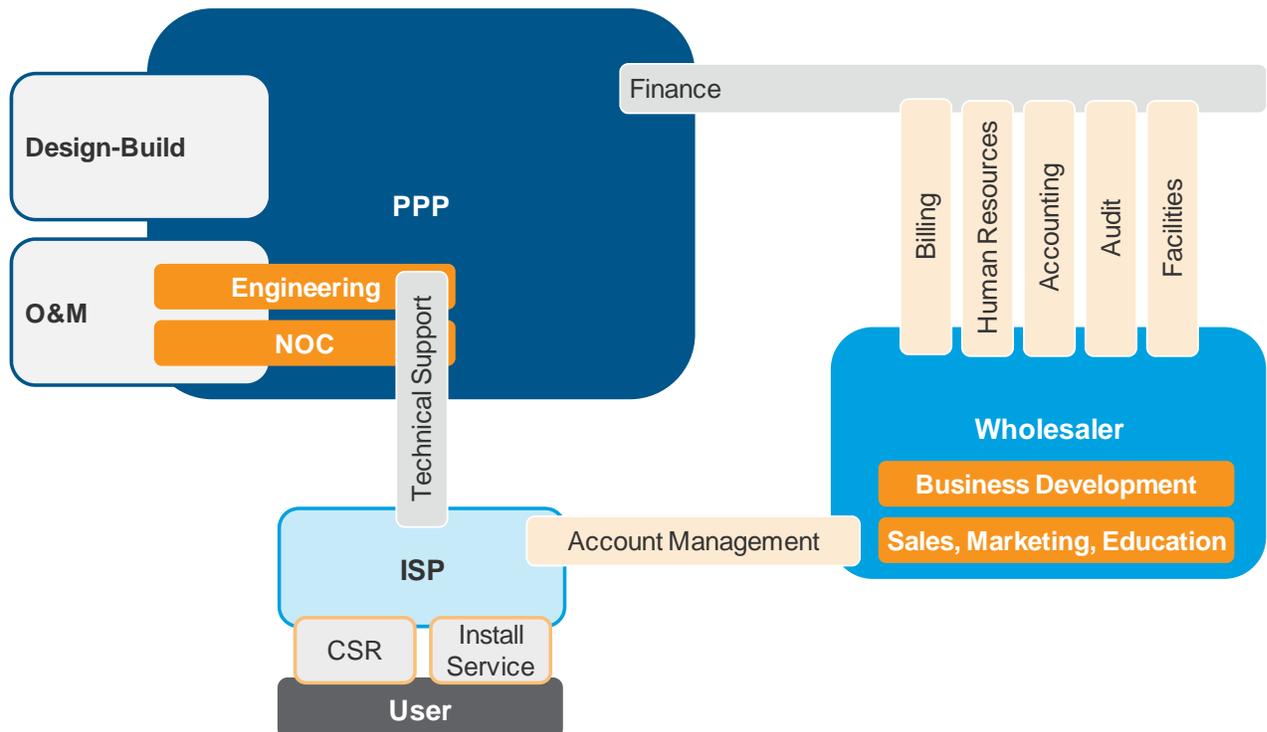
3.3.1 The PPP and the Wholesaler

Operational control of the network will effectively shift from the Agencies to the PPP at financial close. Macquarie's current proposal provides for extremely clear delineation between the operational and technical responsibilities of the network and the commercial, market facing components. This is the primary reason for the separation of the PPP and the Wholesaler.

The CA will obligate the PPP to meet a number of minimum performance standards, for example minimum benchmarks for network availability and reliability, or maximum times to resolve a network outage. These standards will be negotiated with the Cities through the milestone process and are the benchmark against which the PPP's performance, and right to receive its availability payments, will be measured. For example, the PPP may be required to fix any breakage in the network within a specified period of time. If this target is not met, the Agencies may penalize the PPP and reduce the payable availability payment in that period, in accordance with an abatement regime detailed in the CA. It is thus imperative that the PPP have a sufficient level of control over the network to manage its performance.

The PPP will be responsible for providing a network operations center ("NOC") with a sufficient number of highly skilled technicians and equipment to identify and resolve faults or breakages in the network in accordance with the requirements of the CA.

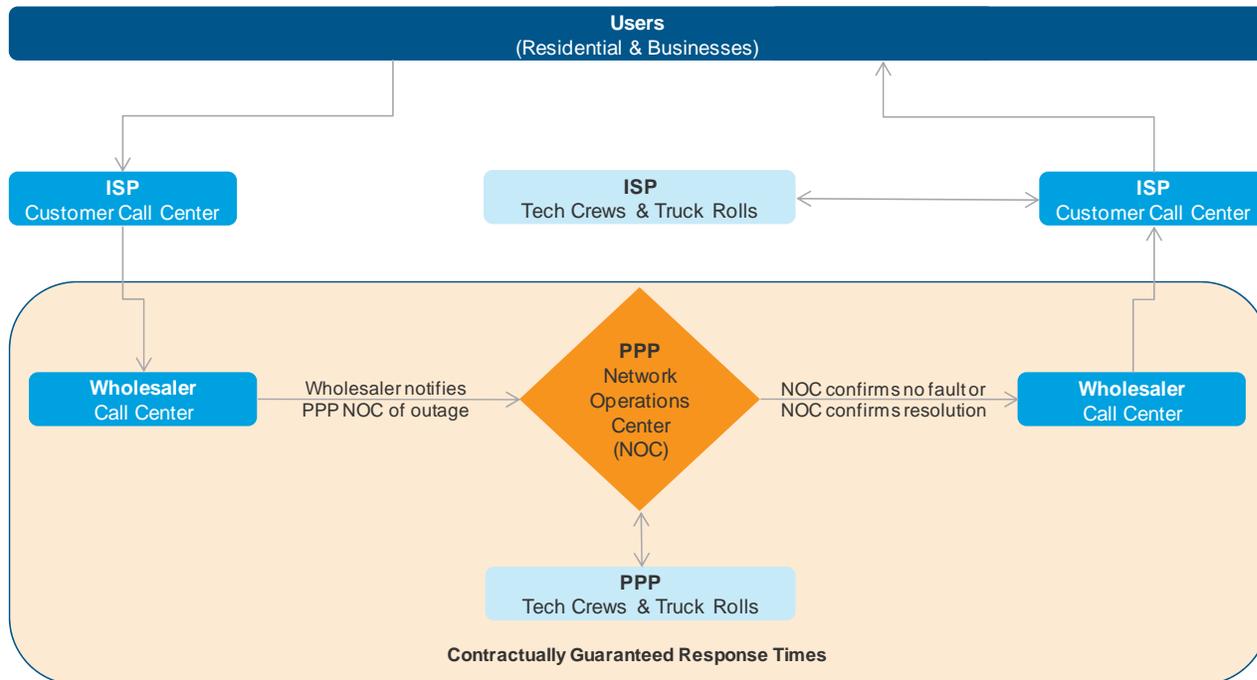
Figure 5: Division of Functions between PPP and Wholesaler



The Wholesaler, conversely, will have a much more commercial focus. Its key role will be managing the relationships with the ISPs. Macquarie's expectation is that the Wholesaler will be the first point of contact for any of the ISP's queries, whether it relates to commercial contracts such as service level agreements or technical issues such as network outages. Where the PPP's technical or operational team needs to be

involved, it will be the Wholesaler's responsibility to notify the PPP. Figure 6 below demonstrates how this interrelationship will work, particularly for contractually guaranteed obligations such as network outages:

Figure 6: Communication Process for Network Outages



This concise structure has been specifically designed to deliver clear handoff points between each of the network stakeholders, which Macquarie believes will create more transparency and greater accountability across the PPP, Wholesaler and ISPs. The Wholesaler's ability to impact the PPP's ability to achieve its required standards does, however, necessitate a close working relationship between the two entities with clear and open lines of communication.

PPP and Wholesaler will not interact with users – ISPs own the user relationship

The Wholesaler, in addition to being the first point of contact for the ISPs, will (along with the PPP) be responsible for negotiating the service level agreements and monitoring whether the ISPs remain compliant with the obligations of these agreements. Macquarie is acutely aware of the commercial and reputational risks of low quality ISPs operating on the network – not only has CTC highlighted the quality of ISPs as a key risk factor, but the Agencies' increasingly active interface with end users has also been driven, in part, by perceived non-compliance of ISPs with their contract obligations. Macquarie has communicated its expectations to the ISPs as part of its Milestone One analysis, and expects to negotiate these terms more fully through the subsequent milestones to ensure that these historical issues do not reemerge. The Wholesaler will also manage the billing system to collect network access charges and transport fees from the ISPs. Macquarie expects to leverage certain administrative and back office functions across PPP and Wholesaler.

3.3.1.1 Example: Resolving a Network Outage

The separation between the PPP and the Wholesaler increases the importance of efficient communication and reporting procedures between the two entities. For example, any breakage or outages in the network will likely be identified by two sources: the end user or the PPP’s network operations center (“NOC”). The NOC is the central operations hub of the fiber highway operated by the PPP that remotely monitors the network’s capacity and performance from the network core to the demarcation point at each address and in many cases beyond. Under this structure, there is significantly less risk for the PPP if the NOC identifies the breakage – it will simply instruct one of its crews and send a truck roll to resolve the issue. It becomes more complex, however, where the user cannot access the network and looks to its ISP for an answer.

The maximum resolution time for a network outage will be triggered as soon as the PPP or the Wholesaler is notified of the fault. Macquarie anticipates these benchmarks will be tiered and depend on the cause and severity of the outage. For example, the maximum resolution time for a Tier 1 outage, where the network is down and service is critically degraded, will be significantly shorter than Tier 3 or 4 incidents where a user may be unable to access certain non-critical functionality or bug fixes are required to optimize that user’s network performance. The PPP will be required to maintain a record of all outages, their categorization and the final resolution time, and these records will be audited at regular intervals by the Agencies to ensure the performance has met minimum benchmarks, for example 95% resolution of all Tier 1 reports within the maximum response time. If the benchmarks have not been achieved, the Agencies may deduct a fixed proportion of that period’s availability payment to the PPP. The CA will include the mechanism under which the size of this deduction is calculated. Additionally, the calculation will typically be weighted to penalize further or continued underperformance.

Macquarie notes that the performance standards have not yet been discussed in detail with the Agencies, but we expect the standards will be consistent with market provisions and the Cities’ overall objectives for the network.

3.3.1.2 Revenue Sources

A critical differentiator between the PPP and the Wholesaler is the primary source of revenue. The PPP, as the provider of the fiber highway, will generate its revenues nearly entirely from the utility fee. The utility fee, discussed further in Section 5, will be a contractually agreed amount sized to service the costs of building, operating and maintaining the network.

In contrast, the Wholesaler’s revenue will depend on the take rates on the network. The Wholesaler, much like in the Agencies’ current model, will charge ISPs a transport fee for using the network circuits to provide services to end users. However, given the introduction of the basic service, from which the ISPs will generate no revenue, this transport fee will only be applicable to users who have upgraded to a premium service with superior connectivity. The separation of the utility fee and transport fee revenue is important for two key reasons:

AFFORDABILITY

The PPP and the Wholesaler have significantly different risk profiles. The utility fee is a contractually agreed revenue source that is not reliant on network take rates. This low-risk revenue profile is critical to maximize the financing efficiency of PPP transactions, which are typically highly levered and attract low returns on equity to minimize the overall cost of capital. The efficiency of the PPP financing structure is a critical factor in reducing the utility fee as much as possible.

ALIGNMENT OF INTERESTS

The Wholesaler’s exposure to the risks of the network, particularly take rates across the residential, MDU and business segments of the market, incentivizes the private partners to maximize end user take rates on the network. This alignment of interests should result in a strong marketing program by both the Wholesaler and ISPs, as well as rigorous compliance standards for ISPs to ensure a high quality user experience.

3.3.2 The ISPs

3.3.2.1 Installations

Upon installation of the portal at the demarcation point, users will not usually be able to immediately connect the network. Installation of a further connection, from the demarcation point into the home, will usually be required. The ISPs will be responsible for this connection, and will complete it in the case of a home by installing cabling through the external surface of the premises to the interior. Given the network is an active Ethernet, users can plug directly into the connection. However, most users will likely connect a wireless router to distribute connectivity throughout the house.

When the ISPs connect to the portal, they will also be responsible for powering it. The PPP will supply specialized power systems that make for easy installation during the normal installation process to the interior (ie, PPP will likely provide a “powered” Ethernet cable for the ISPs to install).

PPP’s customer-focused approach subsidizes basic internal installation costs and provides 6 month period to complete connection before utility fee is payable

The PPP will reimburse ISPs \$50 for Basic Installation costs per address, and will supply the power hardware for free, where required. The PPP will also negotiate a low cost supply of basic wireless routers for purchase by users and ISPs. The PPP will establish guidelines for what constitutes a Basic Installation for which the ISP cannot charge user, and under what circumstances an installation fee may be charged.

Figure 7: Process for a User to Connect from the Demarcation Point (Single Residence Address)



The PPP will establish a project website that details the construction plan, including expected dates during which construction will occur, and a list of ISPs providing services in the region. Upon completion of the drop fiber at the premises, users may select a preferred ISP through the project website, or by contacting

the ISP directly. The ISP will then have a maximum period, for example 60 days, in which to arrange access to the property and complete the connection from the demarcation point into the premises.

The Utility Fee will start being charged at the earlier of when the user is first connected and six months from when the drop was completed.

The ISPs will be responsible for installing any hardware or infrastructure required for the user to upgrade their connection beyond the basic service. The related costs will be set by the ISP with no input from the PPP or the Wholesaler.

3.3.2.2 Special Considerations – Multi-Dwelling Units and Businesses

Various constraints – such as access to existing internal wiring, difficulty and cost of installing new wiring, informal “exclusivity” in buildings by incumbent providers, etc. – may limit the ability of ISPs to provide connectivity to users within MDUs and businesses. While further diligence and design will be required in later milestones to fully address these issues, the following assumptions have been made to adjust the business model for these users.

Table 8: Special Considerations – MDUs and Businesses

Utility Fee - MDU	<ul style="list-style-type: none"> In addition to difficulties in providing connectivity, on average, MDU residents may be less affluent and more sensitive to the utility fee As such, Macquarie proposes to discount the utility fee for MDU users by 50%
Utility Fee - Business	<ul style="list-style-type: none"> On the other hand, market pricing for business connectivity is generally far greater than for residential connectivity, even for the same service. Therefore, Macquarie proposes to charge businesses 2x the standard utility fee. Other approaches would be to scale the utility fee for business based on other utility charges, zoning type, etc.
Installation Credit	<ul style="list-style-type: none"> Recognizing the potential installation difficulties, but also the presence of installation efficiencies in some buildings (eg, those with existing, available cabling), the PPP will provide the same \$50 per user installation credit for MDUs and businesses
Basic Service	<ul style="list-style-type: none"> The same basic service is proposed for all users, whether single-family homes, MDUs or businesses

3.3.2.3 Service Level Agreements

The PPP will seek to implement new service level agreements for network ISPs as soon as possible, subject to the terms of current contracts. These agreements will resemble the existing contracts, with a sample of the exceptions and/or changes shown in Table 9.

Table 9: Sample Changes to Service Level Agreements

Basic Service	<ul style="list-style-type: none"> ISPs will be required to provide the Basic Service to users who request it at no charge. The PPP will provide transport for Basic Service Delivery for free. However, ISPs will be required to cover other costs related to service delivery, including but not limited to connection to the internet, provision of IP addresses, and customer service (at standards to be defined)
Premium Services	<ul style="list-style-type: none"> ISPs will be free to market premium services to any users on the network, in accordance with certain standards to be defined
Installation Service	<ul style="list-style-type: none"> ISPs will be required to provide a Basic Installation service (standards to be defined) at no charge to the user. A subsidy of \$50 per Basic Installation will be paid to the ISPs upon completion of these installations.

Reporting	<ul style="list-style-type: none"> ISPs will be required to provide quarterly management financial statements and annual audited financial statements
Transport Fees	<ul style="list-style-type: none"> Residential transport fees are expected to be similar to or below current levels. Preliminary revenue forecasts for the Wholesaler have assumed a conservative transport fee of \$20 per month per residential premium circuit, an approximate 13% discount from the current pricing for a 100Mbps circuit. The final transport fee for both residential and business circuits remains subject to negotiation.

Failure to meet the conditions of the service level agreement will result in penalties to be defined. Continued failure to meet the conditions of the agreement may result in disqualification from participation on the Network.

3.3.2.4 The Basic Service

Macquarie, recognizing the importance of the basic service to the success of the model, engaged a specialist consultant, Columbia Telecommunications Corporation (“CTC”), to review the entry level products in the local and regional market. This analysis, which formed part of the consultant’s study into the feasibility of the network, is critical to ensuring that users paying the utility fee receive a service that provides good value for money relative to other basic offerings in the market, while at the same time incenting more intense users to upgrade to premium services and drive incremental network revenues

CTC’s analysis suggests there are no truly comparable products for the basic service. The incumbents are able to price their entry level products aggressively, however as Table 8 shows, this pricing is only available as part of a phone or basic cable bundle, increasing the effective monthly cost of the package well above the advertised price. CTC recommended the basic service be set at a symmetrical speed of 3Mbps and a maximum monthly download volume of 20GB.

Table 8: Incumbents’ Entry Level Products

Provider	Introductory Price	Standard Price	Speeds / Data Caps
CenturyLink <i>Internet Only</i>	\$29.95/month plus one time charges of \$119.90 One year contract	\$42.00/month	1.5 to 40Mbps / 0.9 to 5Mbps 150GB data cap
CenturyLink <i>Double Play</i>	\$19.95/month internet plus \$35.00/month phone One year contract	\$35.00/month internet + \$35.00/month phone	1.5 to 40Mbps / 0.9 to 5Mbps 150GB data cap
Comcast <i>Internet Only</i>	\$29.99/month for 1 st year \$8/month modem rental One year contract	\$49.95/Month \$8/month modem rental	25Mbps / unknown upload 300GB data cap
Comcast <i>Double Play</i>	\$39.99/month for 1 st year \$59.99/month for 2 nd year \$8/Month modem rental Two year contract	\$82.90/month after 2 nd yr \$8/month modem rental	25Mbps / unknown upload 300GB data cap

Macquarie notes CTC’s recommendation for the basic service specifications, and we are committed to providing users a quality service that reflects likely users and their expected data requirements. For example, the basic service is designed to be an entry level product for broadband users with relatively low

data requirements. That is, their activity may be limited to general web browsing, email, limited video downloads and use of applications such as Skype and Facetime. Macquarie thus plans on offering the benefits of a symmetrical connection to provide a faster upload speed that will improve users' experience for these applications through reduced buffering times, reduced connection dropouts and greater picture clarity.

Note that users who continue to rely on the basic service over the term of the PPP will never pay an incremental charge above the utility fee. Conversely, Google Fiber's basic product will only be a free service for seven years, after which time it will likely revert to market rates. Monthly prices for 5Mbps / 1Mbps products are currently in the range of \$40, which is significantly more than the utility fee. Additionally, the Provo network is now a closed system, which means that users will not have the option of switching to a cheaper provider once the free service period has expired. Macquarie will continue to refine its analysis on the basic service and will finalize the specifications as part of its Milestone Two proposal.

Note that there are a variety of inexpensive VoIP telephone services available that the basic service connection could easily support. These services can readily be purchased for less than \$10 per month from several different service providers, keeping the total double-play basic internet and voice pricing on the network at approximately \$25-30 per month. In contrast, CenturyLink's entry level double-play package sells for \$70 per month after the first 12 months, and Comcast's is \$83 per month after the first 24 months (ignoring modem rental costs)

3.3.2.5 Upgraded Services

Macquarie expects users to have significant appetite for connectivity and bandwidth capacity beyond that provided by the basic service. The 1Gbps active Ethernet network will be the fastest network in the region, and Macquarie is considering whether to focus exclusively on Gigabit connections or encourage the ISPs to market a range of products that cater to a broader suite of users, from market average speeds of 10-20Mbps to the full 1Gbps connection. This analysis is subject to further work around consumer behavior and refinement of marketing strategies.

Similarly, Macquarie is encouraging the ISPs to develop a product platform that demonstrates the network's greater capacity and signal quality relative to other networks. Anecdotal evidence suggests users can detect the quality differential between video content streamed over the existing UTOPIA network and that provided by the cable incumbents, and we are evaluating a number of options to improve and expand video offerings available on the network.

ISPs will compete with other ISPs on the network and the incumbent providers to acquire these users, and so will be free to set their prices without input from the Wholesaler or the PPP. Macquarie is, however, evaluating the current wholesale pricing structure and mechanisms for promoting consistency of end user pricing.

3.3.2.6 Customer Service & Technical Support

ISPs will be the first and only direct point of contact for the users. Any user not able to connect to the network must call their ISP, who will then escalate their concern to the Wholesaler and PPP if appropriate. As such, the ISPs will be required to commit sufficient capital and resources to the network to maintain or outsource a call center, truck roll crews and equipment to provide high quality customer and technical support for their users. Macquarie expects this to be a critical component of the ISPs' service level agreements.

3.3.3 The Agencies & the Cities

The Agencies will not have an operational role in the network under the proposed model, and as such will have no direct interaction with end users. The Agencies' primary role will be to ensure the PPP's compliance with its contractual requirements under the CA. The PPP will establish reporting and audit procedures to measure its compliance with the CA through the design, construction, operations and maintenance phases of the project, which the Cities will be expected to review.

Macquarie has engaged a lenders' technical advisor ("LTA") and will ramp up the LTA's scope of work through the remaining milestones, particularly as the design-build and operations and maintenance contractors begin to develop binding proposals. The LTA will be an important resource for the Cities as well as the PPP's ultimate lenders through its ongoing review of the PPP's design and construction program. The LTA must sign off on the PPP's design and construction activities before releasing additional funds to the PPP, which provides certainty for the Cities that the network is being built safely, sustainably and in accordance with the conditions of the project and lender documentation. This independent certification will be pivotal for the Cities in ensuring that the utility fees and availability payments do not become payable to the PPP until the LTA is satisfied that the network will be available for use by the communities.

Macquarie's preliminary discussions with the Cities have focused on providing a 1Gbps connection for a 30 year period. The utility fee will be fixed in real terms over the contract term on that assumption. However, a key benefit of fiber optic cabling is that its bandwidth capacity is virtually unlimited; the connection speeds available to users are primarily limited by the electronics and the equipment's ability to process signals. The Cities, should they believe that it is economic, will have the option to invest in the network and upgrade the network's electronics beyond the current 1Gbps maximum speed. The investment would not increase the utility fee required by the PPP.

3.4 Impact on Users

3.4.1 Timing of the Utility Fee

Users will not be required to pay the utility fee upon installation of the access portal at the demarcation point. The PPP’s strategy for connecting from the demarcation point into the premises is designed to ensure an efficient completion process, however the PPP is cognizant of the potential for time lags and as such intends to provide users a transition period of up to six months from the drop installation during which the utility fee will not be payable.

When an internal connection is completed, the ISPs will request a network circuit from the PPP’s NOC. These requests will trigger the user’s eligibility to pay the utility fee, as that user is now able to access the network. This fee will be incorporated into that premise’s next cycle of municipal charges.

3.4.2 New Billing Structure

The Agencies and users of the existing network are currently operating under a complex billing structure. In addition to the monthly subscription fees charged by the ISPs, users are paying an additional connection fee, which varies depending on the type of user and the method with which they chose to complete their connection. Table 9 demonstrates the process under which the Agencies determine the connection fees.

Table 9: Billing Matrix for Existing Network Users

Agency	Connection Fee Options	Trnspt Fee	CUE Upfront	CUE 20yrs	CUE 10yrs	Lease 2yrs
UTOPIA	<ul style="list-style-type: none"> No initial connection fee Infrastructure cost is charged to ISPs and passed-through to users 	\$12 <i>Monthly</i>				
UIA	<ul style="list-style-type: none"> Initial connection fee – user choice of the CUE options >50% of new connections have shifted to the 2 year lease model since its introduction 		\$3,000 <i>Upfront</i>	\$25 <i>Monthly</i>	\$30 <i>Monthly</i>	\$30 <i>Monthly</i>

The utility fee model will remove this complexity and deliver up to two buckets of cost for users – the utility fee, payable to the city in the same manner as other utilities such as electricity and water, and equal for all users, and a subscription fee payable to an ISP for an upgraded service. Macquarie expects this simplicity to permit greater pricing transparency across ISPs as well as reduce the paperwork burden for users.

Macquarie is keen to ensure all users are treated equally and is working through potential approaches with the Cities to ensure existing network users that either paid their connection fee in full or are part way through their contractual payment stream do not bear a greater financial burden than other users.

The network buildout will be ubiquitous across all the Cities, and so users that are currently receiving their broadband, video and/or voice services over a third party network will also be required to pay the utility fee. The decision to remain with their provider or switch to a network ISP will be completely at the user’s discretion.

Macquarie is considering a number of options to ensure that the all-in cost for users remains competitive with current market prices after the introduction of the utility fee. These options – including a potential incentive regime in which ISPs receive a discount on their transport fees for pricing services at a preferred level set by the PPP and/or Wholesaler – will continue to be developed with the ISPs through Milestones

Two and Three. Macquarie notes CTC’s recommendation that the all-in cost, including the utility fee, should be priced competitively with current 1Gbps offerings at approximately \$70 per month.

Table 10: Network Pricing Comparison

User		UTOPIA	PPP
Residential – MDU	\$ / Month	A + 12	0.5*UF + C
Residential – Single Family	\$ / Month	A + 12	UF + C
Businesses	\$ / Month	A	2.0*UF + C
Third Party Network Provider	\$ / Month	B	UF + (B-D)
<i>A,C – Network ISP Fee</i>		<i>B – Third Party ISP Fee</i>	<i>UF – Utility Fee</i>
			<i>D – Impact of Competition</i>

The greater competition provided by the completed network will incent incumbent providers to reduce their prices or improve their service offering to mitigate the risk of customer losses. For example, following Google Fiber’s announcement of the iProvo acquisition, Comcast introduced promotional pricing for a suite of their products that was not available to communities outside of Provo.⁸ Similarly, press reports confirmed that the regions surrounding Kansas City had the largest increase in average broadband speed in 4Q2012, again following Google Fiber’s initiatives, this time the announcement of its first fiber city in 2011.⁹ The anecdotal evidence highlights the potential multiplier effect of the network buildout – users would not only receive greater connectivity through Macquarie’s investment in the fiber infrastructure but also indirectly benefit from greater competition among the ISPs, which could instigate both lower prices and new services as ISPs seek to provide their customers additional value to stand out from competitors.

⁸ DSL, *Comcast Offering 250Mbps in Provo for \$80*, August 2013 <http://www.dslreports.com/shownews/Comcast-Offering-250-Mbps-in-Provo-for-80-125571>

⁹ BGR, *Google Fiber is Pressuring Rivals to up Their Game*, April 2013, <http://bgr.com/2013/04/26/google-fiber-rival-data-speeds-467078/>

3.5 Feasibility of the Proposed Model

3.5.1 Network Feasibility Study

Macquarie engaged CTC to undertake a detailed review of the proposed model, focusing on its viability in the current market, the potential reaction from the incumbents and key risk factors to focus on throughout the remaining milestones.

CTC concluded that the model is not only viable, but could potentially be a key driver of community attitudes to recognize broadband as the fourth utility, a sustainable model that *“would bring to reality a concept that has been discussed in public policy circles for years.”*

The model is not without its risks, and CTC’s comprehensive analysis of the potential competitor reaction, from both market and regulatory / political perspectives, demonstrates the importance of Macquarie continuing to collaborate with the key network stakeholders through the remaining milestones to ensure the model delivers maximum value for the users, the Agencies and the Cities. Table 11 highlights some of CTC’s key insights and recommendations.

Table 11: Summary of CTC Recommendations & Analysis

UTILITY FEE	<ul style="list-style-type: none"> ▪ The utility fee would establish broadband as a basic service for the Cities, like water and electricity. The belief that all citizens need the benefits of broadband has underpinned broadband adoption programs at all levels of government. ▪ The utility model separates network infrastructure from services being provided on that infrastructure and thus provides a platform for communitywide network access
BASIC SERVICE	<ul style="list-style-type: none"> ▪ A symmetrical 3Mbps connection exceeds the federal government’s minimum definition of broadband and is competitive with the incumbents’ entry level products ▪ A 20GB data cap on the service is also consistent with average monthly data use
POTENTIAL TAKE RATES	<ul style="list-style-type: none"> ▪ Take rates over the medium- to long-term, with effective management and marketing, could grow to between 50-60% (a total market of 80,000-90,000 addresses) <ul style="list-style-type: none"> ○ Setting the basic service at 3/3/20 provides ISPs significant flexibility for upgraded services, either through higher speeds or data caps ▪ Differentiation from the incumbents and demonstration of the competitive advantage of the 1Gbps connection will be critical in driving take rates higher
OPEN ACCESS MODEL	<ul style="list-style-type: none"> ▪ Sharing common public infrastructure has long been a cornerstone of civil society. Hence, the PPP is applying a well-established model to a new sector ▪ Once the PPP is in operation, ISPs will be able to offer innovative new services without having to make infrastructure investments, which significantly reduces market entry and exit barriers and threatens the incumbents’ market power ▪ Critical for the PPP to attract and support a strong roster of qualified ISPs
COMMUNITY BENEFITS	<ul style="list-style-type: none"> ▪ The efficiency gains and ability to provide better community services over a ubiquitous fiber network are significant

3.5.2 ISP Feedback

The proposed model substantially increases the role of the ISPs on the network and requires them to take greater ownership of their customers. Macquarie has an active dialogue with the network’s existing ISPs, in particular Veracity and Xmission, and has received positive feedback that the ISPs are willing and able to provide the basic service at no incremental charge to users. The prospect of a far greater universe of

ISPs are highly concerned about the conflict of interest that would arise if the Wholesaler’s is able to compete with ISPs and provide services directly to users

potential customers to market to, who would no longer be required to pay an expensive connection fee, is highly attractive to the ISPs. Furthermore, the ISPs welcome the opportunity to take greater ownership of end users. The Agencies relatively high involvement in network operations was consistently identified as a source of confusion and frustration with the current network.

Table 12: ISP Feedback on Proposed Model

ROLE OF WHOLESALER	<ul style="list-style-type: none"> ▪ ISPs were highly concerned whether the Wholesaler would have the right to provide services directly to users and effectively act as a competitor, creating a conflict of interest. It will not. <ul style="list-style-type: none"> ○ Wholesaler will have access to commercially sensitive information – ISPs’ customer databases, financial information, market share and performance metrics ○ Wholesaler will have the authority to penalize and, in certain circumstances, remove ISPs from the network for breaching their service level agreements ○ Mixed model in which Wholesaler can provide services direct to end users would materially reduce potential large new ISPs’ appetite to commence services ▪ ISPs indicated the Agencies have previously had too great an influence on operations. ISPs want greater ownership of their businesses and flexibility to implement their strategies
PROVISION OF BASIC SERVICE	<ul style="list-style-type: none"> ▪ Significant appetite to provide the basic service at no incremental cost to users ▪ Strong recognition of the upsell opportunity, however the ISPs expressed caution that the basic service must be set at a reasonable level such that users are incented to upgrade
INSTALLATION COSTS	<ul style="list-style-type: none"> ▪ Broad support for the ISPs completing the connection from the demarcation point into the premises, subject to standardized installation protocols, and given PPP’s financial support for hard costs <ul style="list-style-type: none"> ○ Some concern whether ISPs will have the physical resources to connect such a glut of new users in a timely fashion. Macquarie will work with the ISPs in subsequent milestones to identify ways to address this issue

Macquarie has prepared a term sheet for the ISPs that will form the basis of revised service level agreements to operate on the network, and will seek to formalize the ISPs’ commitments through Milestone Two.

3.5.3 Competitive Reaction

The open access model has the potential to materially disrupt the market’s status quo. The incumbents, Comcast and CenturyLink, are national players with significant market share. Both players own and operate their own infrastructures, with limited (or compromised) third party access, creating significant entry and exit

barriers for potential competitors. The network buildout, by separating the infrastructure from the services delivered on that infrastructure, materially reduces these barriers and exposes the incumbents to a much broader pool of potential competitors. Macquarie expects a strong reaction from the incumbents, particularly competitive pricing strategies that, while potentially impacting the Wholesaler’s expected take rates, could deliver material benefits to all city residents.

3.5.3.1 Competitive Reaction to Google Fiber

Google Fiber’s entry into the market in Kansas City, Provo and Austin has already seen regional incumbents materially reduce their product pricing and invest in their own infrastructure in order to compete with the superior gigabit connection.

Google Fiber commenced operations in Kansas City in late 2012. The state of Kansas was subsequently shown to have had the fastest growth in average broadband speed across the United States in 2012, an increase of 86%, approximately 35% higher than Wyoming at 51%.¹⁰ Press reports in April 2013 also indicated that rival Time Warner Cable boosted the speed of its Turbo service by 33% to 20Mbps and increased the speeds of its top-line product to 100Mbps.

“Google isn’t even offering service in town yet, and already parts of Austin are getting better broadband” – Stacey Higginbotham, GigaOM

Google’s selection of Austin as its second greenfield city generated a similar response. Three competitors, including AT&T and Time Warner Cable, introduced high-speed offerings at competitive prices:

Provider	Product	Maximum Speed	Price	Comparison to Google
AT&T	U-Verse	300Mbps	\$99	\$29 Premium
Time Warner Cable	DOCSIS Ultimate	300Mbps	\$65	\$5 Discount
Grande	Power1000	1,000Mbps	\$65	\$5 Discount

AT&T has also committed to upgrading its infrastructure. In both Austin and North Carolina, AT&T has issued press releases committing to a competing gigabit or gigabit-like solution following the announcement Google Fiber would build there.¹¹ Indeed, AT&T has actually begun its fiber rollout ahead of Google in Austin, following permitting issues that delayed the latter’s construction program.

Lastly, in Provo, an internal Comcast memo, committing to reducing prices specifically in Provo, was leaked in August 2013, shortly after Google Fiber announced its acquisition of the iProvo network.

The consistency of these examples demonstrates the potential threat fiber networks pose to the incumbents. A completed network in the Cities has the potential to deliver significant indirect benefits to the Cities, over and above ongoing revenue that can be used to defray the outstanding revenue bonds.

3.5.3.2 CTC Conclusions

CTC’s analysis echoes Macquarie’s expectation that the incumbents will react negatively to the project in a political, legal, and commercial perspective.

¹⁰ BGR, *Google Fiber is Pressuring Rivals to up Their Game*, April 2013, <http://bgr.com/2013/04/26/google-fiber-rival-data-speeds-467078/>

¹¹ Time Magazine, *AT&T Aims to Beat Google Fiber in Gigabit Broadband Race*, April 2014

On the political front, CTC noted that in other instances of attempts at deploying retail and open-access model networks, incumbents have lobbied policymakers to vote against the venture, initiated public referendums, and leveraged the influence of trade associations to introduce new or amended legislation to block the effort. CTC emphasized that the proposed business model will likely disrupt the status quo of the communications marketplace and trigger a heated political and legal battle. Though CTC suggests that a political and legal battle will be triggered, Macquarie believes that the debate has already begun. For example, HB60 was a bill sponsored by House Representative Webb that prohibits any municipal fiber network from constructing infrastructure or provide telecommunication services outside of the city boundaries of its members, and SB190 was a bill sponsored by Senator Valentine that initially restricted the subsidization of telecommunications services with fee. Ultimately, both bills did not receive support and did not advance, but they do indicate that broadband is an important topic on the legislative agenda. As well, UTOPIA has been a widely debated topic by politicians since its inception in 2002 and the dialogue is expected to continue.

CTC has also raised the prospect that the PPP and ISPs may be unable to deliver video content, as Comcast and other incumbents have a strong influence on the use and cost of it. Due to the scale and vertically integrated nature of the large incumbent operators' business model, they have advantages in purchasing and producing content. The content acquisition costs of the smaller providers create a significant disadvantage relative to the incumbents. By introducing a large nation-wide ISP to operate on the UTOPIA network, the pricing markup on content delivery should be moderated resulting in a competitive all-in rate. It should also be noted that existing ISPs, for example Veracity, already provide competitive video offerings on the network.

In addition to delivering traditional video content, the network will explore the option of a partnership with a streaming content provider such as Netflix to install its servers on the network. By locating the servers of streaming content operators directly on the UTOPIA network, there will be more consistent content delivery speed. The quality and speed of a 1 Gbps connection can truly be realized and appreciated through streaming high-definition videos and content-rich web sites. In any case, Macquarie aims to maintain the all-in cost of the new business model (utility fee plus ISP charge) at a competitive level relative to the market.

CTC supports Macquarie's thoughts and anecdotal evidence that a ubiquitous, open-access business model for UTOPIA can open doors to private sector competition. Based on the incumbents' reaction to the Google Fiber rollout, one can expect to see an increase in investments, an improvement in service quality, and a reduction in pricing – all in all a positive benefit to the citizens of the UTOPIA cities.

3.6 Benefits

Table 13: Key Potential Benefits of the Business Model

KEY PROPOSAL BENEFITS	
ACHIEVABLE SOLUTION	<ul style="list-style-type: none"> Independent review of the proposed business model supports its feasibility Positive feedback from lenders suggests appetite for funding
RISK TRANSFER	<ul style="list-style-type: none"> Cities will not be required to contribute funding to the project's development All design-build, integration and ongoing operating and maintenance risks are transferred to the PPP The PPP will be required to operate the network to well-defined specifications Proposed upside sharing mechanism ensures alignment of interests between all parties
FINANCIAL UPSIDE FOR CITIES	<ul style="list-style-type: none"> Premium service revenues, assuming long-term upgrade rates of 30-50%, expected to total \$1.0-1.5 billion over the term Equivalent to approximately 2-3 times the existing debt service obligations Cities retain ownership of network assets and, upon handback at the end of the term, will receive an asset with expected annual free cash flows in excess of \$100 million
VALUE FOR MONEY	<ul style="list-style-type: none"> Significant majority of residents currently pay well in excess of the utility fee for their internet connectivity Symmetrical basic service of up to 3Mbps is comparable to competing products in the market area
GREATER COMPETITION	<ul style="list-style-type: none"> Separation of network infrastructure and services significantly reduces market entry and exit barriers Proposed step change in network scale has generated interest from regional and national ISPs Whether residents use the network or not, they will likely see pricing reductions from their incumbent providers, serving to offset the utility fee
SCALE	<ul style="list-style-type: none"> Scale of project allows for efficiencies in financing, development and operating costs, and ability to attract world class design-build contractors, systems integrators and hardware providers Standardized demarcation point across network drives operating cost efficiencies Universal access will help shrink the digital divide Provides scale required to attract stronger ISPs, promoting competition and choice for consumers Connectivity amongst the cities lays a foundation for a collaboration platform amongst community services
ISP INVOLVEMENT	<ul style="list-style-type: none"> Clear distinction of responsibilities and handoff points between network and ISPs will ensure timely remedy of user issues and improved customer engagement Requirement to provide basic service for free will incentivise ISPs to invest in marketing premium services Large number of potential customers incentivizes ISPs to deploy significant

KEY PROPOSAL BENEFITS	
	resources to develop a robust service and maintenance operation
ALIGNMENT OF INTERESTS	<ul style="list-style-type: none"> ▪ Sharing amongst all parties in upside revenues ▪ Private funding model will not require the Agencies or Member Cities to contribute additional funding to realize the network's potential ▪ Speed of basic service will be competitive, if not superior, to incumbent offerings that have higher costs than the proposed utility fee ▪ All-in costs (utility fee plus ISP charge) of premium services will be competitive to incumbent offerings of inferior speed and quality ▪ Users will not be billed the utility fee until they have had the opportunity to connect to the network
PLATFORM FOR GROWTH	<ul style="list-style-type: none"> ▪ Complete network will command a much higher take-rate for premium service, which will provide additional revenues for the Cities ▪ Network can be expanded to include other cities and benefits of scale shared amongst a greater number of users

3.7 Risks

Macquarie has conducted an in-depth analysis of the risks associated with the proposed UTOPIA business model and the suitable mitigants that can be utilized to reduce the threat of these risks.

3.7.1 Business Model Risks

<p>BASIC SERVICE</p>	<ul style="list-style-type: none"> ▪ If the basic service is too attractive it will reduce the potential upsell opportunities and wholesale revenue, and therefore incremental City revenue to paydown debt and ISP returns on investment ▪ Engaged consultant (CTC) to identify optimal basic service speeds to best suit all stakeholders. According to CTC's market analysis, Macquarie's own analysis and feedback from the ISPs, a basic service of 3Mbps download, 3Mbps upload and 20GB maximum monthly data usage strikes the right balance between providing enough value for the utility fee, but also leaving enough incentive for users to upgrade to a faster connection. 	<p>High</p>
<p>INSTALLATIONS</p>	<ul style="list-style-type: none"> ▪ Proposed demarcation point requires ISP to bear greater role and increased costs ▪ Disconnect in timing of connectivity as core network is built by PPP but last mile connection made by ISP ▪ Concern around whether ISPs would be able to perform installations in timely manner ▪ Initial feedback from ISPs suggested that they were interested and capable of providing installation and free service ▪ Propose providing subsidies to ISPs for performing installation ▪ Extensive preplanning of rollout and communication with ISPs will minimize delay in connectivity ▪ Suggesting a grace period of 6 months on utility fee 	<p>High</p>
<p>PROPERTY ACCESS</p>	<ul style="list-style-type: none"> ▪ Some property owners may resist installation of the drop fiber on their property ▪ While Macquarie expects the PPP will be formally deemed a utility with associated access rights to property easements, Macquarie and its contractors are not interested in relying on this technicality for property access ▪ A variety of non-user property will need to be accessed (eg, utility poles, most of which are not owned by the cities) and appropriate agreements need to be confirmed ▪ Macquarie understands that that a portion of the network was built using \$16 million in funding from the American Reinvestment and Recovery Act, which can potentially take precedence over an agreement with city agreement in certain scenarios. To be diligenced further in future milestones ▪ With the proper contractual arrangements in place, Macquarie doesn't expect the business model will face any significant legal issues with access ▪ Initial discussions with stakeholders such as Rocky Mountain Power suggest that access to key non-user property can be obtained ▪ Extensive pre-marketing of benefits, communication of the rollout plan and coordination with ISPs' marketing and sales efforts will minimize resistance 	<p>High</p>

	<ul style="list-style-type: none"> by property owners Property owners would be free to opt out of construction, though would still be subject to the utility fee 	
ISP FAILURE	<ul style="list-style-type: none"> Open-access model allows for smaller, less well-capitalized ISPs to service network but also increases risk of ISP failure, disrupting customer service In the past, ISP failures have had significant impact on customer service and network perception Stronger monitoring of ISPs and service should help with identifying problems earlier on Providing the ingredients for network and ISP success will reduce likelihood of failure In discussions with a larger ISPs to join network PPP would be able to maintain temporary connectivity for customers of failed ISPs while they select new ISPs 	High
UTILITY FEE	<ul style="list-style-type: none"> Implementation of utility fee requires approvals from multiple cities Public reaction to the utility will likely be negative, at least to start Intend to conduct extensive marketing campaign to raise awareness of benefits of fiber and stress that users receive good value for their utility fee payment Nearly all residents currently pay more than the utility fee for what is, in many cases, a worse service from the incumbents Utility Fee is key to reducing market entry and exit barriers that will create benefits of competition to the end user 	High
POLITICAL RISK	<ul style="list-style-type: none"> UTOPIA has been in the center of many political discussions, and Macquarie believes that it will continue to draw attention as the project advances. Since the business model suggests implementing a utility fee on all addresses in the Member Cities, there may be large groups of citizens and politicians who will be against the project Project requires approval from the Councils of 11 Member Cities, which have a varying range of support for UTOPIA Outspoken disapproval from certain elected officials, coupled with lobbying efforts from incumbent ISPs Local lobbyists engaged to advocate for the benefits of the PPP/Utility model Legislation for restricting the utility fee model received strong opposition from a number of key decision makers at the City level and was ultimately unsuccessful Potential restrictions on new networks may be harder to impose as Google Fiber has already entered the state through Provo 	High
CONSTRUCTION SCHEDULE	<ul style="list-style-type: none"> Macquarie has proposed an indicative network buildout schedule of 30 months, which is somewhat aggressive The longer the buildout takes, the less likely the network is to be successful in attracting new users and ISPs. Schedule also has a direct impact on cost. Macquarie has conducted significant diligence on buildout schedule and is 	Med

MDU CONNECTIVITY	comfortable that the 30 month assumption is reasonable at this point. It is, however, subject to change, based on final design	
	<ul style="list-style-type: none"> Macquarie will partner with world class design-build and systems integrator partners who will provide firm fixed price date certain contracts for the buildout. The contractors will be subject to penalties relating to any schedule overruns. Such penalties will flow through to the Agencies 	
	<ul style="list-style-type: none"> Difficulty accessing end users in MDUs may create basis for opposition to basic service and limit upsell revenues Propose to provide installation incentives for ISPs and discounted utility fee to MDU residents Will actively market specifically to MDU owners and residents to raise awareness of value the fiber asset on their premises Will work with ISPs on specific MDU business development strategies 	Med
INCUMBENT REACTION	<ul style="list-style-type: none"> Execution risk increased as incumbent broadband providers expected to push back against proposal through political, legal and commercial means 	
	<ul style="list-style-type: none"> Open-access network aims to remove entry and exit barriers for ISPs and inherently generates competition in a sector typically monopolized by a few companies Increased competition will produce better pricing and service for consumers Support of various constituents throughout milestone process expected to help defend against political and legal responses 	Med
FINANCABILITY	<ul style="list-style-type: none"> Lenders' interest in financing the project as a PPP will be driven by the assumed risk profile, including the Concessionaire's exposure to market risk non-payment or shortfall of the availability payment Cities have indicated limited appetite for joint and several liability or general fund pledges in the event of a shortfall Number of counterparties 	Med
	<ul style="list-style-type: none"> Promising discussions with lenders suggest alternative shortfall mechanisms such as a rate covenant could provide sufficient security to achieve PPP financing 	
VIDEO	<ul style="list-style-type: none"> Limited video content options may deter users from signing up for premium services Video is key to highlighting capability of network and benefits of a Gigabit connection Without a robust video offering, ISPs may find it hard to compete with incumbents' triple play offerings 	
	<ul style="list-style-type: none"> Participation of a larger ISP will likely bring along robust video content offerings Currently exploring whether to improve existing UTOPIA white-label video offering, or remove service, based on further diligence of costs, ISP needs and market requirements Currently exploring options to incorporate servers of streaming video providers to enhance speed and experience of customers 	Med
EFFECTIVE AND	<ul style="list-style-type: none"> ISPs may create "me too" offerings or "race to the bottom" (eg, matching 	Med

<p>CONSISTENT MARKETING</p>	<p>speeds of incumbents at lower pricing), undercutting the unique benefits of fiber in the eyes of the market and potentially compromising the marketing campaigns undertaken by Wholesaler</p> <ul style="list-style-type: none"> ▪ However, desire is to allow ISPs to address the market as they see fit – to not meddle in their business – and address likely demand for spectrum of offerings rather than, for instance, only a gigabit offering 	
<p>CONTRACT STATUS</p>	<ul style="list-style-type: none"> ▪ Consider setting guidelines to limit the lower end of speeds offered by the ISPs ▪ Consider allowing ISPs to only offer a Gigabit service, as is the recommendation of CTC 	
<p>MISMATCH OF REVENUE AND EXPENSES</p>	<ul style="list-style-type: none"> ▪ The transaction is at an early stage and key contracts are not yet progressed beyond term sheets ▪ Progression through the milestones will be subject to negotiation of these terms and execution of full-form contracts with various parties including Agencies, the Cities, ISPs and Debt Providers 	Med
<p>MISMATCH OF REVENUE AND EXPENSES</p>	<ul style="list-style-type: none"> ▪ Extensive preliminary discussions with all stakeholders to identify key issues are captured in term sheet drafts ▪ Open book process that encourages collaborative development of resolutions 	
<p>MISMATCH OF REVENUE AND EXPENSES</p>	<ul style="list-style-type: none"> ▪ Wholesaler will initially have a high cost profile as it markets the network to drive take rates and increase revenue growth on the network ▪ Wholesaler will operate in a competitive market and its revenue profile will be driven by the ISPs ability to sell premium services on the network 	Med
<p>CAPACITY OF ISP PARTNERS</p>	<ul style="list-style-type: none"> ▪ Network operations and maintenance costs following financial close will be funded by the PPP ▪ Wholesaler’s marketing resources will supplement the ISPs direct marketing to users 	
	<ul style="list-style-type: none"> ▪ Successful implementation of the business model requires a register of competitive and financially capable ISPs to be active on the network <ul style="list-style-type: none"> ○ Ability to complete the installation and bear costs above the proposed \$50 subsidy to be funded by the PPP ○ Ability to provide the basic service over the concession term ▪ ISPs’ cost exposure will increase if take rates are impacted by the basic service, increasing the risk of uncompetitive measures such as collusion and price fixing 	Med
	<ul style="list-style-type: none"> ▪ Proactive dialogue with ISPs to introduce proposed business model suggests positive attitude towards the basic service given potential upsell opportunity ▪ Step change in scale creates opportunities for regional and national ISPs to begin providing services on the network ▪ Open access system promotes ISP competition – an ISP that provides free installation could materially increase its subscriber base relative competitors that do not ▪ Wholesaler will require rigorous service level agreements and closely monitor ISP performance 	

<p>UNCERTAINTY IN FINANCING MARKETS</p>	<ul style="list-style-type: none"> ▪ Financing plan is preliminary only and is subject to lender due diligence and the market's ability to provide sufficient capital to achieve financial close ▪ Preliminary utility fee range assumes a bank financing solution, exposing the PPP to refinancing risks over the term of the concession 	
<p>TECHNOLOGY CHANGE</p>	<ul style="list-style-type: none"> ▪ Macquarie received positive feedback from multiple lenders suggesting significant funding appetite for the project ▪ Coordination of a competitive, dual-track financing process evaluating both bond and bank solutions to maximize efficiency of the capital structure and pricing 	<p>Med</p>
	<ul style="list-style-type: none"> ▪ Technology change and increase in demand is inevitable in the future ▪ The core fiber infrastructure is theoretically capable of providing unlimited bandwidth ▪ While new hardware may be required to address future bandwidth demand, hardware costs are expected to continue to keep pace with such changes ▪ Low risk of terrestrial connectivity ever being made redundant given limited availability of wireless spectrum and cost effectiveness of fiber relative to foreseeable alternatives ▪ Macquarie in discussing options with equipment providers and systems integrators who will guarantee technology refresh and required installation costs for up to 15 years 	<p>Low</p>

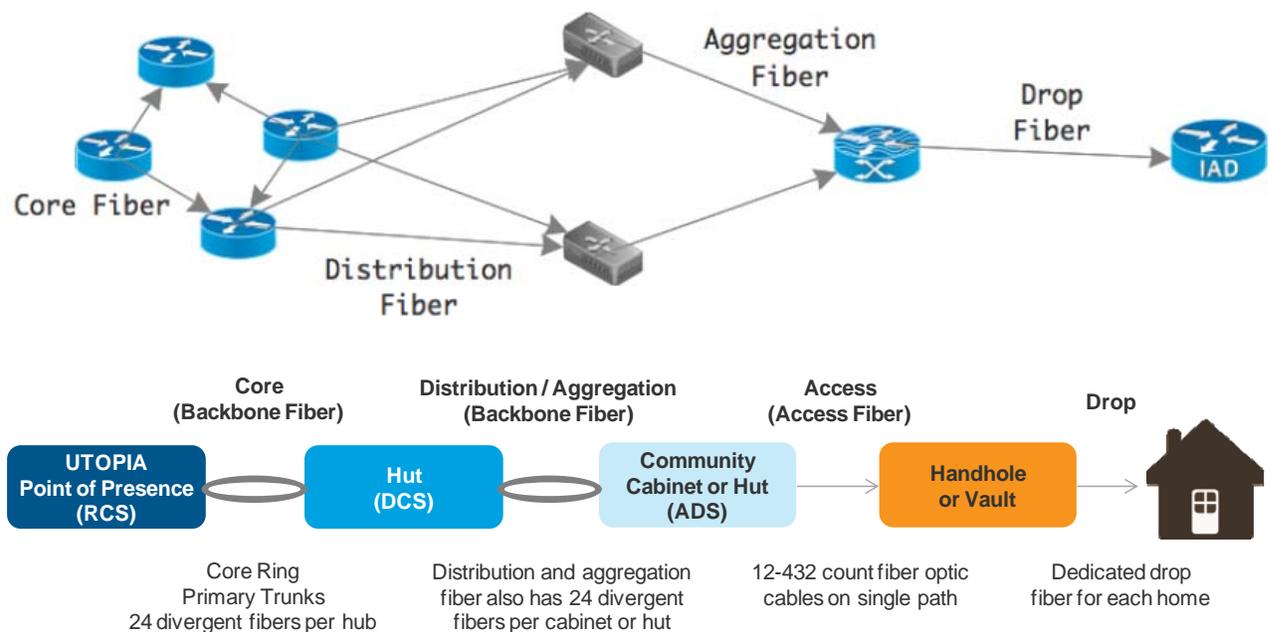
4. IMPLEMENTATION OF THE PPP

4.1 Design-Build Strategy

4.1.1 Network Architecture

The existing network was built as a four-tiered architecture: the core fiber, the distribution fiber, the aggregation fiber and the drop fiber, as shown in Figure 8. The core fiber interconnects four regional locations (Payson, West Valley, Lindon and Murray), and each regional location is connected to two other regional locations by redundant core fibers. Every regional location uses distribution fiber to connect to several distribution points located in the Cities. Each City has at least two distribution points and every distribution point is connected to a regional location. This redundant distribution architecture provides resiliency for the aggregation points in each City. All aggregation points have fiber diverse paths to unique distribution locations. The aggregation points concentrate all drop fibers and represent the last mile network

Figure 8: UTOPIA's Network Architecture Design



4.1.2 Construction of the Existing Network

The network currently comprises over 2,100 miles of fiber, the majority of which is owned and maintained by the Agencies. Approximately 726 miles of fiber are leased from Time Warner Cable, and a further 58 miles are maintained by American Fork City.

Network typology is active ethernet. Market standard for greenfield fiber builds has increasingly shifted away from this model to gigabit open access network ("GPON") typology, primarily to achieve cost efficiencies by simplifying the network architecture and reducing the number of active switching devices in the network. GPON architecture typically uses a splitter to transport the fiber optic signals from a passive Optical Line Terminal (OLT) to a termination point at the premise, known as an Optical network Termination ("ONT"). The splitting ratio, often set at 1:32, reduces the fiber optic cabling required for a comparable active network, which has a dedicated fiber connection to each address.

The Agencies' network has not, however, been built as a typical active network. The Agencies' built the fiber optic backbone ring at much deeper into the network than is typical for ethernet projects, so deep that many of the aggregation points service areas of only 800-1,500 premises. The unique design creates a number of advantages for the project, described in further detail as part of Macquarie's proposed construction approach in Section 4.1.3.

Collectively, the Cities consist of approximately 160,000 addresses across a broad geographical area. The scale of the build required the Agencies to implement a footprint construction model to ensure the network was capable of delivering high quality services to all users. This footprint model subdivided each of the Cities into specific construction areas leveraging a central connection point into the network which, depending on the footprint's population density, would be a super hut, community hut or a community cabinet. These interconnection points are located in easements on school grounds, parks and government buildings where possible.

4.1.3 Construction of the Project Network

4.1.3.1 Construction Scope

The PPP will complete the network to the designated demarcation point and install drop fiber at each of the Cities' 113,948 eligible commercial and residential premises, laying over 1,600 miles of fiber in the process.

Macquarie has calculated the premises as the number of doors in each City, using information provided by City utilities and Rocky Mountain Power. Macquarie will update this number as new or revised information becomes available, however the utility fee presented to the Cities at completion of each milestone, including the Final Proposal, will be based on this fixed number of premises. The eligible addresses have been calculated as all those premises that without an existing connection to the network and replacement of up to 20% of the approximately 5,000 non-active connections. This assumption assumes that 80% of non-active users have retained their equipment in operable condition.

The PPP will complete ~114,000 drops to deliver fiber to ~160,000 addresses

Macquarie's eligible address count includes approximately 6,150 doors that are not yet fully complete. This information was provided by the Cities and incorporates developments currently under construction to the extent that information on door count has been provided to the Cities.

Macquarie is assessing a number of options to incorporate into the project premises that are either approved or developed following commercial close or during the construction period. We envisage the CA will also have a mechanism to extend the network to new premises during the term of the concession, however this is yet to be developed with the Cities.

Table 14: Estimated Scope of the Network Build in the Cities

City	Connectible Addresses			Drops			Fiber
	Bus	MDU	Res	Bus	MDU	Res	Miles
West Valley	2,359	11,436	29,042	2,359	2,859	29,042	535
Orem	2,645	11,091	14,203	2,645	2,773	14,203	331
Layton	1,488	4,930	18,891	1,488	1,233	18,891	507
Murray	3,150	8,156	9,637	3,150	2,039	9,637	84

City	Connectible Addresses			Drops			Fiber
Midvale	1,400	5,173	5,158	1,400	1,293	5,158	73
Brigham City	681	1,323	3,878	681	331	3,878	1
Centerville	331	1,047	2,892	331	262	2,892	-
Payson	304	1,018	3,334	304	255	3,334	12
Lindon	192	420	1,217	192	105	1,217	13
Tremonton	167	568	1,638	167	142	1,638	2
Perry	2	-	48	2	-	48	49
Total	12,719	45,162	89,838	12,719	11,291	89,838	1,608

4.1.3.2 Network Topology

Macquarie's preliminary discussions with the Cities indicated a clear preference to retain the active ethernet topology. We had concerns with this approach, particularly given the market's clear preference for the DWM-PON architecture. However we compared the topologies across three network footprints (CV001, TR003 and LA009) of low, average, and high density areas and determined that neither topology demonstrated a clear cost advantage.

Table 15: Comparison of Active Ethernet & DWM-PON Network Topologies

P2P Active Ethernet				DWM-PON			
CV001	Qty	Unit	Total		Qty	Unit	Total
432	6,889	2.31	\$15,941	24	9,041	0.21	\$1,935
288	2,152	1.48	\$3,183	1x32 Splitter	27	1,502.00	\$40,554
SFP	1,728	30.00	\$51,840	Splitter Cabinet	3	2,000.00	\$6,000
SFP/ONT	864	278.25	\$240,408	SFP	1,728	89.00	\$153,792
				SFP/ONT	864	140.00	\$120,960
Total			\$300,372	Total			\$323,241
P2P Cost Surplus / (Savings)			(\$11,869)				
TR003	Qty	Unit	Total		Qty	Unit	Total
432	10,224	2.31	\$23,658	24		0.21	\$6,346
360	6,104	2.15	\$13,130	1x32 Splitter		1,502.00	\$70,594
288	4,084	1.48	\$6,040	Splitter Cabinet		2,000.00	\$10,000
216	9,240	1.10	\$10,127	SFP		89.00	\$265,042
SFP	2,978	30.00	\$89,340	SFP/ONT		140.00	\$208,460
SFP/ONT	1,489	278.25	\$414,314				
Total			\$556,610	Total			\$560,442
P2P Cost Surplus / (Savings)			(\$3,832)				
LA009	Qty	Unit	Total		Qty	Unit	Total
432	16,754	2.31	\$38,769	24	44,202	0.21	\$9,459
360	19,752	2.15	\$42,487	1x32 Splitter	77	1,502.00	\$115,654
192	7,696	1.00	\$7,704	Splitter Cabinet	8	2,000.00	\$16,000
SFP	4,920	30.00	\$147,600	SFP	4,920	89.00	\$437,880

P2P Active Ethernet				DWM-PON			
SFP/ONT	2,460	278.25	\$684,495	SFP/ONT	2,460	140.00	\$344,400
Total			\$921,054	Total			\$923,393
P2P Cost Surplus / (Savings)			(\$2,339)				

Operationally, the single fiber connection to each premise provides greater reliability than the fiber splitting or virtual replication of the DWM-PON topology. PON architecture does not separate the physical and logistical networking, and the reduction of active switching forces all traffic to flow between OLT-ONT, which has caused a number of performance and reliability issues for customers.¹² The active ethernet network design is more flexible and can manage mixed speeds much more efficiently than GPON, which provides every user the same bandwidth independent upon need.

Macquarie believes maintaining the active ethernet network topology will deliver the Cities maximum value through greater operational performance at a comparable cost to the alternative DWM-PON solution.

4.1.3.3 Footprint Construction Model

In August 2010, the Agencies were granted approximately \$16 million by the United States Government under the American Reinvestment and Recovery Act to expand the network.¹³ The Agencies used these funds, which flowed to the Agencies in phases and have been invested in the network, to extend the distribution and aggregation fiber as well as associated community huts. The extent of the build is such that there are a number of designed footprints that can be fully incorporated into the existing network shortly after financial close. The Macquarie team is seeking to complete the network as quickly as possible, and we consider the footprint model, which could swiftly deliver up to 50,000 addresses available for drop installation following financial close, critical to achieving our schedule.

4.1.4 Selection of the Design-Build Contractor

4.1.4.1 Macquarie's Approach

Macquarie's approach to selecting a contractor has evolved through the course of our preliminary analysis, particularly in response to the momentum the proposed transaction has been generating in the Cities. The initial approach was to engage a specialist contractor as an owner's engineer, to deliver a preliminary design that would serve two purposes:

- 1) Independent verification of cost and schedule estimates prepared by the Agencies; and
- 2) Reference design for a competitive RFP process in which a select group of qualified contractors would submit binding, fixed price, date certain turnkey design-build proposals.

This process, while comprehensive, was considerably lengthy. Macquarie's conservative estimate for the timing to proceed from engagement of the owner's engineer to selection of a preferred contractor was approximately 9-12 months. Additionally, Macquarie believed there was further risk of delay given the logistics of coordinating information for a large group of bidders given the eleven Cities involved in the transaction. The Agencies and Macquarie agreed not only that this timeline was unacceptable given the critical importance of developing a solution for the network, but also that such a detailed process was unnecessary, particularly in relation to the reference design.

¹² Lippis Consulting, *GPON vs. Gigabit Ethernet in Campus Networking* February 2012

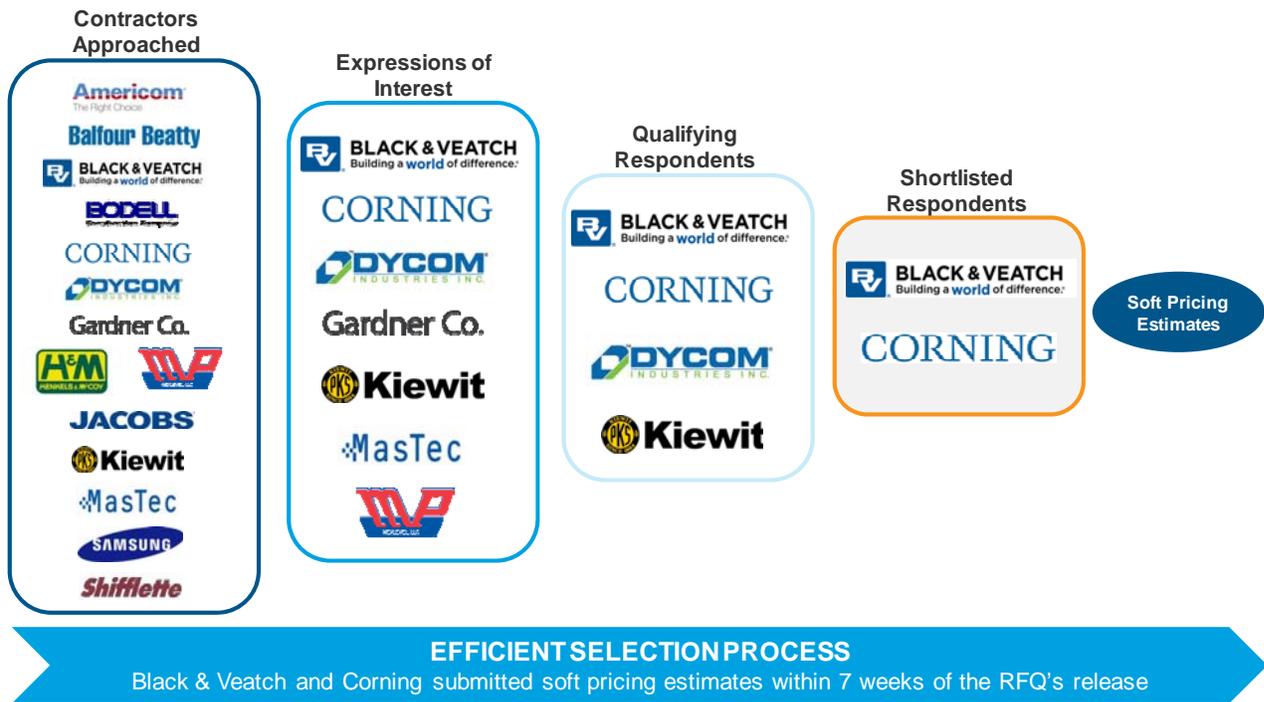
¹³ West Valley City Office of Public Relations, August 18, 2010

Through an ongoing dialogue with the Agencies, the Macquarie team reviewed its selection process to shorten the timeline to receive fixed price bids to the greatest extent possible without compromising either the quality of the bids or the competitive tension that will be critical in delivering potential cost savings. The result has been a two-stage, customized process that has already yielded soft pricing estimates from shortlisted contractors Black & Veatch and Corning Cable Systems. As noted above, verification of the Agencies' cost and schedule estimates was carved out of the process as a standalone scope undertaken by Arup and CTC.

4.1.4.2 Request for Qualifications

The first stage used a Request for Qualifications (RFQ) to solicit interest from the contractor market and differentiate respondents based on their experience with similar fiber, telecommunications and PPP projects, as well as a brief overview of the expected contract structure and key commercial terms, such as a required security package that would be drawn in the event the network is not delivered on schedule. The RFQ was issued in February 2014 and over half of the 14 contractors responded with expressions of interest.

Figure 9: Design-Build RFQ Process



The selected contractors were a high quality mix of regional, national and global players that boasted extensive fiber, construction and PPP experience. All the companies that submitted expressions of interest progressed that interest into formal responses to the RFQ, including MP NexLevel, which partnered with Corning as a specialist construction subcontractor.

Collectively, the companies that submitted formal responses have laid over 50,000 miles of fiber in North America and globally, including the iProvo network. Macquarie has included a summary of the qualifying respondents' experience and financial strength to demonstrate the significant interest that the project has generated in the contractor community.

MasTec and First Starr Cabling, a subsidiary of the Gardner group of companies, submitted responses to the RFQ, however Macquarie and First Solutions found these responses to be non-compliant with the submittal requirements. Following further communications with MasTec and First Starr Cabling, it was determined that neither party met these RFQ requirements and both businesses were removed from consideration.

Black & Veatch and Corning were selected by consensus as the most suitable contractors to proceed into the second stage of the process. The factors driving this selection are noted in Table 16.

Table 16: Critical Evaluation Factors

<p>Fiber / PPP Experience</p>	<p>Brownfield expansion of an operating network necessitates selection of an experienced contractor that is able to efficiently integrate the network design into the existing infrastructure. The active ethernet network typology is also relatively rare in the market, further increasing the importance of selecting an experienced contractor that can successfully implement this typology for both overhead and underground drops.</p> <ul style="list-style-type: none"> ▪ Corning was awarded the design-build contract for the Brigham City network in 2010 and its principal construction subcontractor MP NexLevel has laid over 8,000 miles of fiber in the last four years ▪ Black & Veatch has been the first ranked contractor for Telecommunications Design and Engineering by <i>Engineering News Record</i> for the past four consecutive years. Black & Veatch has laid over 30,000 miles of fiber, and its key subcontractor AEG has completed 35 citywide fiber to the home deployments over the past decade.
<p>Project Understanding</p>	<p>The RFQ and the access to key Agency staff, as well as the First Solutions and Macquarie team, afforded the contractors sufficient opportunity to understand the network’s current status and operational challenges, and tailor their response to consider the project’s specific environment.</p> <ul style="list-style-type: none"> ▪ Corning has been a supplier to the Agencies for over nine years, and was named a material supplier of fiber optic cable in 2008. Corning was also awarded the design-build contract for the Brigham City Network in 2009. Corning has detailed knowledge of the Agencies’ history, including the transition to global standards in 2009. ▪ Black & Veatch’s principal subcontractor AEG built the United States’ first municipal fiber to the premises network in Pennsylvania in 2001 and also led the design and construction of the neighboring iProvo network. Black & Veatch is also in discussions with a number of local subcontractors that either are or have been suppliers to the Agencies.
<p>Contractor Engagement</p>	<p>The Macquarie team is seeking to select a contractor that matches our commitment to delivering a high quality solution to the Cities. Selecting two active and engaged contractors that demonstrate real appetite to complete the project should increase the competitive tension through the bid development process and deliver a more efficient proposal to the Cities.</p> <ul style="list-style-type: none"> ▪ Only two firms, Black & Veatch and Corning, sent teams to Utah to engage with the Agencies and commit material resources to the RFQ response

The Macquarie team quickly engaged with the contractors following their selection, framing a scope of work for the project that would permit Black & Veatch and Corning to submit soft pricing estimates within two weeks. The scope, shown below, identified the critical categories of the engineering, construction and drop

installation and the resulting estimates gave Macquarie significant insight into the potential strengths and weaknesses of the two contractors.

Table 17: Scope of Work for Soft Price Estimates

Engineering	<ul style="list-style-type: none"> ▪ Infrastructure design and drafting / CAD ▪ Field engineering, site engineering ▪ Permitting, rights of way (ROW) and cost to obtain property access agreements
Underground Construction	<ul style="list-style-type: none"> ▪ Directional drilling / trenching and pulling fiber ▪ Installing small (20"x26"), medium (24"x38") and large (36"x48") vaults ▪ Installing small, round 'flower pot' cabling (8½" round pull point) ▪ Installing conduit, rock adder ▪ Preparation of small, medium and large fiber optic splice closures ▪ Preparation fiber termination panels and testing / splicing of fiber connections
Aerial Construction	<ul style="list-style-type: none"> ▪ Placement of aerial support strands and placement / lashing of fiber optic cable ▪ Installation of risers and make ready for pole attachments and power ▪ Preparation of small, medium and large fiber optic splice closures ▪ Preparation fiber termination panels and testing / splicing of fiber connections
Drop Installation	<ul style="list-style-type: none"> ▪ Placement of Optical Network Terminals (ONTs) ▪ Placement of fiber optic patch cord in hut or cabinet ▪ Placement of residential / commercial drop conduit at a 12 inch depth ▪ Placement of residential / commercial drop fiber in drop conduit ▪ Placement of aerial drop fiber for residential premises

Importantly, the scope was drafted to be overly conservative, and the prices received were both competitive in comparison to the Agencies' current cost estimates. The contractors also confirmed our targeted 30 month schedule is achievable, even at the top end of the range for the number of last mile drops.

4.1.5 Collaborative Bid Development Process

The second stage of the selection process will take Black & Veatch and Corning from their soft, indicative pricing estimates to binding, fixed-price, date certain design-build proposals. The proposals will form the basis of the Design-Build Contract to be negotiated by the selected contractor and the Concessionaire.

4.1.5.1 Scope of Work

The Design-Build Contractor will be responsible for all design-build components of the project described in the CA. Broadly, this includes preliminary and final network designs, the timing of the build in each network footprint, and an overall project management plan that coordinates the participation of local resources, working hours in each of the Cities, and processes to access both poles and structures to transport the middle mile network and the drop premises to complete the last mile connection.

In the second stage of the process, the contractors will be developing the most efficient manner in which to complete the required scope of work outlined in Table 18. The process is collaborative to ensure that the contractors have sufficient access to relevant network information and key Agency staff to deliver an innovative, cost-efficient proposal.

Table 18: Design-Build Contractor’s Scope of Work

Final Network Design	<p>Design-Build Contractor will be responsible for the final network design, which will seek to achieve the following objectives:</p> <ul style="list-style-type: none"> ▪ Maximize the number of addresses that can be connected to the network; ▪ Optimize scheduling and footprint planning; ▪ Optimize the proportion of underground and overhead build; and ▪ Smooth and complete interoperability of the new infrastructure with the existing network.
Footprint Construction	<p>Construction of the project will include all work packages associated with a fiber to the premises build, including but not limited to:</p> <ul style="list-style-type: none"> ▪ Trenching and installation of fiber optic cables; ▪ Civil works to prepare and construct hut sites; ▪ Attachment of fiber cabling to utility poles and structures; ▪ Onsite installation of fiber cabling and access points at the premises; ▪ Ensuring site cleanliness and safety; ▪ Managing road closures, traffic disruptions and community notices; ▪ Obtaining and adhering to any City ordinances, construction and environmental permits, and pole attachment agreements and regulations as may be required; ▪ Identifying, engaging and managing local subcontractors; and ▪ Appropriate inspection, review and reporting procedures. <p>Macquarie expects the project to utilize up to five different size bundles of fiber. The Design-Build Contractor will also be responsible for testing all the fiber, as well as splicing and testing the fiber splices required to make the last mile drops.</p>
Network Integration	<p>The project infrastructure must be fully interoperable with the existing network. Key factors measuring the network’s interoperability are the number of service outages, efficient fiber splicing and the standardization of equipment and electronics across the network.</p> <p>The access portals to be installed on the premises of each address will be supplied by a third party contractor under a fixed price agreement with the Concessionaire. This contractor will be responsible for testing and integration of the portals into the network.</p>
Rights of Way / Permitting	<p>Design-Build Contractor will be responsible for obtaining all rights of way and appropriate statutory, construction-specific and environmental permits, as well as complying with all pole attachment agreements and regulations applicable to the project.</p> <p>Where possible, the Cities, the Agencies and the Macquarie team will support the Design-Build Contractor to expedite this process and avoid unnecessary delays.</p>
Insurances	<p>Design-Build Contractor will be required to procure and maintain all insurances typical in a PPP project of this scale, including but not limited to general liability, workers’ compensation, contractor’s pollution liability, builder’s risk and contractors’ equipment.</p>

4.1.5.2 Commercial Terms

Macquarie provided all contractors an indication of the commercial terms that would be required for the Design-Build Contract in the RFQ. These terms will be negotiated throughout the bid development stage. The final proposals will include a detailed term sheet, agreed with the Concessionaire, specifying the contractors’ fixed price and schedule, terms of the completion support package and the flow-down of design-build responsibilities from the CA.

4.1.5.3 Expected Timing

Macquarie expects the bid development process to continue through Milestones Two and Three. Feedback from Black & Veatch and Corning has indicated approximately 3-4 months will be required to fully develop their technical proposals and advance their soft estimates to committed pricing.

The contractors' ability to submit binding proposals is in part dictated by the CA negotiations between the Agencies and Macquarie. An indicative CA term sheet has been provided to the Cities, and Macquarie estimates that the CA will take approximately 3-6 months to negotiate.

A six month negotiation timeline is typically considered aggressive for many structured PPP procurements, and our ability to meet these targets is subject to the Agencies and Cities implementing efficient processes to expedite the negotiations.

4.1.6 Selection Process

The Macquarie team is developing a competitive, best-value framework that will be used to evaluate each of the design-build proposals. Table 19 outlines critical components of this framework, and we will continue to engage with the Agencies and the Cities as we allocate weightings to each of the criteria. This framework will effectively provide a scoring mechanism under which the design-build proposals can be evaluated in a transparent and efficient manner.

Table 19: Indicative Evaluation Criteria

Cost & Schedule	Total cost of the network buildout and its time to implement are critical drivers of the utility fee, and Macquarie is strongly encouraging the shortlisted contractors to develop innovative approaches that will reduce project costs and/or schedule relative to the Agencies' current estimates
Certainty of Execution	<p>The proposed solution needs to be operationally and technically feasible. For example, a contractor that shortens its proposed construction schedule by increasing its workforce beyond that available in the market has actually increased the project's delivery risk by proposing a schedule that it cannot realistically achieve.</p> <p>Innovative solutions using new or customized technology can deliver significant cost and productivity improvements, however such technology and equipment also increases the risk of non-performance. Macquarie notes, however, that there are a number of proven technologies and equipment providers to reduce the probability of such an approach for this project.</p>
Completion Support	<p>The size and quality of the completion support package provided by the Design-Build Contractor will also be a critical factor in delivering maximum value for the Cities. This support package, which may include a combination of a performance bond, letter of credit and a parent company guarantee, will be drawn in the event that the PPP does not deliver an operational network by the date specified in the CA. The support package may also be drawn to compensate the Cities in the event the network's design or construction is flawed.</p> <p>The risk profile of the Design-Build Contractor's proposed program, as determined by the Lenders' Technical Advisor, and the underlying financial strength of the contractor itself will be critical factors in the size of the required completion support package.</p>
Local Participation	Macquarie's initial discussions with the contractors suggest significant skilled and unskilled labor resources will be required to meet the proposed schedule. Macquarie is committed to maximizing the economic opportunities available to the Cities and the local workforce in particular, and will encourage both Black & Veatch and Corning to

consider local participation as a core piece of their design-build proposals.

Impact on the Cities	Macquarie is also seeking to minimize the potential disruption that the project could cause in the communities, and will rigorously scrutinize the contractors' proposed strategies to mitigate or manage such disruptions, as well as potential commitments over and above any requirements that Macquarie, the Agencies or the Cities may specify.
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4.1.7 Preliminary Capital Costs of the Project Network

4.1.7.1 Comparison of Capital Cost Estimates

The expected capital cost of the project is a critical driver of the utility fee; Macquarie's preliminary analysis suggests the capital portion is approximately two-thirds of the total availability payment. Macquarie's early estimates of the utility fee were calculated using the Agencies' raw order of magnitude (ROM) estimate of \$304.2 million. The ROM is a self-perform estimate, derived from the Agencies' existing footprint designs, architecture documents and historical benchmarks to price the expected cost of the remaining work.

Macquarie engaged Arup and CTC to independently review these estimates. Their report concludes that the ROM is a reasonable estimate. Arup and CTC benchmarked the outside plant components of the ROM against the soft prices provided by Black & Veatch and Corning, and while all three cost estimates are within 10% of each other, Macquarie's scope changes for the contractors' estimates prevents this analysis being a like-for-like comparison.

Table 20: Changes in Scope from Agencies' ROM to Contractors' Soft Pricing

Category	Agencies' ROM	Contractor Soft Pricing
Addresses	Total connections to 153,000 premises, with approximately 140,000 to be constructed	Total connections to 165,000 premises, with 154,000 drops to be constructed
Demarcation Point	Agencies' model has been to complete the last mile connection into the premises	Standardized demarcation point on the external surface of the premise or communications cabinet of a multi-dwelling / business building

The Macquarie team effectively requested the contractors to price a larger project, and we are encouraged by the minimal cost increases relative to the Agencies' ROM. For the purposes of calculating the utility fee, we applied the contractor's unit pricing to the expected build specifications, which has brought the total construction value, inclusive of network hardware, below \$300 million.

4.1.7.2 Schedule

Macquarie is targeting completion of the network within 30 months of financial close. This schedule equates to approximately 200 drops per day¹⁴. Our ability to deliver the project on time will rely heavily on efficient permitting processes and sufficient access to utility poles and key City structures.

The Macquarie team, in conjunction with the Cities' general counsel, is considering a number of the options to ensure permitting does not materially delay the project, including introduction of standardized processes across each of the Cities.

¹⁴ Daily drops calculation assumes contractor is able to complete 45 five-day working weeks annually

4.1.8 Potential Options to Reduce Cost and Schedule

4.1.8.1 Existing Hardware Inventory

The scope for which Black & Veatch and Corning developed soft pricing assumed construction would occur on a greenfield basis, that is, all materials and hardware would be procured as if there were no existing infrastructure in place. In practice, the selected Design-Build Contractor will gain access to the Agencies' existing equipment and inventory, a significant proportion of which is expected to be reusable. For example, Macquarie understands that the Agencies have recently purchased over \$450,000 of electronic equipment that we would expect to use in the buildout.

Macquarie has not reviewed the Agencies available inventory, but as at June 30, 2013 the Agencies financial statements noted total inventory of approximately \$1.6 million.

4.1.8.2 Learning Efficiencies

The Design-Build Contractor will provide a fixed price turnkey proposal to the Concessionaire. Our analysis of this proposal has focused primarily on downside risk, for example the risk transfer of a PPP ensures that any losses from delay or cost overruns are borne by the Design-Build Contractor and not the Cities. An additional benefit of the model, however, is that the Design-Build Contractor is incentivized to deliver the project on as tight a schedule as possible. Macquarie understands that significant learning efficiencies have been generated on previous fiber builds, particularly large scale projects. For example, an analysis of three fiber network builds in the United States demonstrated compounded annual reductions for installation costs of between 6-10%.

While the Macquarie team's objective is to maximize the cost and schedule efficiency of the network's implementation to minimize the utility fee required of the Cities in the Final Proposal, it may also be reasonable for the Design-Build Contractor to develop further efficiencies given the project's focus on last mile drop installations.

4.2 Operations, Maintenance & Technology Refresh Strategy

4.2.1 Components of the Operations & Maintenance Plan

The Macquarie team has completed an extensive review of the Agencies' current operations and maintenance plans. The key functions are described further in Table 21 below.

Table 21: Network Management Functions

Operations	▪ Day-to-day operations including management of the NOC and overall provision of services, including provisioning that is carried out by the engineering division
Administration	▪ Coordination of goals, policies and procedures for network management ▪ Reporting and performance benchmarking
Maintenance	▪ Responsible for installation and repair of facilities and equipment to ensure the network can operate to carrier class reliability
Provisioning	▪ Network planning and circuit provisioning, for example new circuits for users or ISPs that have joined the network

Successful delivery of the network management function is critical to providing a high quality, reliable fiber network with minimal disruptions for the users. Network management involves strategic and tactical planning for each of these activities and requires smooth interface between the groups involved in each activity to minimize operating costs. Figures 10 and 11 show the division of responsibilities across each function and how management decisions impact the network's operation.

Figure 10: Network Management Groupings

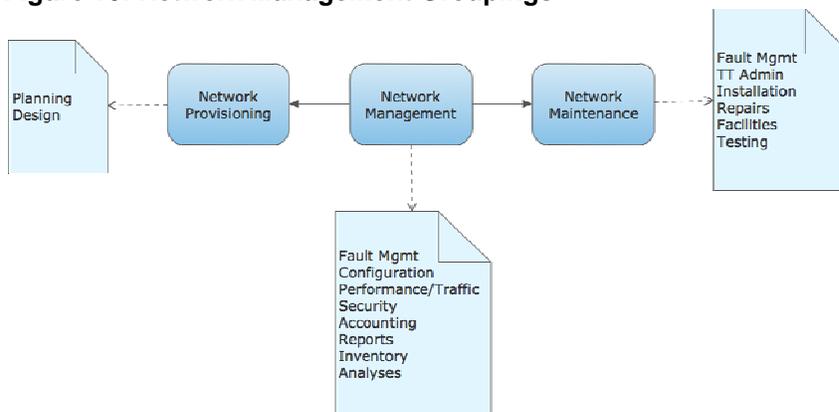
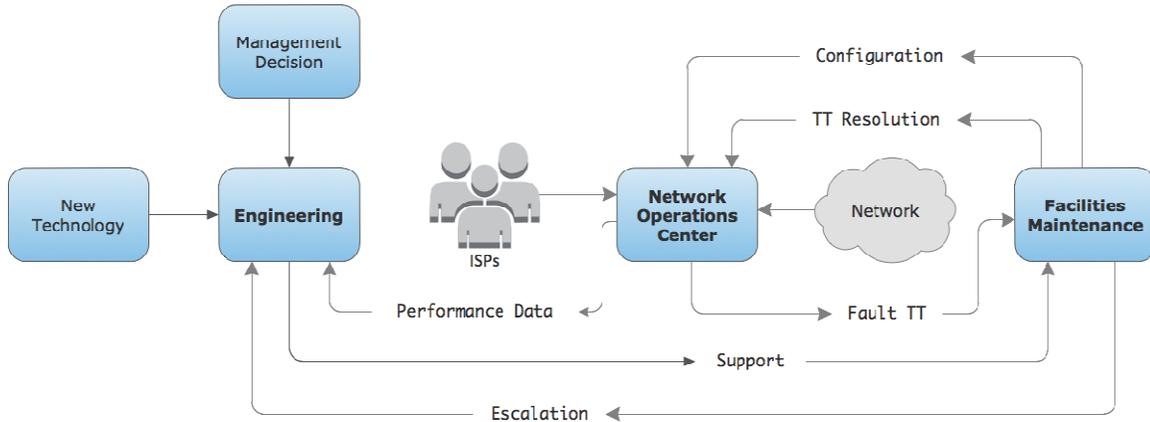


Figure 11: Network Management Functional Flow Chart



These charts reiterate the NOC’s importance to the network’s operations, particularly across a number of key areas; provisioning, fault, configuration, performance, security and account management. The NOC also controls the data for management reporting and performance benchmarking. Network management software (“NMS”) is typically used to coordinate these functions.

Table 22: NOC Applications

Circuit Provisioning	<ul style="list-style-type: none"> ▪ Circuits are provisioned by changing the network configuration. Planning and efficient use of equipment can be achieved with good inventory management when tracked by the NOC ▪ NMS tools assist the NOC by gathering statistics and identifying trends in traffic patterns. Automated operations systems increase efficiency of circuit design
Fault Management	<ul style="list-style-type: none"> ▪ NOC is responsible for identifying network faults and restoring service as soon as possible. The network is self-healing, and will usually do this automatically ▪ Where self-healing cannot happen, the NOC will detect and isolate the network failure and notify the operators, who will dispatch the facilities maintenance team ▪ All faults are tracked from identification to resolution by a trouble ticket database, which allows trend analysis on the network’s performance
Configuration Management	<ul style="list-style-type: none"> ▪ Network typically has three types of configuration – static, running, and planned <ul style="list-style-type: none"> ○ Static configuration is the permanent configuration of the network. This configuration is what the network uses from an idle status. ○ Running configuration is what the network uses when it is operational ○ Planned configuration is a future scenario in which the configuration data will change as the network is changed. This scenario is useful for network planning and inventory management ▪ NOC automatically gathers as much configuration data as possible through NMS ▪ NMS displays the status of the network and indicates traffic patterns and performance, as well as failure of any network components <ul style="list-style-type: none"> ○ Any configuration changes needed to relieve traffic congestion are made by the NOC and reflected in this display ▪ Planned future configuration changes to both hardware and software will be adequately tested in a development lab prior to live deployment

Performance Management	<ul style="list-style-type: none"> ▪ Data aggregation and report generation provide a platform for the NOC to optimize network performance, particularly its reliability and response times <ul style="list-style-type: none"> ○ Key statistics are traffic data, network availability and network delay
Security Management	<ul style="list-style-type: none"> ▪ Broad function relating to physical security of the network and user network access. NOC maintains a database to ensure network is securely operated
Reports	<ul style="list-style-type: none"> ▪ Typically three classes of reports, tracking systems, network management and customer usage. The reports are the primary tracking methodology for the network ▪ Data integrity is critical to the value of these reports, which measure network performance and, in the case of the customer reports, are sent to ISPs

The engineering group maintains the network’s performance and tracks new technologies that could potentially improve operations. The traffic and performance data collected by the NOC is critical in determining the location, scale and timing of maintenance implemented by this group.

4.2.1 Review of the Agencies’ Operations and Maintenance System

The Agencies’ financial constraints have heavily impacted the development of the operational strategy, and created a relationship-based organization that, through a lack of formal processes and risk mitigants, will struggle to scale from current operations to the 160,000 addresses of the completed network.

The NOC relies on a number of inefficient manual processes that increase the risk of data error, either through incorrect data entry or a lack of entries. For example, incorrect configuration of a VLAN could result in a customer being placed with the wrong ISP. Table 23 identifies a number of these non-standard processes that have likely contributed to the network’s historical operational issues.

Table 23: NOC Non-Standard Processes

Inefficient Systems	<p>Technicians often have over 10 systems operating during a shift, many of which are not fully integrated and rely on manual entry. For example, the HelpDesk system, a work order tracking system, does not automate field technician availability for jobs or assignment of work orders.</p> <p>The lack of automation increases pressure on the technicians to respond to work orders efficiently, which could also increase the risk of keystroke errors and inefficient allocation of work orders that result in extended response times.</p>
Manual Processes	<p>The NID and Access switches are provisioned using a swivel chair process that transfers data between telnet and scripts. Similarly, the NOC uses a manual dispatch process. Manual processes are inefficient, do not scale and increase the probability of data inaccuracies.</p>
Minimal Reporting	<p>A number of one-off services have been manually provisioned during the network’s operation but not reported. Similarly, there are limited resources dedicated to policing use of the NOC’s systems, potentially creating information gaps that reduce the NOC’s ability to effectively monitor the network.</p> <p>Additionally, the NOC’s outage reports are irregular and the reports that are prepared calculate outages based on email notifications circulated by the NOC with a service ticket, which may understate the total outages.</p> <p>The lack of reporting and potential inaccuracies in the data likely compromises the NOC’s informational integrity and affects response times.</p>
Reliability	<p>The incomplete information caused by minimal reporting creates additional costs when</p>

Requirements	combined with the reliability requirements of the service level agreements. The agreements require carrier class reliability for core, distribution and aggregation equipment only, and not the NID. Thus ISPs regularly blame the Agencies for any network outage and it is the NOC's responsibility to prove the network is not at fault, a task that requires complete information.
Inventory Control	There are no established inventory control processes. Inventory is not appropriately tracked and equipment ordering is often based on exhaustion of existing equipment.
Integration	The NOC is the central point of the Agencies' network but has minimal input into engineering changes and planning.
Scalability	Current NOC operations appear to have been developed reactively to manage the network's current capacity levels. However these processes are not scalable and will need to be improved to accommodate 160,000 potential users.

Additionally, there are minimal performance measures in place, either benchmark targets that the network is striving to meet or system audits to ensure the data feeding into such measurement is complete. As a result, there are no reliable metrics on mean time to repair or average outages. The lack of complete information not only constrains the Agencies from implementing value creating enhancements but also reduces their ability to efficiently monitor ISPs operating on the network.

The Agencies currently use an operations support system ("OSS") to complete provisioning for both the physical and logical network. Provisioning ensures that each user receives their desired level of service. Management of this function includes both circuit and network provisioning. The Macquarie team believes a self-provisioning capability, as shown in Figures 12-14, could deliver significant cost and performance benefits.

Figure 12: Network Architecture

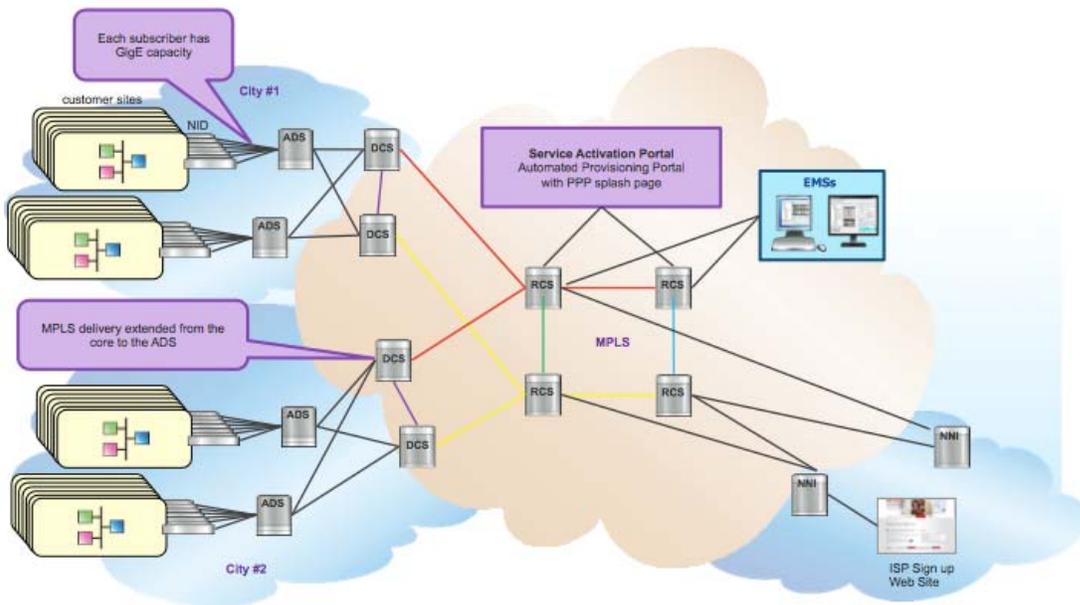


Figure 13: Provisioning Flow Baseline

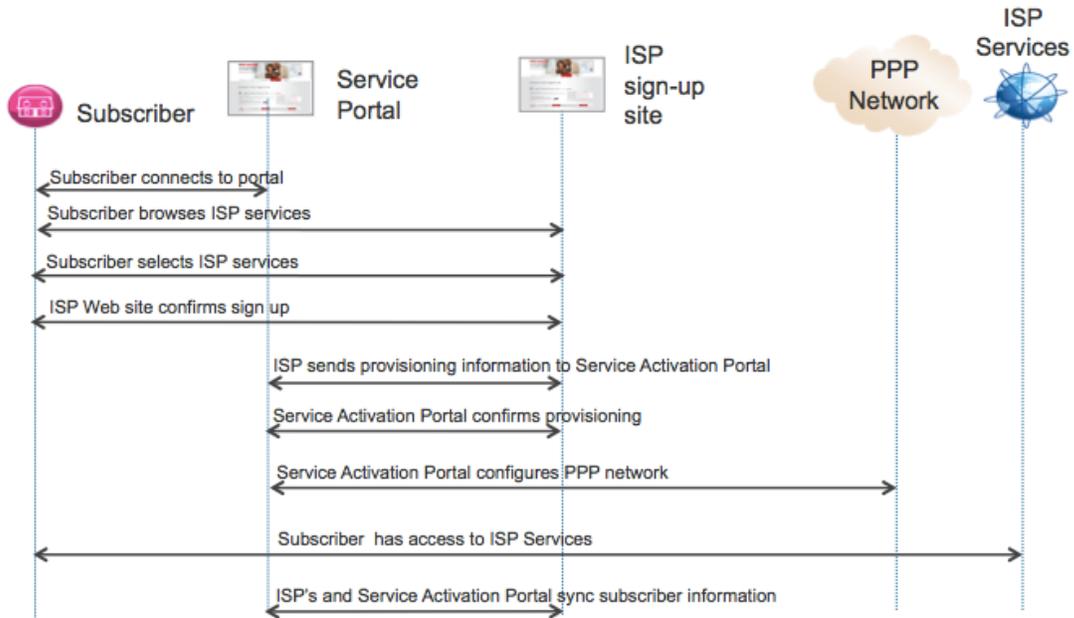
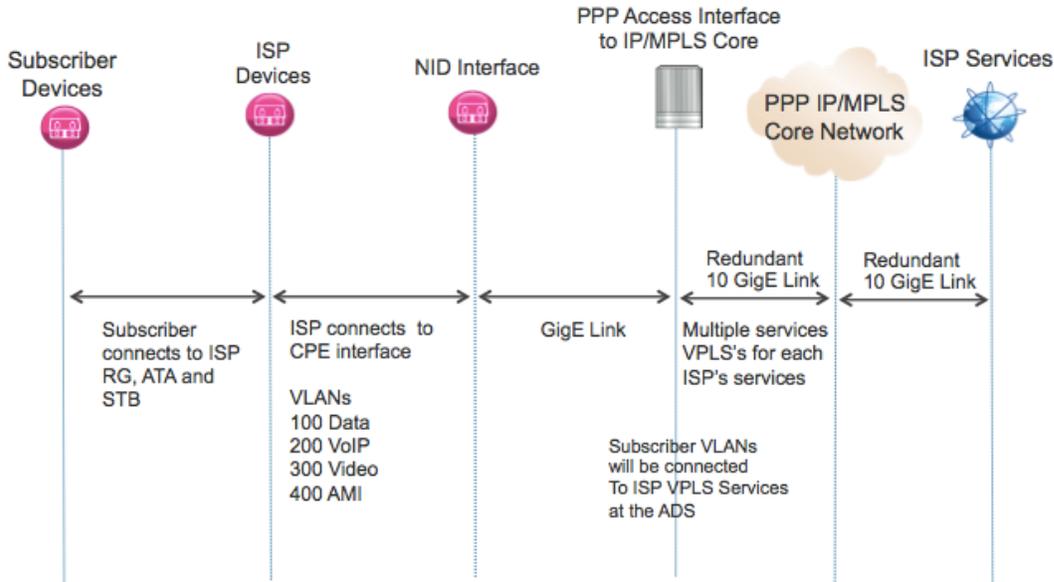


Figure 14: Provisioning Functional Connectivity



4.2.2 Implementation of the OMR Strategy

The Macquarie team will separate the marketing and business development functions from the network operations, maintenance and technology refresh. The PPP will take over the operations and maintenance task from the Agencies at financial close, and will ensure the network is operated to provide users a stable gigabit connection at minimal cost. The Wholesaler will assume the marketing and business development roles.

4.2.2.1 Provisioning System

Section 3.2.5.1 provides a broad description of our approach to provisioning. The PPP will publish its construction schedule on the project website, providing the ISPs sufficient information to target their marketing to upcoming footprints. Residents and businesses within these footprints will also receive information about the upcoming construction, ensuring full knowledge of the below process.

The project website will list all available ISPs providing services within a network footprint. The Macquarie team is considering the appropriate level of detail for this website, with options being a simple list of providers to a full description of available services, including each ISP's suite of premium products. It should be noted that the fiber connection will not be active when the user selects their ISP – however after the physical network connection is completed at the NID, users can connect any device with a browser (such as Internet Explorer or Safari) and will be redirected to a provisioning portal. The portal will provide users the opportunity to learn and compare the available services and products offered by ISPs on the network. The ISPs will have primary responsibility for updating the description, pricing and terms of each product on this portal. The Wholesaler will manage the portal and undertake periodic audits to ensure the ISPs are completing these updates.

The actual provisioning will be automated, using the Software as a Service (“SaaS”) provisioning platform. SaaS is a self onboarding process that establishes service without involving the ISP by using an automated provisioning portal, which provides immediate access to the internet. Self provisioning reduces the labor resources required for provisioning a circuit, greatly increasing operational efficiency. An automated provisioning portal also allows users to switch ISPs in the event an ISP ceases operations.

Selection of a preferred ISP for the basic service will initiate a circuit change, resulting in a direct connection to the selected ISP and availability of the basic service. In the event that an upgraded service is selected, users will be immediately contacted by the selected ISP to discuss activation of that service.

4.2.2.2 PPP Operations

The key objective in developing the operations and maintenance plan for the PPP is to ensure sufficient resources to achieve the performance standards required by the CA in a cost efficient manner. The Macquarie team will seek to leverage the Agencies' existing knowledge base and resources to limit disruption caused by transition of operational control to the PPP at financial close.

The Macquarie team is considering two broad alternatives to implement its operations and maintenance plan. Self-performance of these functions will keep all operating risks at the Concessionaire level, whereas outsourcing to a specialist third party is often on a fixed-price basis over the long-term, transferring these operating risks to the third party. Our preliminary base case has assumed a self-perform strategy, however both options will continue to be evaluated through Milestones Two and Three to align with the Cities objectives, lender feedback and the project's affordability.

One function that the PPP will outsource is the provision and ongoing refresh of network hardware. Macquarie and First Solutions coordinated a competitive process in which six world class equipment vendors were invited to submit proposals for network solutions. A number of these vendors are either current or previous equipment suppliers to the network. All vendors were instructed that the network was standards-based active ethernet and, as a Layer 2 capable network, required sufficient flexibility to support IPv4, IPv6, internet access, unicast and multicast video services and future applications.

The vendors were educated about the PPP process and our focus on cost efficiency, which increased the importance of capacity planning in their proposals. The ongoing dialogue was essential to clarify outstanding questions and ensure all proposals were evaluated on a like-for-like basis. Fujitsu and Alcatel-

Lucent were the two shortlisted respondents. Both Fujitsu and Alcatel-Lucent are large-scale, global corporations with consolidated revenues in the tens of billions and strong balance sheets. Fujitsu also has an investment grade credit rating of A-

Fujitsu and Alcatel-Lucent’s proposed design solutions were remarkably similar to the current network architecture. The critical difference between the two vendors was capacity planning, specifically the density of the aggregation ports. Alcatel-Lucent’s platform provided 80% more ports than the Fujitsu platform, which directly impacts the number of ADS switches, ancillary equipment such as rectifiers and batteries, space and environmental considerations inside cabinets and huts. Although the NIDs were comparable in both capabilities and features, Alcatel-Lucent’s NID is equipped with optics while the Fujitsu unit requires a SFP. A summary of the proposals is shown in Table 24.

Table 24: Summary of Vendor Proposals

	Fujitsu	Alcatel-Lucent
Hardware	<ul style="list-style-type: none"> ▪ Multi-vendor approach through alliance with Juniper and Zhone <ul style="list-style-type: none"> ○ Juniper to provide RCS/DCS electronics ○ Zhone to provide ADS/NID equipment ▪ Proposal did not incorporate any Fujitsu equipment ▪ 100GE core with diverse downstream 10G connections, paired DCS switches for additional redundancy ▪ 10GE link aggregated (LAG) circuits to ADS switches ▪ Proposal included racks and cabinets – existing cabinets may not support electronics ▪ Exclusion of OLT/NID SFPs 	<ul style="list-style-type: none"> ▪ End-to-end solution comprised of various platforms of ALU’s product lines ▪ Purpose built CPE based on design requirements ▪ Presented as greenfield design, potentially repurposing existing electronics ▪ Anticipates high reuse percentage of existing electronics, driving cost savings ▪ 100GE core with diverse downstream 10G connections, paired DCS switches for additional redundancy ▪ 10GE link aggregated (LAG) circuits to ADS switches ▪ Proposal included racks and cabinets – existing cabinets may not support electronics ▪ Proposal includes SFPs
Element Management Software	<ul style="list-style-type: none"> ▪ EMS was incorporated into Fujitsu’s operations proposal 	<ul style="list-style-type: none"> ▪ Option of EMS platform for both aggregation switches and core network (separate platforms with different EMS)
Maintenance	<ul style="list-style-type: none"> ▪ Hardware replacement and on-site maintenance with 4 hour response SLA ▪ Ongoing change and configuration management ▪ Access to Fujitsu’s technical assistance center, providing 24/7/365 support 	<ul style="list-style-type: none"> ▪ Hardware replacement ▪ Ongoing software and configuration support ▪ Remote 24/7/365 technical support
Deployment	<ul style="list-style-type: none"> ▪ Services included interoperability testing with all required test documentation, planning, performance, certification and test reports ▪ Full network integration including design and engineering, site survey, installation, rack/cabinet integration 	<ul style="list-style-type: none"> ▪ Design, engineering, pre-installation activities, installation materials, equipment deployment, acceptance testing and service activation deployment

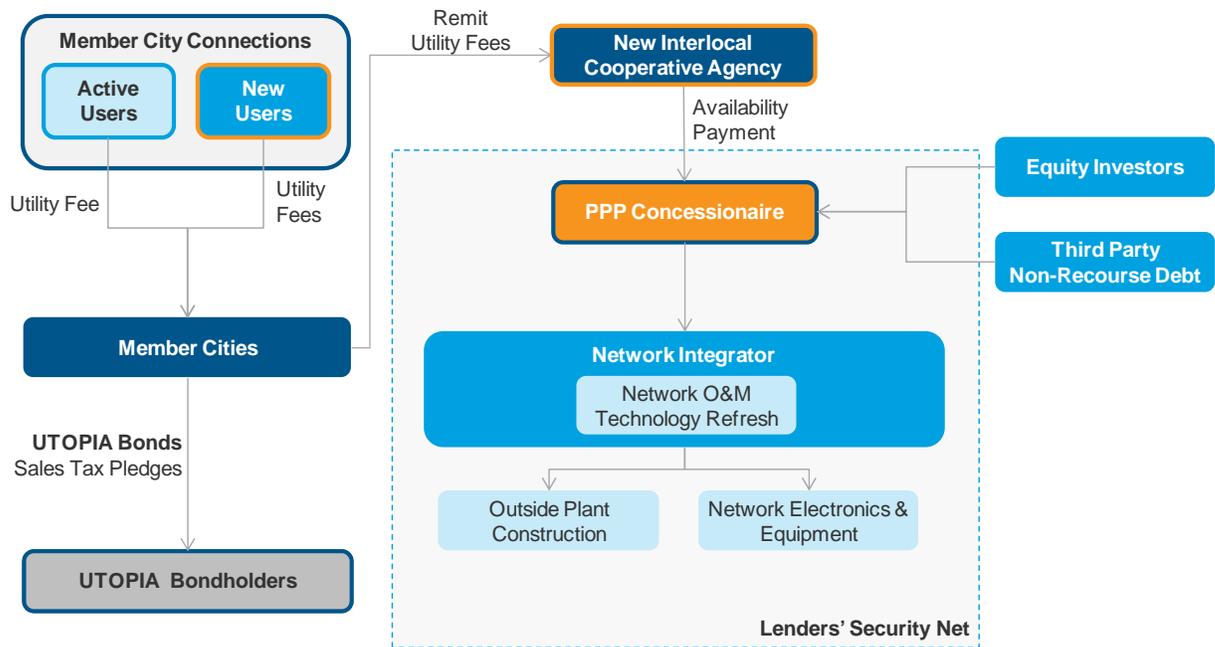
	Fujitsu	Alcatel-Lucent
	and turn-up/testing	
Migration	<ul style="list-style-type: none"> ▪ Option to migrate the existing subscribers to the new platform 	<ul style="list-style-type: none"> ▪ Excluded from proposal
Refresh	<ul style="list-style-type: none"> ▪ Proposed fixed price for technology refresh over 15 years, unique among respondents ▪ Single replacement of the core, distribution and aggregation electronics over the period 	<ul style="list-style-type: none"> ▪ Excluded from proposal

4.3 The Concession Agreement

4.3.1 Transaction Structure

Macquarie's preliminary transaction structure, shown in Figure 15 anticipates that the PPP Concessionaire will execute the CA with a new interlocal agency to be formed by the Cities, using a similar process that led to the creation of UIA.

Figure 15: Proposed Transaction Structure



Macquarie has discussed a number of structuring options with the Cities to maximize efficiencies for both the Cities and the PPP. Our proposed range for the utility fee has been sized to exclude repayment or refinancing of the Agencies' outstanding revenue bonds, as discussed in Section 4.4, which potentially increases the complexity of lenders' security claims.

The UTOPIA bonds are serviced by sales tax pledges from the Cities. The indenture agreements give these lenders security over net network revenues, which are approximate zero. The PPP is proposing to complete the network and operate the full network as an integrated project, generating revenue through payments that are sized to cover the costs not only to build, but also operate, maintain and refresh the full network. A PPP typically provides the Concessionaire's lenders first claim to network revenues in the event of default, including step-in rights to cure where the Concessionaire has breached its obligations, and the introduction of this claim into the Agencies' existing structure is considered excessively complex by the City Attorneys and bond counsel. The Cities' thus recommended the creation of a new interlocal agency as a clean and efficient structure.

Macquarie's preliminary structure for the PPP has been customized from the typical structure diagram shown in Section 2. The introduction of the Network Integrator is critical to the successful completion of the network buildout, and our initial discussions with third parties indicate willingness for the integrator to take the frontline risk for all design-build obligations under the CA.

As discussed in earlier sections, our proposed approach is to subcontract construction of all outside plant to a third party contractor under a fixed-price, date-certain turnkey contract. The electronic equipment, however, including the access portals or optical network terminals, will be provided by a third party. Integration of this equipment with the outside plant is critical, and Macquarie has ran competitive process to select a network integrator to complete this function. Where multiple entities are involved in critical functions of a PPP project such as the design-build or operations, maintenance and refresh, it is customary to either form a joint and several partnership or have a single firm bear the front line risk for successful delivery of that function. The indicative structure proposed by the network integrator is an example of the latter. The network integrator could effectively wrap the risk of the outside plant contractor's non-performance into a fixed-price proposal for the Concessionaire. The wrap reduces the lenders' counterparty exposure – there would be a single prime contract for the design-build functions, network integration, network operations and maintenance and technology refresh.

Figure 17 shows an outsourced operations and technology refresh scenario. In a self-perform scenario, only the network O&M and technology refresh would shift up to the Concessionaire level. The network integrator would continue to wrap the outside plant contractor, the network hardware provider (if a separate third party) and be responsible for integrating the network in such a way that each footprint can be certified as complete and handed over to the Concessionaire to commence operation.

4.3.2 CA Term Sheet

Macquarie and the Agencies have commenced negotiations on the commercial terms of the CA, the latest draft of which the Cities are expected to provide imminently. The terms are currently indicative only and will be developed from an in-principle agreement into a detailed term sheet through Milestone Two that will be the form the basis of the CA.

The full draft of the CA will be developed by a discrete working group, comprising the Agencies' counsel Kirton McConkie and general counsel, as well as Macquarie, First Solutions and sponsors' counsel Holland & Hart, through Milestone Three and finalization of the commercial terms in this draft will be a critical path item in achieving commercial close at the end of Milestone Three.

4.3.3 Payment Mechanism

The proposed transaction structure highlights the indirect relationship between the Cities and the PPP. The Cities will be responsible for collecting the utility fees and remitting these revenues to the new interlocal agency that will pass through the cashflow to the Concessionaire as the availability payment, subject to any performance deductions that may be applicable for that period.

The critical issue in structuring the payment mechanism is the remedies that the Concessionaire will be able to enforce in the event that the utility fee revenue collected is not sufficient to fund the availability payment. A number of alternatives are currently under consideration and subject to further discussion, including a contractual commitment (but not a pledge) from the Cities to meet any shortfall from the utility revenue, rate covenants and providing the PPP first claim on all system revenues including transport fees from premium services.

The payment mechanism is a key component of the draft CA term sheet the Macquarie team is negotiating with the Cities. Timely feedback on the payment mechanism and its associated enforcement rights is critical to maintaining the transaction's momentum and progressing efficiently to financial close.

4.3.4 Impact of the Project on Tax-Exempt Status of the Existing Bonds

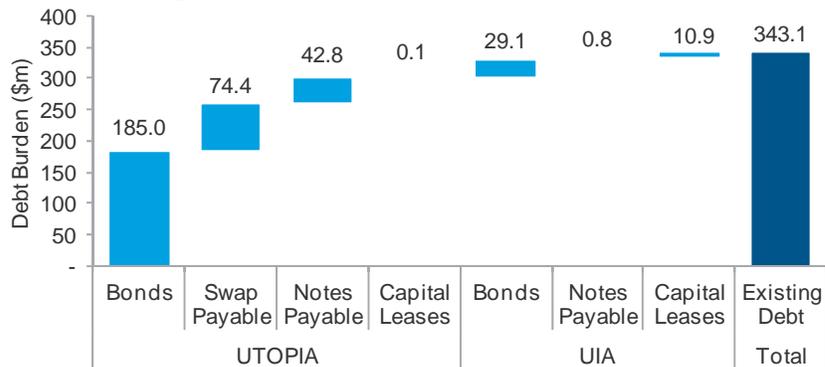
Approximately \$75 million of the UTOPIA bonds, and \$9 million of the UIA bonds have been issued on a tax-exempt basis. The Agencies have emphasized the importance of preserving this tax-exempt status, and as such have begun reviewing the potential implications of the PPP with the Agencies' bond counsel Ballard Spahr. The analysis will focus on the PPP's compliance with the private activity use conditions of the tax-exempt issues, particularly the operations, maintenance and refresh components of the CA. Ballard Spahr has provided a preliminary list of considerations that will need to be negotiated as the operating contract is developed through Milestones Two and Three.

4.4 Financing Strategy

4.4.1 Outstanding Revenue Bonds

The Agencies had approximately \$343 million of debt obligations as at June 30, 2013. However UIA issued a further \$12 million of bonds in July 2013, increasing the total debt outstanding to approximately \$355 million. These obligations are primarily the UTOPIA and UIA revenue bonds and the swap liability associated with the UTOPIA bond refinance in 2011. The balance consists of notes payable to the Cities (direct loans to fund the Agencies' cash losses) and approximately \$11 million of capital leases for equipment.

Figure 16: UTOPIA/UIA Existing Debt Burden



Macquarie is investigating opportunities to incorporate the UTOPIA and/or UIA bonds into the project, either through a refinancing or alternative mechanism. Macquarie's initial assessment of the bonds suggested this would be extremely challenging, particularly given the material swap liability associated with the UTOPIA bonds, which was marked to market at \$74.5 million in June 2013. This liability has reduced over the last 18 months. Macquarie has established dialogue with the bondholders and expects to receive further feedback on potential implications of refinancing the UTOPIA bonds imminently.

Macquarie's base case assumption is that UIA and Special Assessment Area ("SAA") users will continue to pay their connection fees under the CUE or lease agreements instead of the utility fee. Under this structure, there is no compelling rationale to incorporate the UIA bonds into the project – bondholders continue to receive cashflows from the CUE / lease payments. Macquarie understands the bonds have ten year call protection and are widely distributed across investors, which increases costs and the complexity of amending or refinancing the bonds.

The incorporation of UTOPIA and/or UIA bonds into the project will likely have a material impact on the utility fee. Macquarie's preliminary analysis suggests these bonds are currently costing over \$8.30 per address, and the bonds' back-ended amortization profile drives this cost up by approximately 47% to \$12.30 in 2037, the peak year of debt service. On a purely indicative basis, if it would even be achieved in the context of the new financing, refinancing the existing debt and rolling into the new financing would increase the Utility Fee by \$10-15.

4.4.2 Preliminary Financing Plan

Macquarie's financing plan is being developed to maximize access to the efficiencies of the PPP model. The relatively high level of revenue certainty provided by the availability payments typically permits greater leverage than market risk transactions, driving an efficient cost of capital. Macquarie will structure a robust,

low-cost financial plan for the project that provides a high level of closing certainty for the Cities. We will seek to, at a minimum, achieve the following key objectives:

Table 25: Objectives of the Financing Plan

Value	<ul style="list-style-type: none"> ▪ Seek the lowest cost of financing by running a parallel process with the bank debt market and the US debt capital markets (taxable and tax-exempt, including Private Activity Bonds (“PABs”)) ▪ Ensure that the financing structure is non-recourse to the Cities and is not taxpayer-supported debt ▪ Develop a lifecycle costing model to achieve the lowest overall NPV for the project considering each of construction, operations, maintenance and technology refresh costs
Cost	<ul style="list-style-type: none"> ▪ Work with the major rating agencies to optimize the credit rating for the project ▪ Propose a highly competitive equity return profile
Innovation	<ul style="list-style-type: none"> ▪ Identify potential enhancement such as leasing structures, monoline insurance support and other alternatives to reduce the overall cost of capital
Certainty	<ul style="list-style-type: none"> ▪ Maximize certainty of a timely financial close

Availability-based PPPs for typical assets such as toll roads and highways will often achieve up to 90% debt financing. The operation of these assets is often relatively simple and the lenders can look to a number of precedent transactions when assessing potential risks and their likely impact on the project's cashflows. Conversely, the network buildout is the first large scale development in the broadband sector to consider using the PPP model in the United States. As such, lenders will likely be cautious about the PPP's ability to relatively mitigate key project risks. Macquarie has taken a conservative approach in developing its preliminary financing plan to reflect this caution. Importantly, Macquarie has a demonstrated track record collaborating with local, state and federal governments and governmental authorities to successfully develop, structure and implement the PPP model in new markets. All of the Macquarie-led projects listed in Table 23 below were the procuring authority's first PPP or first PPP in a particular sector, and our experience both as a private partner and advisor to the authority provides the necessary experience not only to identify and understand the potential risks the lenders will face for this project but also implement appropriate mitigation strategies. Expanding the risks analysis and developing these strategies will be a key priority for the Macquarie team through Milestones Two and Three.

Table 26: Macquarie's Experience Implementing the PPP Model in New Markets & New Sectors

Project	Location (Year)	Size	Significance
Goethals Bridge Replacement	NY / NJ (2013)	\$1.2bn	▪ Port Authority of New York & New Jersey's first bridge project in >80 years
PR-22 and PR-5 Tollroads	Puerto Rico (2011)	\$1.2bn	▪ First PPP project financing closed in Puerto Rico
Denver Eagle FasTRACKS	Colorado (2010)	\$1.6bn	▪ First rail PPP in the United States
I-595 Project	Florida (2009)	\$1.7bn	▪ First two availability payment transportation PPPs in the United States
Port of Miami Tunnel		\$0.9bn	
Canada Line	Canada (2006)	\$2.0bn	▪ Canada's first mass transit PPP project
Seoul Subway Line 9	Korea (2004)	\$1.1bn	▪ First Korean rail project completed under a reduced revenue guarantee structure
Yongin Light Rail Transit	Korea (2004)	\$1.0bn	▪ First rail PPI project financing in Korea

Under the proposed construction model, users in some areas will be able to access the network, and thus start paying the utility fee, before the network is fully built across all the Cities. As such, the PPP will receive cashflows during the construction period that can be applied to the construction of subsequent footprints and reduce the private capital required to complete the network buildout. Macquarie’s working assumption under this structure is that approximately \$342 million of private capital will be required to complete the network buildout. We have also assumed that up to 80% of this capital can be funded by debt.

In determining the optimal financing structure, Macquarie will evaluate the trade-offs between the level of contractor security provided, quantum of risk capital (equity or subordinated debt) and senior debt cost to minimize the total project cost. Timing of construction drawdowns will also be considered, particularly where a bond solution results in negative carry between the interest rate on the bond and the deposit rate earned. Macquarie will utilize its extensive experience in planning and developing financial structures to deliver an optimal solution that minimizes the total availability payments and meets the Cities’ objectives in the most cost effective way possible.

4.4.2.1 Sources of Debt

Macquarie will act as the exclusive financial advisor to the PPP project vehicle, and will be responsible for arranging all the debt financing. In addition to the senior team dedicated to the project’s development, Macquarie will also seek to leverage the resources of its global Debt Capital Markets team, consisting of over 50 dedicated debt professionals. Since 2007, Macquarie and its DCM team have worked with over 300 lenders, raising approximately \$216 billion of debt finance.

Macquarie will run a multi-track financing process, including competing capital markets and bank financing options, to minimize financing costs for the project. Macquarie expects the primary drivers of the debt solution to be drawn from one or more of the sources in Table 27.

Table 27: Potential Sources of Debt Finance

Private Activity Bonds (PABs)	<ul style="list-style-type: none"> ▪ PABs have been a competitive source of funding in recent US PPP projects ▪ Macquarie has raised over \$2.5 billion in PABs since 2009 for projects including the Goethals Bridge Replacement (2013), Elizabeth River Tunnels (2011) and Denver Eagle FasTRACKS (2010) ▪ Macquarie’s preliminary analysis suggests the project meets the eligibility criteria for PABs
Taxable Bonds	<ul style="list-style-type: none"> ▪ Taxable bonds can be used for long tenors and their use has increased in a number of transactions, mainly due to lower bond yields and higher liquidity in the current market. In general taxable bonds offer greater structuring flexibility than PABs, which in some circumstances can offset the higher effective interest rate relative to PABs
Bank Debt	<ul style="list-style-type: none"> ▪ The bank market has generally improved in terms of appetite and liquidity relative to the post-recession contractions (but yet to achieve the pre-recession level of competitiveness). Bank solutions can be used for shorter term financing and to bridge potential milestone payments during construction. Bank debt also creates refinancing opportunities for longer term debt post-construction once a potentially higher credit rating is obtained. ▪ Macquarie has utilized competitive bank solutions on many PPP projects in the United States and globally, including structuring pari passu hybrid bank and bond solutions

In recent PPPs in the United States, PABs have frequently been the most competitive source of senior debt financing, but whether this will remain the case for the project depends on a number market factors including the spread between taxable and tax-exempt debt, the yield curve, and various project-specific characteristics such as the payment profile.

Macquarie, as part of its financing analysis, will also evaluate non-traditional sources of debt finance, particularly those outlined in Table 28, and their potential to deliver cost efficiencies to the project and, ultimately, create value for the Cities.

Table 28: Alternative Sources of Debt Finance

Export Credit Agencies	<ul style="list-style-type: none"> ▪ Export credit agencies and banks (“ECAs”) are able to provide both funding and guarantee structures which can credit enhance the project and provide longer tenor bank debt than is typical in the commercial bank markets. Macquarie has extensive experience structuring and arranging export credit facilities from Europe and from all the major ECAs. ▪ Access to ECA finance typically requires the PPP or its subcontractors to utilize foreign resources or equipment during construction and/or operations, and may not be a viable solution for this project. If the operations or refresh outsourcing model is pursued, Macquarie will seek to explore contractors’ access to ECA funding.
Leasing Products	<ul style="list-style-type: none"> ▪ Macquarie is a global leader in the structuring and arranging of leasing products. Lease financing techniques could be used to further enhance the cost effectiveness of the financing structure.
Monoline Insurance Companies	<ul style="list-style-type: none"> ▪ Monoline insurance companies have re-entered the infrastructure market following the 2008 recession – the Goethals Bridge Replacement project that closed in late 2013 was the first PPP project to involve a monoline guarantee since the recession. ▪ Monoline insurers can provide credit enhancement, however their appetite and capacity to wrap the project debt is more limited relative to pre-recession precedents
Mezzanine Loans	<ul style="list-style-type: none"> ▪ Subordinated debt in the form of mezzanine loans can be used to enhance the funding liquidity, if needed, however they are rarely seen in the brownfield infrastructure market
Derivative Products	<ul style="list-style-type: none"> ▪ Other various derivative products such as interest rate swaps, inflation linked securities and debt with variable amortization schedule options could also be considered

4.4.2.2 Sources of Equity

Macquarie believes it is essential to utilize equity investors that have experience in absorbing the residual risks associated with being the Concessionaire of a PPP investment vehicle. We have extensive experience investing in infrastructure, as well as managing availability concession projects from design and construction through to the operations and maintenance phases.

Macquarie Capital Group Limited (“Macquarie Capital”), the financial advisory business of the Australian-listed Macquarie Group Limited, is the entity responsible within the Macquarie group for the worldwide origination and development of infrastructure projects with similar characteristics to the network buildout. Our approach to development transactions is for Macquarie Capital to underwrite our proportionate share of the development costs and equity to provide the Cities certainty that competitive equity financing will be available in whatever amounts are required to support the project. Either at or shortly after financial close, Macquarie Capital will likely transfer its equity interest to one of its specialized infrastructure funds.

Macquarie Capital manages over \$100 billion of infrastructure and real estate investments, including approximately \$30 billion in North America. Amongst several viable options, Macquarie Capital has identified the Macquarie PPP Investment Partnership (“MPIP”) as the likely source of equity investment for the network buildout. MPIP is a \$300 million limited partnership with a specific mandate to invest equity in PPP projects with availability payment based revenue streams in the United States and Canada.

We believe the network buildout compares favorably with MPIP’s investment criteria and would be an attractive flagship investment. Importantly, Macquarie’s project director for the development of the network buildout, Nicholas Hann, is also a board member of MPIP’s general partner, which ensures continuity and demonstrates our dedication to building a long-term, successful partnership with the Cities.

We believe MPIP would be a likely equity investor for the project, however we are also committed to delivering value for money to the Cities through the most competitive financing solution. In the event that agreement with MPIP cannot be reached, for example the equity requirements exceed MPIP’s capacity, we would seek to fund the equity investment from an alternative infrastructure investment fund managed by Macquarie, the Macquarie Capital balance sheet, or a specialist third party infrastructure fund focused on PPP projects. For example, in September 2013 Macquarie closed a \$1.3 billion first raising for Macquarie Infrastructure Partners III (“MIP 3”), an infrastructure investment fund concentrated on assets in the North American market. The final fundraising for MIP 3 is targeted at between \$2-3 billion.

Macquarie will continue to discuss the project with MPIP and other potential equity investors as we refine our financing analysis from its current preliminary status to a complete financing plan in Milestone Two.

4.4.2.3 Process to Commit Financing

Macquarie’s approach through the development process is to provide the Cities greater certainty of execution at each milestone. In addition to the complete financing plan to be delivered to the Cities as part of Milestone Two, Macquarie will deliver committed financing for its Final Proposal at the completion of Milestone Three. The commitment of both equity and debt financing permits the utility fee proposed in that proposal to be a binding number, adjustable only to match key changes in the market, such as base interest rates. This approach will also permit Macquarie to expedite financial close once the Cities and the PPP have achieved commercial close. Macquarie’s 59 day period to progress from announcement as preferred proponent to financial close for the \$1.6 billion Denver Eagle FasTRACKS project remains a record in the United States.

Macquarie has contacted a number of global lenders who are active leaders in the PPP and project finance markets to provide an overview of the network’s current status, our strategy to complete network through an availability-based PPP and our proposed business model. Lenders’ initial reactions, detailed in Table 29, have been encouraging and insightful, with a particularly consistent theme that in the absence of a joint and several commitment from the Cities, it is imperative for the lenders to understand the payment mechanism and gain clarity on the PPP’s enforcement rights and alternative revenue sources in the event of non-payment of the utility fee. Critically, the lenders raised no red flags about the application of the PPP model to the broadband sector.

Table 29: Initial Lender Feedback

Theme	Key Considerations
PPP Financing	<ul style="list-style-type: none"> Initial impressions that the proposed business model would be financeable. While the lenders expressed modest caution given telecommunications and the broadband subsector has not typically been financed using the PPP structure, they recognize the applicability of the model, and consider Macquarie’s sponsorship and

Theme	Key Considerations
	<p>expertise as important highlights in its successful application.</p> <ul style="list-style-type: none"> ▪ Not all lenders gave indicative pricing and coverage ranges, though general feedback suggested the transaction could attract an availability PPP structure and pricing plus a premium of up to 100 basis points to reflect the risk profile of the new model <ul style="list-style-type: none"> ○ Indicative coverage ratios of 1.2-1.4x, potential for high end of the range to be tightened with greater clarity of the key risks and the Cities' financial position ○ Utility fee is critical to reducing market exposure and delivering higher leverage ratio ○ Financing potentially to be on a shorter term (5-7) years given untested model, start exposing the PPP to refinancing risk
Counterparty Credit	<ul style="list-style-type: none"> ▪ The utility fee will be the principal source of repayment for the lenders and thus they are particularly focused on the Cities' creditworthiness and suitability as potential counterparties ▪ Lenders noted the Cities' strong credit ratings but are looking to dig deeper into the Cities' demographics and financial profile, in particular: <ul style="list-style-type: none"> ○ Bonding profile, including the quantum of bonds outstanding and their repayment profile; ○ Cities' ability to service those debts, for example inflows into the general fund and historical coverage ratios; ○ Restrictions and pledges on City funds that may impact the PPP or lenders' ability to collect the utility fee; and ○ Near- and medium-term capital expenditure plans that may materially impact the Cities' financial performance and/or position
Payment Mechanism	<ul style="list-style-type: none"> ▪ The indirect payment mechanism that remits the utility fees collected by the Cities to the PPP through the Agencies is an unconventional structure for PPPs and is seen as a critical risk factor for the lenders <ul style="list-style-type: none"> ○ Lack of a direct contract between the PPP and the Cities may complicate collection of the utility fee in the event of a shortfall to the availability payment ▪ Lenders' preference is for the Cities to guarantee the availability payment on a joint and several basis. The Cities have displayed no appetite for this commitment, and in the absence of such guarantees, strong protections such as a rate covenant, step-in rights for collection of the fees, priority over all network cashflows or an overcharge regime will likely be required
Operational Risk	<ul style="list-style-type: none"> ▪ Lenders indicated a strong preference for outsourced operations, with the introduction of a recognized name potentially able to materially tighten pricing ▪ Extremely reluctant to assume any revenue risk from premium service take rates.

Macquarie, in conjunction with the Cities' financial advisor, has been developing an information package on the Cities to provide the lenders. This information package will provide the lenders a detailed overview of each City, including its size, demographics, financial strength and a number of debt metrics including credit rating, breakdown of the debt outstanding, payment profile and historical coverage ratios. Through Milestone Two, Macquarie's approach will be to bring the lenders up the curve and progressing to negotiation of indicative term sheets as rapidly as possible, and this information package will be a critical factor in advancing those discussions. Macquarie will negotiate the term sheets with lenders in parallel to the CA negotiations with the Agencies.

4.5 Community Outreach

Historical operational issues and the network's fragmentation has resulted in a mixed perception of the Agencies and the network in the communities. Throughout our preliminary discussions with the Cities, and particularly following execution of the PDA in December 2013, Macquarie has invested considerable resources to improve the City Councils' and the broader community's knowledge of the PPP model and Macquarie's experience in implementing the model. This community engagement has already generated valuable feedback, and has been a factor in the scope of Milestone One increasing beyond its original intent as we seek to address a number of the Cities' queries.

We are increasingly confident, as we explain the PPP model and its benefits, particularly the certainty of execution and private capital it brings to the network, that there is significant community support to progress the transaction. IO Data's results clearly show the community has a preference to complete the network using a private operator (43%) rather than bear the sunk costs and close down network operations (26%). Additionally, once the PPP model was explained to the respondents, not only did a majority (53%) believe introducing a private sector funding partner was a good idea. Of the respondents who were aware of Macquarie's proposal, 65% believed it to be a good idea.

Macquarie will seek to be as inclusive and informative as possible as we progress through the milestones. We, along with our local consultants, have developed a communications plan to accompany the publication of this report, to ensure we have a platform to address the stakeholders' key questions and concerns. This platform, which comprises a layered approach across traditional and social media, as well as ongoing engagement with key industry, business and civic organizations, has been designed to ensure all network stakeholders remain informed and have a forum to address their concerns. Macquarie has met individually with a majority of the City Councils and Mayors, and expects to continue these meetings, many of which are open to the public, throughout the milestones.

Macquarie's focus groups, held in March 2014, highlight the value of our proactive community engagement. IO Data's survey results had indicated that residents of these cities, on average, had a poorer experience with the network. The key concerns for the network were the quality of service and management – explanation of the PPP model and its ability to reduce government's role in the network operation generated significant support. Additionally, the groups provided key insights into the type of services considered important; for example, there was limited appetite to include a free landline as part of the basic service.

Macquarie's ongoing involvement in the community permits a more informed conversation on the benefits of the PPP model for the network.

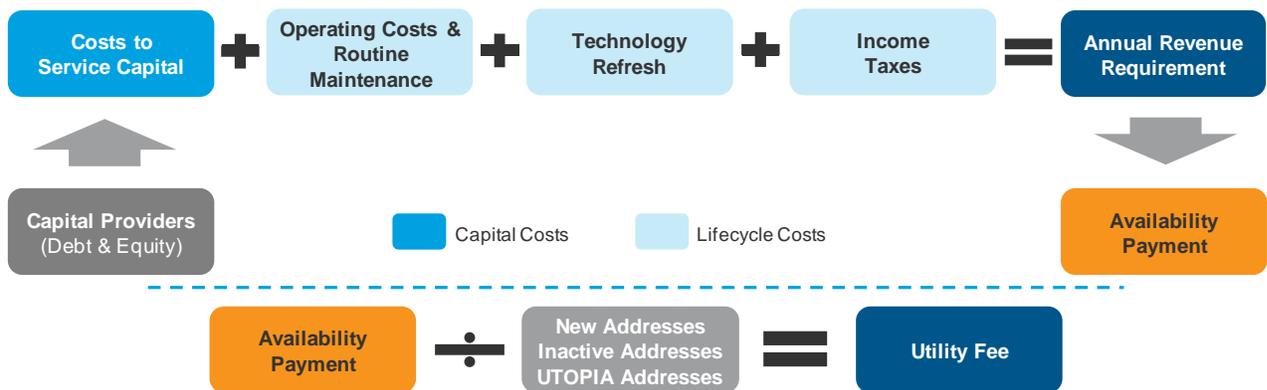
5. FINANCIAL PROFILE

5.1 Utility Fee

5.1.1 The Availability Payment

The utility fee will likely be the primary funding source for the Cities to pay the PPP its contractually agreed availability payment. These payments form a predictable, fixed set of payments over the term of the CA, and, as shown in Figure 17, are sized to cover the PPP's costs of designing, building, operating and maintaining the network over the contract's 30 year period.

Figure 17: Components of the Availability Payment



5.1.2 Base Case Range

The proposed utility fee range is indicative only and has been based on a number of assumptions that will be refined throughout the milestone process. The table below lists the key inputs to the financial model and the critical assumptions upon which Macquarie has based its calculation of the utility fee range.

Table 30: Core Assumptions of the Base Case

Eligible Addresses	<ul style="list-style-type: none"> The utility fee will be charged to all new or non-active premises on the network and the UTOPIA users with active connections. This totals approximately 159,700 addresses. UIA users either have paid or are paying fees to UIA for bringing the network infrastructure into their residence or business. These fees are supporting the outstanding UIA revenue bonds and as such Macquarie has assumed none of these addresses will be eligible to pay the utility fee. Macquarie is investigating options to compensate these users for those costs as part of their incorporation into the utility fee model; however these options are not yet sufficiently developed to assume that these users will be eligible to pay the utility fee.
Capital Costs	<ul style="list-style-type: none"> The Macquarie team is coordinating a competitive process to select the Design-Build Contractor that will complete all outside plant construction for the network. The utility fee range is based on the soft pricing estimates provided by Black & Veatch and Corning. These prices are indicative only and Macquarie will continue to investigate options to reduce the project's cost. The capital costs include the design-build, equipment and integration costs to complete the project network and installation of drop fiber, a full network equipment refresh, and installation of standardized ONTs at approximately 114,000 new

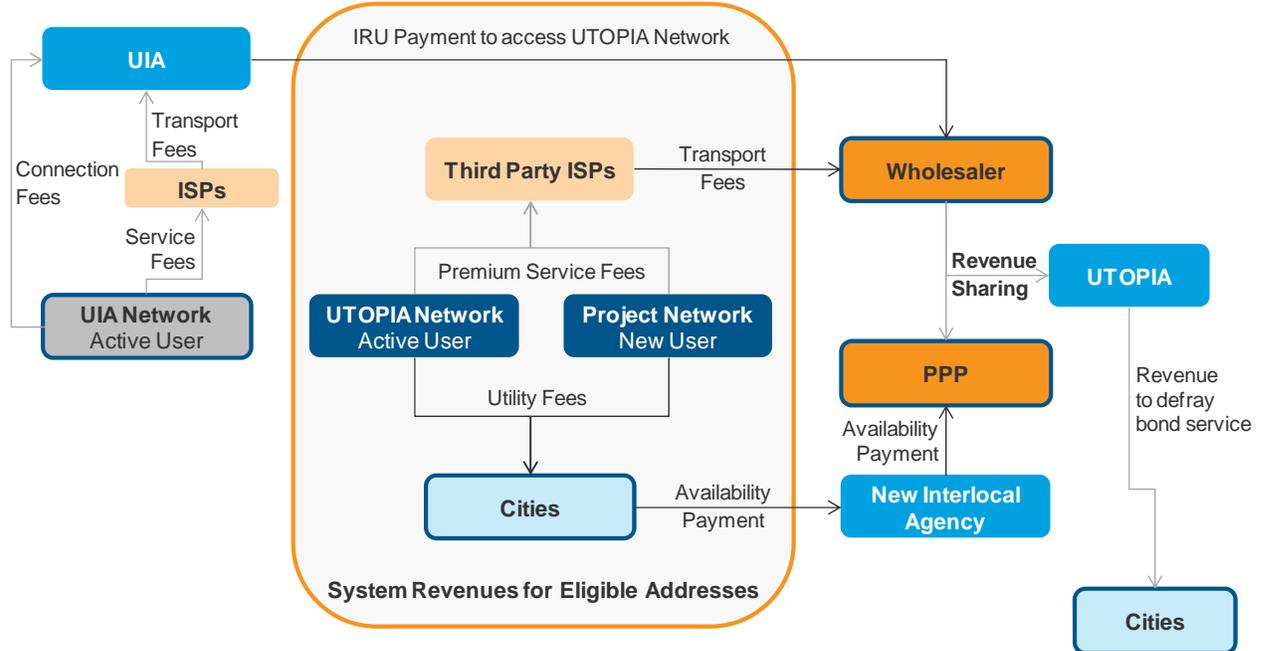
	demarcation points.
Network O&M / Refresh	<ul style="list-style-type: none"> The preliminary fee range assumes network operations and technology refresh are performed by Fujitsu, with the Concessionaire self-performing non-technical functions. A full self-perform strategy has also been explored and could be pursued for a moderately higher utility fee. Both strategies would seek to extensively leverage the Agencies' existing staff knowledge base and supplier relationships to maximize cost efficiencies relative to the current run rate.
Financing	<ul style="list-style-type: none"> Macquarie has assumed that separation of the PPP and Wholesaler permits the network buildout to be financed as an availability-based PPP, albeit with a relatively lower leverage ratio to compensate for the project's higher risk relative to typical availability PPPs. The Concessionaire's ability to achieve these assumptions will be subject to a number of factors, including but not limited to finalization of the business model and operational structure, transparency and enforceability of the payment mechanism that remits the utility fees from the Cities to the Agencies and through to the Concessionaire, continued development of the Concession Agreement in line with market precedent for PPP transactions, confirmation of appropriate subcontractor relationships with creditworthy partners, and satisfactory lender due diligence including the technical, legal, accounting, and tax elements of the transaction.
UTOPIA / UIA Cashflows	<ul style="list-style-type: none"> The Concessionaire and the Wholesaler will take over operational control of the network from financial close. All active UTOPIA users will be eligible to pay the utility fee immediately, as will new users as they are built out to (with a grace period of up to 6 months). Concessionaire will bear all the costs associated with operating the network, and its financing package will be sufficient to cover any near-term operating deficit that occurs while the network is being rolled out. Surplus cashflows above the network's operating costs will be reinvested into future network build, thereby reducing the quantum of private capital required for the project. The Wholesaler will receive all transport fee revenues from the UTOPIA and New networks as well as the UIA IRU payments, which are assumed to remain constant over the life of the term. Revenues received by the Wholesaler will then be subject to sharing arrangements with the Agencies and the PPP at levels to be discussed. Figure 18 shows the anticipated flow of funds from financial close to full completion of the network
IRU Payments	<ul style="list-style-type: none"> Preliminary base case does not include payment of an IRU fee from Concessionaire to either UTOPIA or UIA. Concessionaire will invest heavily in the existing networks and bear all the operating costs of those networks. Additionally, the Agencies have significant exposure to the network's upside through the Wholesaler's revenue sharing mechanism. An incremental IRU payment would add significantly to the preliminary utility fee range. For example, a monthly payment of \$1 per network address would add approximately \$1.10 to the utility fee.
Installation Subsidy	<ul style="list-style-type: none"> The ISPs will be responsible for completing the connection from the demarcation point into the residence or business. The PPP is committed to minimizing any costs the ISPs must pass on to the user for this installation, and as such has incorporated a \$7.6 million subsidy into the preliminary capital cost estimates. This subsidy, equal to \$50 per installation, will be paid directly to the ISP upon completion of an internal connection. The subsidy is intended to eliminate any incremental costs the ISPs may pass onto the users to complete the installation, and Macquarie will continue to discuss the appropriate size, terms and conditions of the subsidy to be incorporated into the ISPs' service level agreements.
Payment Exclusions	<ul style="list-style-type: none"> The preliminary utility fee range does not include any new payments associated with infeasible rights of use or sales taxes. Macquarie is working through this

analysis with the Cities but given the early stage of this analysis we do not yet consider it prudent to estimate their impact.

Based on these critical assumptions and the Working Assumptions, Macquarie has calculated a preliminary range for the utility fee of \$18-20, charged as a monthly rate and stated in 2014 dollars. The utility fee is assumed to escalate annually at CPI, estimated at 2.5%.

The Preliminary Utility Fee range is expected to be between \$18-20 per month

Figure 18: Allocation of System Cashflows



5.1.3 Options to Reduce the Utility Fee

5.1.3.1 Inclusion of UIA and SAA Users

Approximately 3,000 of the Agencies’ 11,000 active connections are users on the UIA or Brigham City network. These users almost all paid the connection fee, either upfront or through a long-term contract. These connection fees are currently supporting UIA’s outstanding debt, and the Macquarie team, in conjunction with the Cities, is looking at potential mechanisms to compensate these users for the payments they have either already made or may be required to continue with.

Macquarie’s preference is for all users to be treated equally and the separation of UIA and SAA users from the other users adds undue complexity to the implementation of the utility fee and management of the network.

5.1.3.2 Achieve More Aggressive Financing

Macquarie has provided the lenders an overview of the proposed transaction only. The transaction structure, including the payment mechanism and the risk allocation between the parties, will need to be

developed in greater detail before Macquarie and the lenders can progress negotiations to indicative term sheets and gain further clarity on the potential terms and pricing for project debt.

The terms and conditions will be driven by the project’s rating; initial feedback suggests an investment grade credit rating should be achievable, however the level of that rating is subject to a number of factors, most importantly the payment mechanism and the PPP’s enforcement rights in the event of non-payment. Initial and purely indicative discussions on this topic suggest that a rate covenant and access to all system revenues (including premium service transport fees) in the event of undercollection of the utility fee, as well as standard contractual recourse to the Cities, may be adequate to satisfy lender requirements. The Cities’ information package, being developed by the Cities’ financial advisor, will be essential for the lenders’ due diligence.

Macquarie has assumed a maximum debt capacity of 80% of private capital raised for the project, which is conservative relative to a typical availability PPP project; however, this is a unique project for a variety of reasons and will likely receive a relatively conservative financing package. The sensitivity analysis below suggests that increasing this to 85% will reduce the preliminary utility fee by almost one dollar.

5.1.3.3 Impact of Changing Assumptions

Table 31: Utility Fee Sensitivities

Assumption	Description	Utility Fee	Change
Base Case Utility Fee	<ul style="list-style-type: none"> Preliminary utility fee range 	\$18-20	- %
Higher Leverage 85%	<ul style="list-style-type: none"> Greater definition of the payment mechanism and the applicable enforcement mechanisms could result in negotiation of a more favorable capital structure 		(4)%
IRU Payment Flows to PPP	<ul style="list-style-type: none"> UIA’s capitalized IRU lease, payable to UTOPIA, was carried at \$10.8 million as at June 30, 2013. The reduction in utility fee assumes FY2013 payments of \$1.5m continue evenly until paydown of the lease 		(2)%
UIA Active Connections	<ul style="list-style-type: none"> UIA’s 3,000 active users become eligible to pay the utility fee Concessionaire refunds historical payments and credits remaining payments against the utility fee 		(1)%
Escalation 5 Year Indexation	<ul style="list-style-type: none"> A staged escalation profile will result in fewer increases to the utility fee over the concession term but these changes will be higher Staging the escalation of the O&M component of the utility fee creates a timing mismatch with operating costs, which will escalate annually 		5%

5.1.4 Working Assumptions in Calculating the Utility Fee

Table 32: Milestone One Working Assumptions

Assumption	Description
General Assumptions	
Participating Cities	West Valley City

Assumption	Description
	Orem Layton Murray Midvale Brigham City Centerville Payson Lindon Tremonton Perry City
Escalation	Base year for escalation is 2014, base index is CPI CPI is assumed to increase by 2.50% annually
Project Model	Utility-fee based availability PPP with 30 year concession term
Utility Fee	Preliminary range of \$18-20 per month, collected as follows: <ul style="list-style-type: none"> ▪ MDUs: 50% of utility fee ▪ Single family residential: 100% of utility fee ▪ Businesses: 200% of utility fee Utility fee will be charged from the earlier of the completion of the user's connection into the home and 6 months

Business Model

Demarcation Point	PPP will deliver fiber to: <ul style="list-style-type: none"> ▪ ONT on the external surface of a single family or business address ▪ Telecommunications cabinet of a MDU or multi-business addresses
Network Access	Open access network
PPP	Provides fiber highway – build, operate, maintain and refresh the infrastructure
Wholesaler	Manage ISP relationships, business development, network marketing
ISPs	Own the customer relationship, provide the basic service and support customers that use the basic service, complete installs from Demarcation Point into the premises
Install Costs	ISPs to bear costs of completing the connection into the home. PPP will rebate \$50 to the ISP for each internal connection it activates
Transport Fee	Preliminary forecasts assume \$20 transport fee for residential connections and a \$200 transport fee for business connections Final transport fee will be subject to negotiation with the ISPs

Design-Build

Fiber Build	Macquarie has incorporated the assumptions provided by the Agencies: <ul style="list-style-type: none"> ▪ 4,718,908 feet of fiber to be built ▪ Aerial / underground split of 35% / 65%
Total Addresses	Ubiquitous build to 162,718 addresses as shown in Section 4.1.3.1
Total Drops	113,948 drops as shown in Section 4.1.3.1 Door to drop ratio is 1:1 for businesses and single family residential premises,

Assumption	Description
	but 4:1 for MDUs
Demarcation Point	External surface of the residence for single family or single business premises Central communications cabinet for MDUs and multi-business premises
Capital Costs	Utility fee has been calculated using the soft pricing estimates provided by the shortlisted contractors, Black & Veatch and Corning. These estimates are indicative only and will not be binding until fixed-price proposals are received. The selection process for the outside plant contractor is competitive and as such these prices remain commercially sensitive.
Schedule	Indicative schedule of 30 months from financial close Schedule assumes efficient permitting process and timely access to utility poles and structures necessary to complete the aerial build
Network Topology	Network will continue to be active ethernet
Network Operations	
Technology Refresh	Outsourced to Fujitsu on a fixed price basis for a 15 year term with assumed contract renewal
Financing	
Capital Structure	80% debt / 20% equity
Funding Sources	Macquarie will coordinate a competitive financing process evaluating bank, bond, tax-exempt and alternative capital sources to minimize the cost of capital

5.2 The Wholesaler

The Wholesaler, in conjunction with the ISPs, will be critical in increasing user awareness of the network's greater capacity and competitive advantage relative to competing third party networks. The Macquarie team is committed to its long-term partnership with the Cities and as such expects the Wholesaler to have sufficient capital at financial close to immediately rebrand and market the network, which is expected to facilitate a rampup in premium service take rates to a long-term sustainable range of 30-50% of total premises across the network.

This target is supported both by CTC's detailed feasibility analysis and the Agencies public survey as an achievable outcome.

Macquarie believes there is significant upside to these take rates, and notes CTC's commentary that some municipal fiber networks have managed to achieve up to 80% take rates for premium services, though these are admittedly highly irregular, and have not occurred in a situation where a free Basic Service s also provided

5.2.1 Take Rates

Macquarie has assumed a ramp-up in take rates to 30% to 50% over the medium term, with substantial growth in the twelve months following financial close – the Agencies' deep build out of the core network and detailed footprint design suggests that up to a third of the new connections require minimal engineering to place drop fiber.

5.2.2 Potential to Defray Existing Debt Service Obligations

The take rate shown above is an indicative base case, supported by performance of municipal fiber networks in the United States and globally, as referenced in CTC's report. The take rates will be driven by a number of factors, including the quality of services on the network, the community's awareness and acceptance of the benefits of a 1Gbps connection and the ISPs' price competitiveness relative to third party providers on competing network.

The Wholesaler's revenue and cost profile are uncertain, particularly in the first years of the project as the network is being completed and the focus is on driving take rates – the cost of acquiring these users is potentially material, and while a high proportion of these costs are variable, such as marketing, business development initiatives and ISP relationship management, there is also a core of fixed costs the Wholesaler must be able to cover. Generally, there is also a lag between variable expenditure and revenue, and in a competitive environment, there are substantial risks that the investment in these costs does not translate into expected revenue growth. As such, the table below outlines a proposed revenue sharing approach that Macquarie believes could potentially provide a material revenue stream that the Cities could use to reduce the quantum of sales taxes dedicated to the outstanding UTOPIA revenue bonds.

Table 33: Proposed Revenue Sharing Approach

Proposed Approach	The PPP, Wholesaler and UTOPIA will agree a Base Take Rate at which the Wholesaler's operating profit is expected to be marginal. UTOPIA will be entitled to only a nominal Base Revenue Share of the Wholesaler's revenues until the Base Take Rate is achieved. Upside revenue beyond the Base Take Rate will be shared, with the Wholesaler incentivized to maximize take rates through greater participation as take rates increase.
PPP	PPP should receive a modest share of the transport fee revenues as a result of the

Participation	additional costs incurred by the PPP from greater network traffic, and to align interests of all parties such that the network is operated and marketed to incent users to upgrade beyond the basic service.
Payment Mechanism	<p>The Wholesaler will pay to UTOPIA a share of revenues based on the below indicative formula:</p> <p style="text-align: center;">Base Revenue Share + (Actual Take Rate – Base Take Rate) * Agreed Share of Upside</p> <p>The PPP will only be entitled to a moderate share of the upside revenue, and will have a separate mechanism that is to be discussed with the Cities.</p>
Risk Sharing	The share of upside revenue payable to the Cities should reflect the expense burden and operating risks that the Wholesaler will bear. The Wholesaler's fixed costs will make certain sharing levels unrealistic. The combination of these costs and the significant risks associated with the lag between spending and revenue are expected to result in a considerable investment for the Wholesaler. Any incremental or upfront payment that will be charged to the Wholesaler should reflect the quantum and risk of this investment.

5.2.3 Wholesaler Revenue Potential

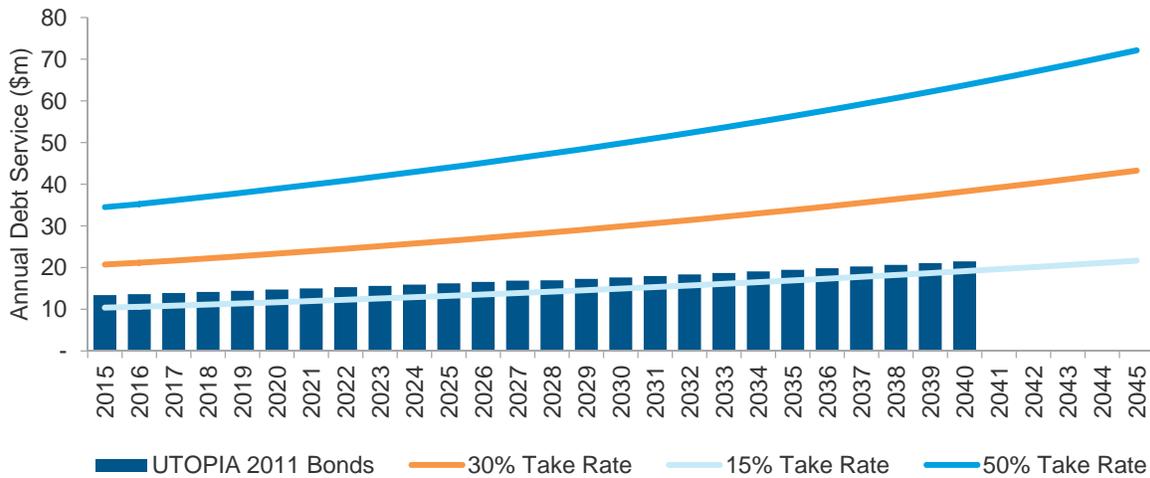
The table below demonstrates the potential level of Transport Fee revenues available to be shared between the Cities, the Wholesaler and the PPP. The volatility of the revenues also highlights the importance of a reasonable revenue sharing mechanism that provides the Wholesaler a sufficient capital buffer to perpetually invest in the network and, in conjunction with the ISPs, drive take rates as high as possible.

Table 34: Wholesaler Revenue Potential

Take Rate Scenario	Ramp to 30%	Ramp to 50%
Potential Subscriber Market	160,000	160,000
Peak Take Rate	30%	50%
Average Transport Fee (incl. businesses)	\$35	\$35
Annual Transport Fee Revenues (Real \$)	\$20.2m	\$33.6m
Total Transport Fees (<i>Nominal</i> \$)	\$980m	\$1,500m
Total Transport Fees as a % of Remaining Agencies' Debt Service	220%	340%

This worked example is in real figures without escalation of the transport fee. Figure 20 below arguably presents a more realistic picture of the Wholesaler's potential revenue profile, and its relationship to the payment profile of UTOPIA's outstanding revenue bonds.

Figure 20: Wholesaler Revenue Profile Relative to UTOPIA Debt Service



5.2.4 Asset Handback

Critically, upon completion of the concession term, the PPP will return the network to the control of the Cities. The network will be in operable condition and consistent with the handback requirements specified in the CA, but perhaps of greater relevance is the established stream of cashflows that will once more flow fully to the Cities. Our preliminary analysis suggests combined utility fee and wholesale revenue at the end of the concession will be approximately \$125 million, with the potential to generate approximately \$80 million in annual free cashflow. It would not be unreasonable to assume that this cash flow stream for an asset with these structural and cash flow characteristics could be worth up to \$1 billion at the end of the term (12.5x free cash flow). Clearly, even at a fraction of this amount, the value of the network upon handback would be more than enough to repay all existing network indebtedness, notwithstanding the likelihood that most if not all would be paid off from cashflows during the Term regardless.

The project represents a significant opportunity for the Cities and Macquarie is looking forward to delivering the network efficiently and in such a manner that all parties can capture the network's upside.

6. KEY CONSIDERATIONS FOR MILESTONE TWO

6.1 Approach to Milestone Two

Macquarie, following extensive engagement with the Cities and community through the development of Milestone One, extended the scope of this report to provide the Cities a comprehensive approach to complete the network as well as an analysis of the network's current limitations and potential options. As such, Macquarie views Milestone Two as an opportunity to further develop key details of our implementation strategy, particularly aspects that could have a substantial impact on the utility fee.

6.2 Transaction Structure

Payment Mechanism	<p>The payment mechanism is indicative only and understanding the Cities' preference for, and the legal ramifications of, particular enforcement rights, such as rate covenants, first claim over network revenues and property liens will be critical in finalizing the business model and developing the preliminary finance plan.</p> <p>The development team has reiterated the importance of defining the payment mechanism and the PPP's rights, and we expect to have further clarity at the completion of Milestone Two</p>
CA Term Sheet	<p>Macquarie is expecting imminent feedback on the CA Term Sheet from the Cities. The current draft is high level and provides a framework from which to begin developing the full-form CA. Critical issues to address during Milestone Two include:</p> <ul style="list-style-type: none">▪ Impact of current indenture agreements on length of operating agreement and whether a separate operating agreement will be required▪ Indefeasible right of use for existing networks▪ Definition of minimum performance standards▪ Definition of parties to the agreement and their relationship (eg: existing bondholders)
Operational Structure	<p>Macquarie and the Cities will continue to discuss the most efficient operational structure, that is separation of the PPP and Wholesaler or integration of the two entities</p>

6.3 Business Model

ISP Sign-up	<ul style="list-style-type: none">▪ Further discuss project with potential anchor tenants with aims to confirm commitment
Ancillary Opportunities	<ul style="list-style-type: none">▪ Explore incorporating a digital content streaming partner such as Netflix on the network▪ Backhaul▪ TowerCo▪ Deployment of WiFi hotspots in public areas such as parks▪ Wireless overlay above fiber network

6.4 Project Implementation

Expediting of City Permits	<ul style="list-style-type: none">▪ Negotiate expediting the permitting process for the Design-Build contractor<ul style="list-style-type: none">○ Easement terms to be drafted and negotiated with Member Cities
Existing Connections	<ul style="list-style-type: none">▪ How Macquarie has already accounted for it in the financial analysis▪ Proposed messaging to existing customers▪ Impacts to service
Financing Plan	<ul style="list-style-type: none">▪ Analyze viability of financing solutions such as:<ul style="list-style-type: none">○ Rated bond solution

-
-
- Bank debt solution
 - Private placement solution
 - Discussion with underwriters and lenders on financeability of proposed PPP
 - Identify the most optimal financing solution and develop non-binding termsheets
-

7. MACQUARIE'S MILESTONE ONE PROPOSAL

Macquarie has completed the scope of work and deliverables for Milestone One in accordance with the PDA executed in December 2013 and proposes to proceed to Milestone Two on the following terms:

Table 34: Milestone One Proposal

Proposal	Description
UTILITY FEE & BUSINESS MODEL	
Preliminary Range	Utility fee of \$18-20 per month to be escalated from 2015 at a mutually agreeable index
Basic Service	Symmetrical 3Mbps connection with monthly data cap of 20GB
Business Model	As described in Section 3 of this Proposal
Payment Structure	As described in Section 4.3.3 of this Proposal
MILESTONE TWO	
PDA Scope	<ul style="list-style-type: none"> ▪ Finalize business model including project scope and roles and responsibilities for PPP, Wholesaler, Agencies and ISPs ▪ CA term sheet including further detail on payment structure and enforcement mechanisms ▪ Detailed financing plan for the project including preliminary term sheets from lenders ▪ Milestone Two Proposal <ul style="list-style-type: none"> ○ Utility fee range ○ Scope, deliverables, timeline and budget for Milestone Three
Proposed Additions	<ul style="list-style-type: none"> ▪ Redacted term sheet and/or MOU signed with ISPs
Proposed Timeline	<ul style="list-style-type: none"> ▪ 2 months from Cities acceptance of the Milestone One Proposal
Proposed Budget	<ul style="list-style-type: none"> ▪ Ongoing negotiation of the term sheet, payment structure and enforcement mechanisms may shift some of Milestone One's legal budget into Milestone Two ▪ Appointment of a media consultant is expected to add approximately \$6,000 to the \$900,000 Milestone Two budget agreed in the PDA

The PDA provides the Agencies a 60 day window in which to provide Macquarie formal notification of their decision to proceed to Milestone Two. In the event the Agencies do not provide a written notification within this period, the PDA will be terminated and its reimbursement obligations will apply. The submission and response dates are shown below:

*Milestone One Submission Date: **Tuesday, April 29, 2014***

*Milestone One Response Deadline: **Friday, June 27, 2014***

8. MACQUARIE AND FIRST SOLUTIONS

8.1 Joint Sponsors

Macquarie and First Solutions are negotiating a strategic partnership to develop this transaction as joint sponsors. Both organizations have committed senior executives and extensive internal resources and capital to develop our approach to this project, and we are fully committed to working collaboratively with the Cities as one developer group to make completion of the network a reality.

Resources have been allocated to leverage each firm's specialized skill set. First Solutions has led the design-build and operations and maintenance working groups, reflecting the executives' extensive industry experience and technical knowledge. Macquarie, conversely, has led the legal, commercial and financial workstreams, reflecting its greater experience developing, structuring and funding PPP transactions. We continue to operate as an integrated sponsor team that ensures both accountability and flexibility across each of these groups through a dedicated lead supported by representatives from First Solutions, Macquarie and the Agencies.

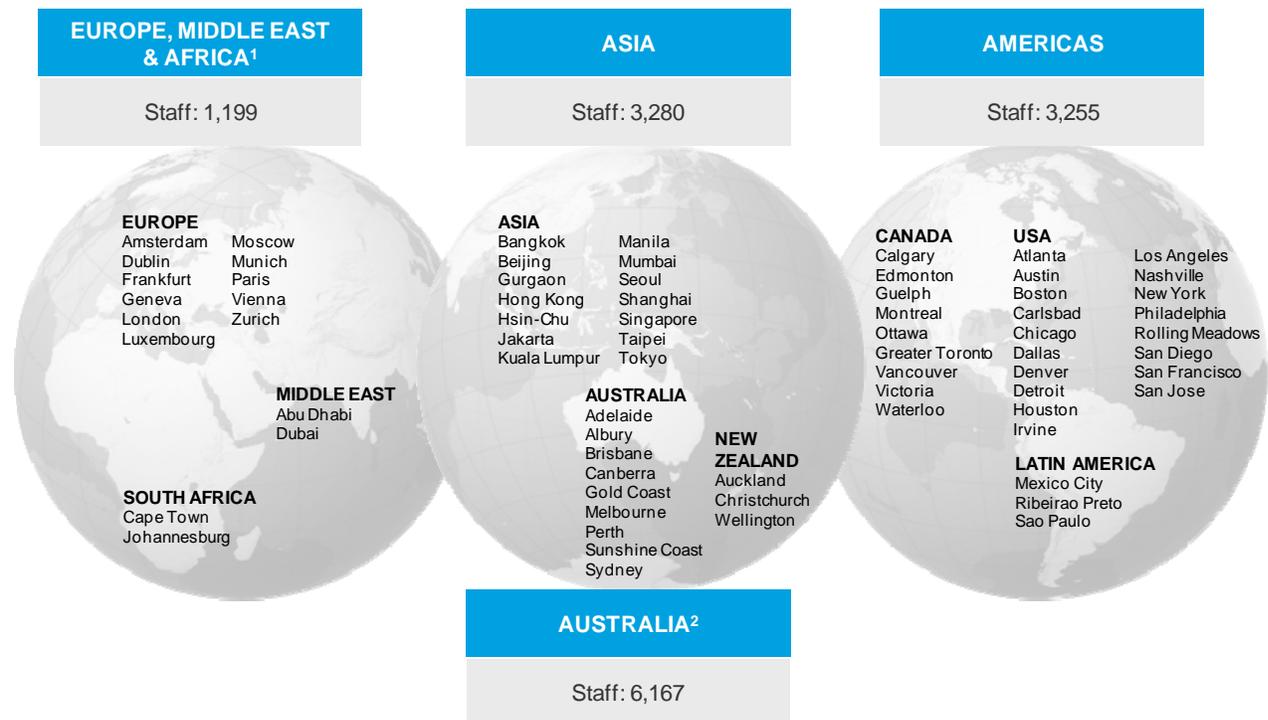
8.2 Macquarie

8.2.1 Macquarie Group

Headquartered in Australia, Macquarie Group Limited is a global provider of banking, financial, advisory, and investment and funds management services (ASX: MQG). Founded in 1969, Macquarie Group Limited operates offices in 28 countries and employs more than 3,255 people in the Americas as part of a global staff of over 13,900. As an owner and manager of important community assets, Macquarie works closely with governments around the world to deliver vital services including, utilities, transport, roads, airports, schools, hospitals and secure facilities. Macquarie Capital Group Limited is a wholly-owned subsidiary of Macquarie Group Limited and together with its direct and indirect subsidiaries and funds owned or managed by the foregoing, manages assets of approximately \$359 billion as of September 30, 2013. In January 2014, Macquarie raised over \$1.8 billion for its Macquarie Infrastructure Partners III Fund, which focuses on deploying capital in North American infrastructure assets.

Macquarie has been actively involved in the North American market since 1994. Over the last decade, it has established one of the largest financial advisory and funds management teams dedicated to the North American infrastructure sector, with professional staff in offices in Vancouver, New York, Toronto and Los Angeles. Macquarie can also draw on the worldwide resources and expertise of the larger Macquarie Group, and can bring in specialist resources as required to assist on the Project.

Figure 20: Macquarie Group’s Global Locations and Staffing



¹Excludes staff in Macquarie First South joint venture and staff seconded to Macquarie Renaissance joint venture (Moscow).

²Includes New Zealand.

8.2.2 Macquarie Capital

Macquarie Capital is one of Macquarie Group's six operating groups, with around 37 offices in 22 countries. The team is responsible for the Group's corporate advisory, equity and debt capital markets activities. Macquarie Capital's advisory activities are aligned with six industry groups, reflecting deep expertise across a broad range of sectors.

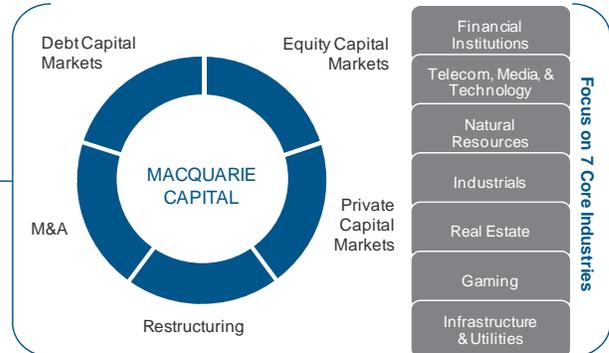
Figure 21: Macquarie Capital

Macquarie Group at a Glance

- Global provider of banking, financial advisory, investment and funds management services in major international financial centers
- Founded in 1969 as the Australian subsidiary of UK merchant bank Hill Samuel
- Established and growing presence in the US since 1994
- Listed on Australian Securities Exchange (ASX:MQG) since 1996
- A2/A- credit rating (Standard & Poor's)



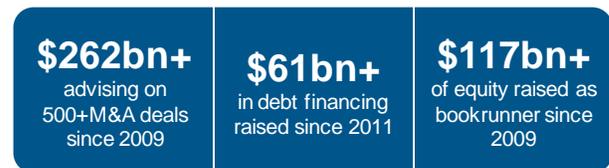
Macquarie Capital Overview



Macquarie Group by the numbers



Macquarie Capital by the numbers



Macquarie has created

\$5bn

more capital than its closest global peer for infrastructure investment

No. 1 in infrastructure investment

No.	Investor	5-year capital creation (US\$m)
1	Macquarie	\$23,338 ¹
2	Brookfield Asset Management	\$18,482
3	Global Infrastructure Partners	\$16,470
4	Borealis Infrastructure	\$6,780
5	IFM Investors	\$5,851

¹Up to June 30, 2013; Source: Infrastructure Investor, June 2013

Notes: Market cap as of September 30, 2013. AUM as of September 30, 2013. Staff numbers as of September 30, 2013; numbers exclude some JVs. Macquarie Capital statistics include acquisitions

8.2.3 Fiber, Broadband, and Cable TV Experience

Macquarie's experience in the fiber and broadband sector covers all of the major global markets in North America, United Kingdom, Australia, Asia and Europe. Figure 22 provides an overview of a number of transactions that Macquarie has advised on in the sector.

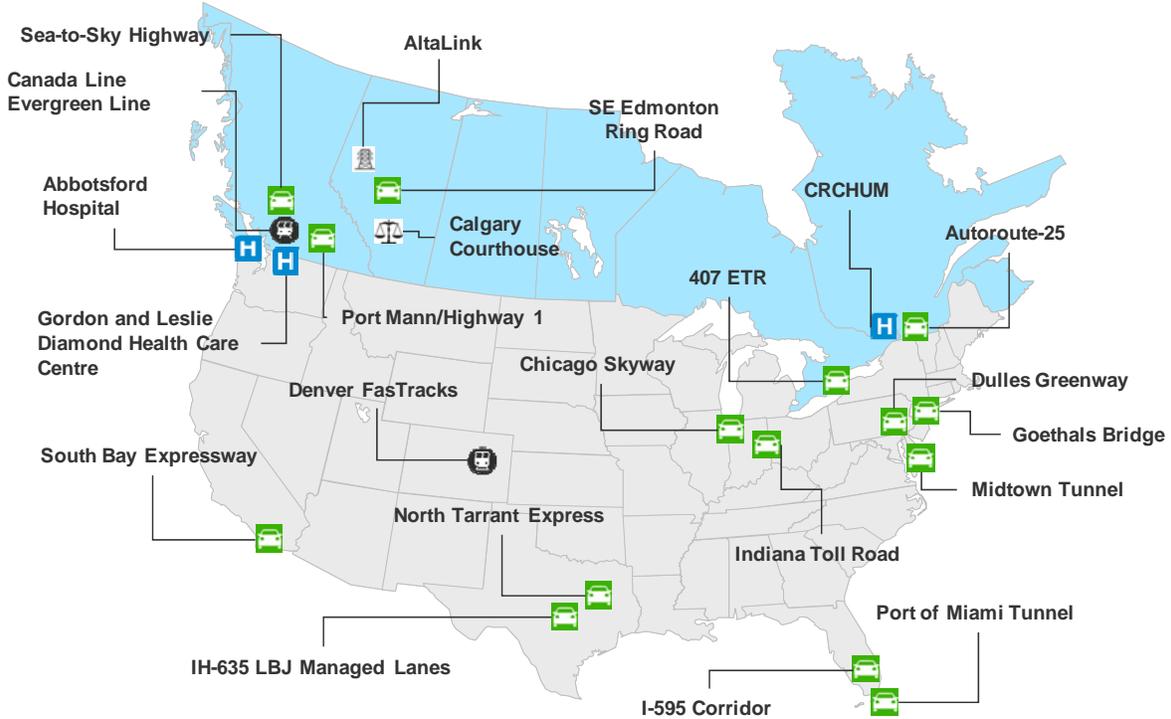
Figure 22: Selection of Macquarie Capital's Fiber and Cable Experience

 <p>City Fibre Corporate adviser for FTTH client in the UK</p> <p>Confidential Ongoing</p> <p>Financial Advisor</p> 	 <p>NextGen Divestment Sale of 70% of Leighton's fibre and telco assets to OTPP</p> <p>A\$465 million 2013</p> <p>Financial Advisor</p> 	 <p>Arqiva Refinancing Equity injection and debt refinancing</p> <p>£4.5 billion 2013</p> <p>Principal Investor, Financial Advisor</p> 	 <p>National Broadband Network Structural separation of Telstra to allow for Australia's NBN</p> <p>A\$11 billion 2012</p> <p>Financial Advisor</p> 	 <p>PIPE Acquisition Third largest metro fibre network in Australia</p> <p>A\$434 million 2010</p> <p>Financial Advisor</p> 	 <p>NextGen Financing 8,500km fibre backhaul network in Australia</p> <p>A\$853 million 2010</p> <p>Debt & Equity Arranger Financial Advisor</p> 
 <p>Bell Aliant First company in Canada to cover a city with FTTH technology</p> <p>US\$222 million 2013</p> <p>Equity Arranger</p> 	 <p>CRa Acquisition Czech broadcaster serving 98% of local TV and radio</p> <p>€74 million 2011</p> <p>Principal Investor, Financial Advisor</p> 	 <p>Cumulus Media Inc. Acquisition of Citadel Broadcasting</p> <p>US\$2.4bn 2011</p> <p>Financial Advisor, Debt/Equity Arranger</p> 	 <p>Taiwan Broadband Advised on raising senior and subordinated debt</p> <p>US\$900 million 2010</p> <p>Debt Arranger, Financial Advisor</p> 	 <p>C&M Co. Acquisition of Korea's second largest cable television operator</p> <p>US\$1.9 billion 2008</p> <p>Financial Advisor</p> 	 <p>NGW Acquisition Acquisition of National Grid Wireless</p> <p>£2.5 billion 2007</p> <p>Principal Investor, Financial Advisor</p> 

8.2.4 Industry Leader in Public-Private Partnerships

Macquarie is widely recognized as a global leader in P3s. Macquarie's status as one of the first entrants into the global P3 market and as a pioneering investor and advisor in P3's has been a key element of the international success of its business. Macquarie can draw from a team of more than 70 dedicated infrastructure advisory executives in North America, supported by a large worldwide team of infrastructure professionals.

Figure 23: Macquarie Capital's PPP and Infrastructure Projects in North America



8.2.5 Trusted Advisor to both the Public and Private Sector

Macquarie is a pioneer in private sector development and the operation of vital infrastructure assets. Partnership with governments and communities is Macquarie's core business, currently holding a portfolio of over 110 infrastructure assets around the world. Macquarie's financial security and wealth of international experience in a range of asset classes is unquestioned, and positioning Macquarie as a proven long-term partner and a market leader.

Macquarie has also frequently been appointed by government entities to act as their financial and process consultant on PPPs. Macquarie's strong insight into the needs of public sector agencies and the requirements of a successful partnership, have led to intimate knowledge of and good working relationships with contracting partners and government procurement authorities in Canada. Familiarity with numerous variations of procurement documentation and having a competitive spectrum of design firms, civil contractors and operators allows Macquarie to ensure the success of its projects. For example, Macquarie has advised the Province of British Columbia on the W.R. Bennett Bridge and the Kicking Horse Canyon Project Phase II projects. They also advised Metro Vancouver's regional transportation authority on the Canada Line Rapid Transit Scoping Study and also the Province of British Columbia throughout the procurement process.

As a global leader in infrastructure financing (including social infrastructure and buildings), Macquarie has the financial strength and commitment to create significant value and financial security for government projects. Macquarie's approach is structured and resourced to provide comprehensive management and support for all its projects through project specific teams that provide detailed oversight and collaboration with stakeholders.

Macquarie recognizes the essential nature of the assets it manages and owns on behalf of the communities they serve. We take our responsibilities very seriously and have a long track record of making appropriate investments to ensure long term life cycle performance of our assets. Nowhere is this more true than the case of Thames Water, the United Kingdom's largest water utility serving much of London. Prior to Macquarie ownership, Thames Water consistently failed to meet its performance targets; to remedy this by ensuring the proper infrastructure is in place, Macquarie committed to a large capital expenditure program to replace aging pipes with spending peaking at over \$200 million a month.

8.2.6 Leading Infrastructure Investor

Macquarie, through Macquarie Infrastructure and Real Assets (MIRA), is a global leader in the creation and management of specialist funds which focus on infrastructure, real estate and adjacent sectors. We are a committed investor in infrastructure and aim to manage the businesses in which we invest profitably and responsibly. We take a partnership approach, working with local management teams and bringing specialist strategic, commercial, operational and financial expertise. Within MIRA we have a global team, many with deep operational expertise, supporting the businesses in which we invest. Specific industry-based teams, such as airports and utilities, enhance the performance of these businesses over the long term. Figure 24 provides an overview of MIRA's global portfolio.

Figure 24: Trusted by Communities – Macquarie is an Experienced Operator of Essential Assets

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

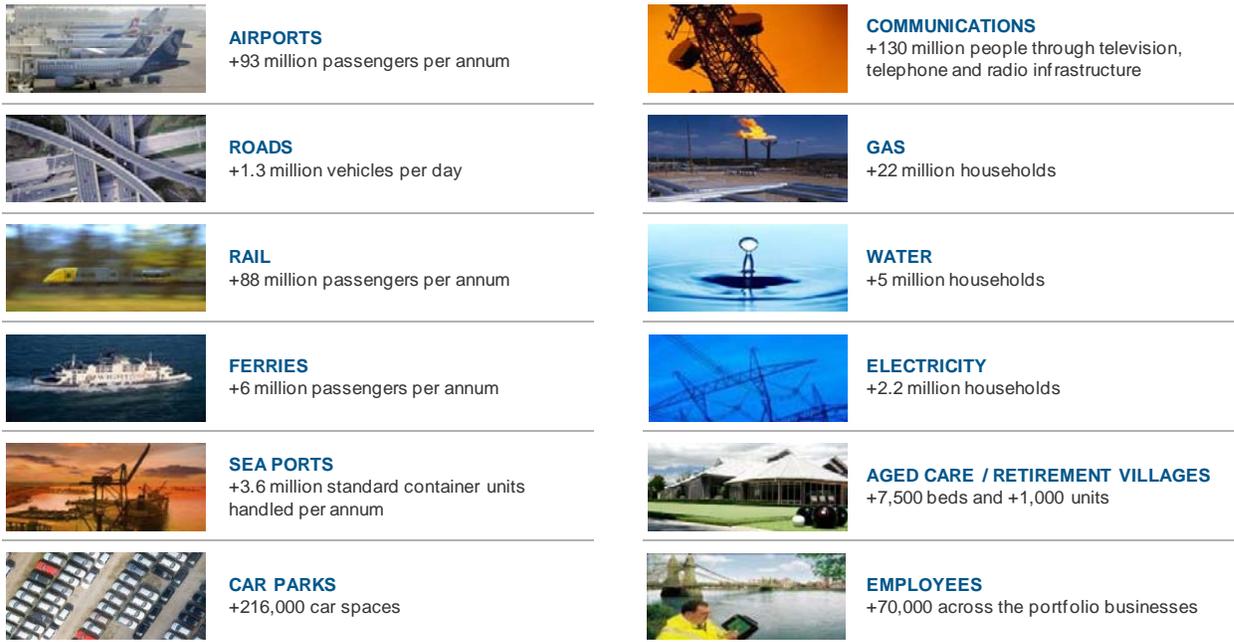
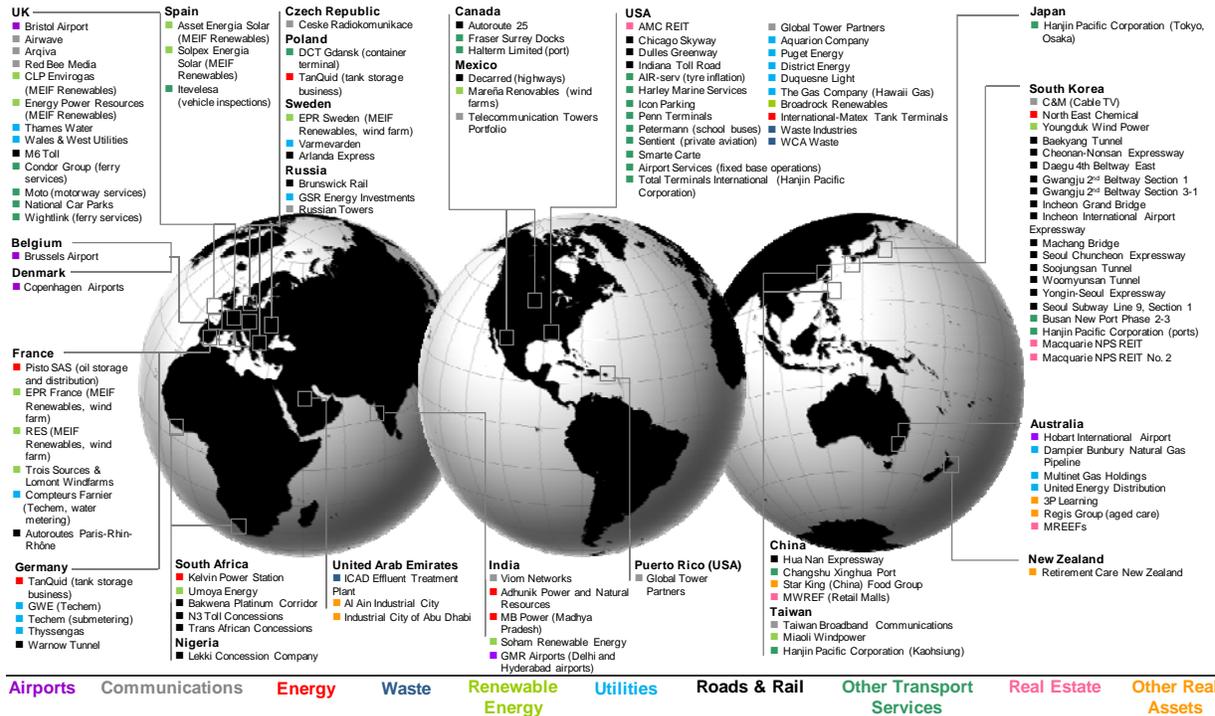


Figure 25: Macquarie's Global Portfolio of Infrastructure Investments¹



¹As at 31 March 2013. Represents portfolio businesses which Macquarie Infrastructure and Real Assets manages on behalf of investors with various direct percentage stakes held in each. Portfolio businesses shown on the map are representative and not exhaustive. In some instances they represent the operations of a single business where it has operations across different countries.

8.3 First Solutions

Headquartered in Twin Falls, Idaho, First Solutions is a managed services group dedicated to helping clients select and execute the right Public Private Partnership (P3) model for their projects.

First Solutions' primary objective is to support government agencies with resources, expertise & funding solutions to deliver greater value, accountability & reduced risk at a lower cost to the public. The company was founded on the principle of maintaining a quality of character throughout the management team while providing experience, integrity, innovation and a commitment to build local alliance partners. First Solutions P³ Alliance leverages on its public partner's existing resources to ensure that the right people are involved and serving in the right role, while enabling government agencies to serve the public better with greater efficiencies at a lower overall cost.

8.3.1 Ownership Overview

Ownership Overview	Tenure	Experience
Joe Shelton	35 years	Wireless operations and management
Kit Eldredge	35 years	Wireless operations and management
Mark Wright, MD	20 years	Healthcare operations and management
Mike Aardema	20 years	Agricultural operations and management
Management Team	Tenure	Experience
Kit Eldredge	35 years	Wireless operations and management
Ed Crowston	35 years	Fiber optics infrastructure
Mike Lee	19 years	Technology and service provider executive
Mike Aardema	20 years	Agricultural operations and management

8.3.2 Specialization

First Solutions currently serves the following categories within the communication infrastructure and networks market:

Municipal Fiber Infrastructure	<ul style="list-style-type: none"> Open access model or Private ISP Competition tension environment Revenue sharing option
Towers	<ul style="list-style-type: none"> Reach-out, Fill-in, WiFi
Public Safety Communications	<ul style="list-style-type: none"> Support transition to 4G LTE PS broadband digital network
Government Communications Networks	<ul style="list-style-type: none"> SCADA (Supervisory Control and Data Acquisition) First Solutions has established a unique blend of business managers with wireless, telecom, engineering, software and finance management experience
Managed Service Contracts	<ul style="list-style-type: none"> Public safety digital network for Idaho National Labs (Department of Energy) Nationwide wireless fixed point monitoring for the vending industry
Tri-state Regional Tower Company	<ul style="list-style-type: none"> Over 50 towers to support telecom carrier services Multiple support facilities
Wireless Internet Service Provider	<ul style="list-style-type: none"> Residential, commercial, government and educational markets

National Design / Build /
Engineering Firm

- Managed three 18,000 mile cross-country builds
- Design/build multi-major city cores: Utah to Nevada, Seattle to Portland
- Multi-duct fiber build for, AT&T, Touch America and Sierra Power
- Managed the construction build and tier 0/1 application migrations of a major US wireless carrier 100,000 sq. ft. data center
- Design/build/operate team for the initial public deployment of fiber broadband in the world

Wireless Service Facilities

- Serving Federal, State and Municipal Governments
 - Commercial Enterprises
-