



A Successful Future for Click! Network



Advanced Stream's Solution: A Response to City of Tacoma
"RFI/Q For Click Partnership Arrangement" April 27, 2018
By: Mitchell Shook, CEO Advanced Stream

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1. Cover Letter

To: Jeff Lueders
Cable Communications & Franchise Services Manager
Media & Communications Office City of Tacoma
1224 Martin Luther King Jr. Way
Tacoma, WA 98405

The Way Forward for Click! Network

Dear City of Tacoma Policy Makers,

With 20th anniversary celebrations being planned for this July, Click! is at a crossroads. Policymakers face serious alternatives, in a sea of uncertainty, with little undisputed information to rely on.

It has been alleged that Click! is losing millions of dollars and being illegally subsidized by Tacoma Power. The very premise of the RFI/Q suggests Click! is a money sucking black hole¹. Similarly, its alleged that Click! is an illegal activity - subject to being shut down by a looming court case.² If either of these “sky is falling” scenarios are true, then perhaps drastic measures are required to save Click!

However, if Click! is actually a profitable, legally operating, undertaking, serving its intended purpose as an economic engine of growth and prosperity for our community, while bringing unseen benefits and real savings to ratepayers, public education institutions and government stakeholders, then no drastic changes are needed at this time. We can leverage Click! to provide digital equality for all of Tacoma.

Perhaps the old saying, “If it ain’t broke, don’t fix it” is the appropriate policy at this moment; and, getting back to work, by redoubling efforts to improve Click!, is the proper path forward.

Here we carefully consider and address the twelve policy goals outlined in the RFI/Q.

Alternatives For Click! - Achieving The 12 Policy Goals!

The current situation is reminiscent of 2012, when TPU management first announced that Click! was “losing money” and proposed a “Retail Compete” strategy that would have expanded Click!’s role, from a wholesale provider of ISP services, into a retail ISP and phone company. If implemented, that proposal (also known as “All In”) would have put Click! into direct competition with its private ISP partners.

That path, of expanding the role of government, was rejected by the TPU Board in 2012. They, instead, approved “Plan B”, requiring the ISPs to add 6,000 more Internet customers over a 4-year period. With close

¹ From [CTC January 2018 Report: Strategy Alternatives for Tacoma Click!](#): Framework of Options to Preserve Policy Achievements While Reducing Losses: "The question presented to CTC was this: What are the general options for eliminating ongoing operating losses of more than \$5 million per year?" Also, "a framework of alternative business strategies to reduce Tacoma Power’s approximately \$5 million in annual operating losses"

<http://stickwithclick.com/images/CTC-Alternatives-for-Tacoma-Click-dt-jsh-20180123.final.pdf>

² Candice Ruud March 2018 "Power revenues can’t be used to pay for Click network’s commercial expenses, judge says"
<http://www.thenewtribune.com/news/local/article203633679.html>

collaboration, between Click! staff and the private ISP partners, Plan B was a success; and, a good example of what can be accomplished thru a prudent Public-Private Partnership

If the City Attorneys are right³, and the Courts determine that the current Click! business model is not an illegal activity, but rather a prudent and proper undertaking, then drastic changes to the business model may not be appropriate at this time.

Instead, policy makers, Click! staff and the private sector ISP partners, could again turn their attention towards building upon Click!'s success. Towards celebrating Click!'s 20th anniversary, in conjunction with a membership drive⁴, and moving forward together to achieve the 12 policy goals.

Advanced Stream's "Stay the Course" proposal clearly shows that Click! Network, by operating under the current public-private business model, can achieve all 12 of the public policy goals.

At this point, we see two clear alternatives for Click! going forward.

First, we examine "Staying the Course", an option that leverages the current public-private partnership model; and, with the support of the ISP partners, builds upon Click!'s substantial achievements - to accomplish successful outcomes for all 12 policy goals.

With "Staying the Course" we outline cost savings and offer private ISP funding for Click! to achieve Gigabit speeds. We propose marketing strategies to achieve maximum profitability - under even a most onerous allocation formula⁵ - and take into consideration some amazing opportunities for increasing revenue.

Secondly, we outline our "Drastic Changes" pivot strategy to preserve Click!, by dramatically lowering costs, and providing policymakers a way to "pivot", while on a "Stay the Course" path. This strategy would allow the ISPs to function as payment and service centers - for their respective CATV customers - for Click! CATV products; and, while expanding their current role of assisting with CATV sales⁶.

Advanced Stream's proposal saves the jobs of Click staff and provides a logical, flexible, way forward - even if unlikely legal, political, or market circumstances, one day, force drastic changes.



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³ <http://stickwithclick.com/images/City-of-Tacomans-Response-to-Plaintiffs-Mo-for-Partial-SJ-50739118.pdf>

⁴ July 2018 Will mark the 20th Anniversary of Click! installing its first customer.

⁵ Costs are allocated between TPU and Click! based on a shared usage of the Network. -for more details, see section 2.5.1

⁶ Since the ISPs and Click!, in most cases, have a shared a relationship with these common customers, any transfer of the CATV customers must be sensitive to the current non-disclosure elements in the ISP contracts, in particular the private ISP customer lists and details of those valuable relationships. The ISPs have worked for many years to acquire these mutual customers and it would be unfair for Click! to hand over their CATV customers to just one of the ISPs - thereby harming the other ISP.

2. Business Model Summary - Staying the Course! Building on the Open Access Model.

Now is not the time to abandon Click! Networks successful business model. Results of the current lawsuit are not in; and, those findings may reveal that Click! is, in fact, a successful, legal and profitable undertaking.

It can be useful, however, to consider an alternative path - a way for policy makers to pivot under our proposed “Stay the Course” path by slightly shifting Click!’s business model away from retail CATV. This would only happen if circumstances required such a drastic change - such as the unlikely event, or a “Worst Case” scenario, that Click! is declared to be an illegal activity and forced to exit or liquidate its business by a court.

Advanced Stream’s proposed business strategy provides a way for policy makers to respond, in the event a “Drastic Change” path is required, with the private ISP partners hiring Click! staff and assuming the responsibilities for the public CATV system and CPE equipment⁷.

In this proposal, Advanced Stream outlines the surprising cost savings that allow Click! to inexpensively implement Gigabit speeds⁸, the marketing strategies that will achieve full profitability - under even a most onerous allocation formula⁹ - and identify some of the amazing opportunities Click! now has for expansion and increased revenue.

2.1 Preserving The Current Public-private Partnership Model.

“Staying the Course” preserves and expands Tacoma’s open access network, and the public-private partnerships that have been the foundation of Click! success since its inception. Customers benefit from increased competition and better service that open access brings to our local market.

Customers always talk about how much they love Click! and the local ISPs customer service. This is possible because of the dedicated, local, staff who focus on the customers’ needs.

When customers have computer issues and need technical assistance, for whatever reason, they will usually call their ISP. The ISP assists and retains these customers. Whether it’s computer viruses, WiFi router or networking issues, forgotten passwords, expired credit cards etc., the ISP takes that call and helps those customers.

When there are issues with CATV, Click! is there with world class, local support, taking calls almost instantaneously. The Click! customer service center is located just inside the lobby at TPU - a perfect location for attracting new customers and reinforcing the brand’s marketing message.

The ISPs are well suited for bringing in customers. They have tremendous entrepreneurial and marketing skills. They are a proven resource for capturing market share.

2.2 The More The Merrier! Opening up our Open Access Network

“Staying the Course” preserves, even increases, existing competition in the market. Click! can build on this successful open access formula by allowing additional qualified ISPs to join the network. These new ISP partners can bring additional resources to bear, in supporting the marketing efforts needed to take market

⁷ Customer Premise Equipment includes set top boxes and Tivo equipment

⁸ Advanced Stream’s proposal provides Click! with funding, if needed, to implement DOCSIS 3.1 and SIPV.

⁹ Costs are allocated between TPU and Click! based on usage of Click! by TPU.

share and expand Click!'s wholesale ISP and Cable TV customer base¹⁰. It is a win-win for Click, when the ISP partner signs up a customer - since nearly 50% of ISP customers also subscribe to CATV services¹¹.

Why limit the network to just 2 or 3 ISP providers? With more ISPs promoting the Internet service to potential customers, more marketing resources can be deployed in acquiring customers. We believe this will allow Click! to grow its wholesale Internet customer base even faster. The profits from these activities can further support network expansion and our community's important digital equity initiatives.

This open access model is a proven strategy for winning new customers. The ISPs have demonstrated their ability to bring additional customers when called upon.

For example, beginning in 2012, the current ISP partners¹² agreed to add 6,000 new Internet customers to Click! Network. They succeeded in achieving that goal, with an effort known as "Plan B" - the plan was named as an alternative to an "All In Compete" model that Click! management proposed at the time. The goal was accomplished over a 4-year period.

Click! could, once again, enlist the support its ISP partners, by leveraging their marketing skills and resources, to lead a membership drive designed to acquire an additional 9,000 Internet customers.

Even with the current 94% cost allocation¹³, this would generate an additional \$2.8 million a year in wholesale ISP profits - covering all of Click!'s operational losses¹⁴. This could be accomplished in a similar 4-year time frame¹⁵ - with the ISPs bearing all the marketing expenses and promotional costs for acquiring these customers, while Click! benefits from the additional wholesale revenue¹⁶.

Such expanded usage of Click! Network, and the additional revenue it brings, ultimately supports the most important digital inclusion efforts.

2.3 Preserving Competition –While rolling out Gigabit Speeds

The implementation of Gigabit speed is one of the most important goals for Click! Staying current with the latest technological developments is imperative. Once Gigabit services are offered, Click! market share will dramatically increase¹⁷

With the open access model intact, Click! staff can dedicate their time and resources to implementation of DOCSIS 3.1 Gigabit speeds, while avoiding complicated structural changes to the system at a critical time -when Click needs to be focused on expanding its commercial offerings, addressing digital equity and focusing resources on the deployment of symmetrical Gigabit speeds¹⁸ via DOCSIS 3.1 and FTTH¹⁹ deployments.

¹⁰ There were 22,613 ISP customers and 16,010 CATV customer, in Jan 2018 -from RFI/Q Appendix

¹¹ From Click! 2018 RFIQ Attachment -ISP w/CATV Penetration based on total ISP Subs

¹² Advanced Stream, Net Venture and Rainier Connect.

¹³ Tacoma Power and Click! share the costs of operating and maintaining the Telecommunications network. In 2015 the cost allocation between TPU and Click! was shifted, placing more costs onto Click! [Previously 75% had been allocated; but in 2015 that was increased to 94% of the costs being placed onto Click!](#)

<http://stickwithclick.com/images/Dollar-Amount-of-2015-Cost-allocation-change.jpg>

¹⁴ Click! showed a small operating loss, of only \$2.4 million, for 2017. With 10,000 additional ISP customers, Click could generate \$2.88 million a year in net profit. ISP revenue is 100% marginal profit, since there are no variable costs. The cost for the gateway is a fixed cost.

¹⁵ The author of this paper, Mitchell Shook, led the membership drive for Advanced Stream under Plan B.

¹⁶ The average revenue per ISP user on Click! is \$24 and over 50% of ISP customers take CATV also. Since CATV has a 20% gross margin, the addition CATV customers would contribute be an additional \$1.1 million a year in gross profit.

¹⁷ Every increase in speeds, over the history of Click!, has resulted in a surge in customer sign-ups.

¹⁸JEFF BAUMGARTNER, MultiChannel News, JAN 30,2018 "CableLabs adds MAC Layer support to extension to DOCSIS 3.1 that will deliver symmetrical multi-gigabit speeds"

<https://www.multichannel.com/news/full-duplex-docsis-takes-another-step-forward-417820>

¹⁹ New plant extension are being done with fiber-to-the-home (FTTH) technology.

2.4 Switched IPTV and Gigabit Now!

Moving Click! to IPTV and delivering Gigabit service to Tacoma will lead to a dramatic addition of customers²⁰. Fortunately Click! is in the right place at the right time with its state of the art DOCSIS 3.1 capable platform.

Click! has issued an RFP for Software Based CMTS. The respondents have shown that new technology now allows a surprisingly inexpensive way to add symmetrical Gigabit speeds to Click! Network²¹.

Thanks to recent technological developments in the DOCSIS standards, distributed architecture, and specifically Remote PHY (R-PHY)²², proposals from vendors such as Cisco and Harmonic²³, now show that fully deploying Gigabit over Click! will cost under \$1.2 million²⁴.

Upgrading Click! to a switched IPTV (SWIP) platform - with a hosted and managed video control plane solution²⁵ is an inexpensive and prudent step in supporting Gigabit speeds and the need for future bandwidth growth.

2.5 A Realistic View Of Click's Financial Situation

There are many ways to improve Click! and build upon its success; but, measuring that success and progress is also important. Before looking further at the many opportunities for future growth and increased revenue, it is important to understand why many believe Click! is already a very profitable, financially stable, business with a bright future.

It's essential for Policy makers to have the true and honest facts about the financial and legal status of Click!, before making any major changes to this successful business model.

A realistic view of Click!'s financial situation reveals that Click! is not the money sucking black hole -the hopeless, illegal, undertaking - that some characterize it to be.²⁶ Click! Network's current business model is a profitable, legal and stable operation -with amazing potential.²⁷

²⁰ Click! has always experienced growth in customers as new, higher speed, packages are introduced.

²¹ Both the Cisco solution and Harmonic solution estimate DOCSIS 3.1 solutions, that deliver Gigabit, can be fully enabled for less the \$1.5 million.

²² RPHY takes the QAM modulation/demodulation portion of the CMTS and separates it to a location outside of the CMTS. This function will now be handled directly in an HFC node in the field or a "shelf" type unit located in a hub or cabinet. The connection between the CMTS and the Remote PHY Device (RPD) is traditional Ethernet.

²³ Harmonic's CableOS CCAP solution, Submitted by Mega Hertz LLC has no licensing cost; but, is not "standards based". It provides a software-based CMTS running on off-the shelf 1-RU servers. It is an end-to-end Remote PHY system with high RF port density, CableOS easily enables the migration to multi-gigabit broadband with DOCSIS 3.1

²⁴ Much less than the \$5 to \$ 10 million estimates that were presented by Click! Staff to City Council two years ago.

²⁵ High Speed Internet is becoming Click!'s most important service and RF spectrum must be managed efficiently.

²⁶ Recently discharged TPU Director, Bill Gaines, and unseated TPU Board Member, Dave Nelson, were strong proponents of the plan to shift TPU costs onto Click! and then [sensationalize the apparent "losses" in the media](#) - with the support of the local newspaper's editorial board.

<http://www.thenewtribune.com/news/politics-government/article26354104.html>

²⁷ The City is involved in a legal dispute, Coates V Tacoma. The City has maintained that Click! is not losing money and that any allegations of Click! losses are a "disputed issue". [Declaration of Kari L. Vander Stoep In Support](#) of A Stay March 22, 2018. Page 3 line 14 - <http://stickwithclick.com/images/Declaration-of-Kari-L-Vander-Stoep-In-Support-of-A-Stay.pdf>

2.5.1 The Controversy Over Click!

The very existence of Click! has been a controversial and hotly contested issue in the community -since before it was created. Powerful political and private sector forces would benefit from Click!'s demise -from restoring the monopoly that existed prior to Click!'s creation. These forces remain aligned, in ongoing lobbying²⁸ and legal efforts intent on destroying Click!²⁹.

Beginning in 2015, a public outcry erupted over the internal financial cost allocations TPU uses in producing Click!'s Operational Summaries³⁰. In 2015, most of TPU's costs for operating and maintaining the telecommunications network were shifted onto Click!³¹

Tacoma's local newspaper, the News Tribune (a Click! competitor for advertising revenue that would benefit from Click!'s demise) has tirelessly sensationalized the "disputed losses". Comcast, as a large advertiser and sponsor, exerts much influence over local media and the Chamber of Commerce in the Tacoma market.

Many concerned citizens and prominent policy makers³², both current and past, view the News Tribune's reporting of the disputed "losses" as fake news. This damaging media attention has been harmful to Click!'s image and brand.

Fortunately, the TPU Director responsible for promoting the fake news stories and fake "losses" was recently fired³³ - and TPU is currently seeking a replacement for the Director position³⁴.

About 81,500 results (0.57 seconds)

Tacoma Public Utilities Director Bill Gaines firing doesn't bode well ...

www.thenewstribune.com/opinion/article166801957.html

Aug 12, 2017 - The forced departure of **Tacoma Public Utilities Director Bill Gaines** does not bode well for Tacoma's prospects to attract another straight-talking, cost-conscious utility **director**. His successor could end up ... It's now in their purview to hire, evaluate and **fire** any utility **director** they don't like. Facing the council ...

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²⁸ JON BRODKIN Ars Technica 2/12/2014 "ISP lobby has already won limits on public broadband in 20 states - To prevent this assault on their lucrative revenue streams, ISPs have teamed up with friends in state legislatures to pass laws that make it more difficult or impossible for cities and towns to offer broadband service".

<https://arstechnica.com/tech-policy/2014/02/isp-lobby-has-already-won-limits-on-public-broadband-in-20-states/>

²⁹ There recent Coates v City of Tacoma case calls Click an "Illegal activity" - an example of one legal effort to shutter Click! Other examples occurred in 1996 and 1997, where the courts ruled that TPU had authority to establish Click!

³⁰ This heated controversy resulted in Council Member McCarthy's 2016 Resolution for an Audit of Click! An audit that, two years after the fact, has never been made public.

³¹ TPU Study Session Slide. Click Presentation 2015

<http://stickwithclick.com/images/100-of-costs-were-shifted-onto-Click-5-20-15-Study-Session.jpg>

³² Past Tacoma Mayor Bill Baarsma is among the most vocal on this issue.

³³ News Tribune Editorial Board August 12, 2017 "Bloodless coup at TPU not good for utility ratepayers" "Instead of "all in," Gaines pushed to sell or lease Click's infrastructure."

<http://www.thenewstribune.com/opinion/article166801957.html>

³⁴ At one study session, in 2015, the Director admitted to having shifted 100% of Tacoma Power's share of the telecommunications operation and maintenance costs onto Click! That admission occurs at 2:40 into this recording:

https://www.youtube.com/watch?time_continue=160&v=DDD29UWakQE

³⁵ EDITORIAL BOARD, Tacoma News Tribune August 12, 2017, "[Bloodless coup at TPU not good for utility ratepayers](http://www.thenewstribune.com/opinion/article166801957.html)"

One example of why the cost shifting is viewed as unfair is that TPU has estimated that if Click! were shut down, and didn't exist, then 26 full time employees would still be required to support TPU's needs for the telecom plant³⁶; however, under the current cost allocation formula between TPU and Click! just 5 FTE employees are allocated to TPU - with Click! bearing the expense for the rest. Maintenance and operation costs were similarly shifted in 2015³⁷.

2.5.2 Understanding the Accounting - About Those "Losses"!

In the current Coates v. City of Tacoma case over Click!'s "losses", the City of Tacoma now argues that Click! may in fact be a legal and profitable business; and, allegations of losses are a "disputed issue"³⁸.

If Click! is profitable, then the "sky is not falling"; and, these profits can be invested to continue developing, maintaining and expanding Click!. Staying the course would allow Tacoma to achieve all 12 of the important policy goals and move forward quickly on existing plans for a state of the art FTTH, gigabit, network.

2.5.3 Basis for Click! Losses -Erroneous Assumption and Shift in Allocations

Click! Network operates as part of Tacoma Power and, as such, its accounting is tracked as a sub-fund of Tacoma Power; so, the financial statements for Click!, which are called "operational summaries", are essentially internal TPU accounting projections based on assumptions over allocations.

All of Click!'s "losses" are based on a single, erroneous, assumption that resulted in a misguided internal cost allocation³⁹ beginning in 2015 -where essentially all the costs for running and maintaining the Network were shifted onto Click!⁴⁰.

The assumption was that Click! Network would never be useful for its intended purpose of supporting a future AMI program⁴¹. But no final decision has been made on the AMI program and, from the AMI providers we have talked to, AMI solutions can easily incorporate Click!⁴².

This error of judgement, over AMI's potential usage of Click!, resulted in a \$6 million annual shift in costs onto Click! and is the basis for Click!'s sensationalized "losses"⁴³.

³⁶ From Doug Dawson's [report for TPU Management](http://stickwithclick.com/images/Still-Need-26-Employees-if-Click-is-Shuttered.jpg)
<http://stickwithclick.com/images/Still-Need-26-Employees-if-Click-is-Shuttered.jpg>

³⁷ The issue, is well known in Tacoma. [As represented by local cartoonist:](http://comics.feedtacoma.com/img/comics/posts/lrg/tacomoc-tpu-director-bill-gaines-allocating-100-costs.jpg)
<http://comics.feedtacoma.com/img/comics/posts/lrg/tacomoc-tpu-director-bill-gaines-allocating-100-costs.jpg>

³⁸ [For Defendant City of Tacoma, In Coates v City of Tacoma case. The March 22, 2018 Declaration](#) of Kari L. Vanderstoep In Support of A Stay - Page 3, line 14 *"There are disputed issues in determining the proper allocation of expenses and revenues between Click and Tacoma Power. Resolution of these issues will involve considerable discovery time and trial/hearing time.*

³⁹ Allocation was [changed from 75% of costs to Click! to 94% of costs.](http://stickwithclick.com/images/Dollar-Amount-of-2015-Cost-allocation-change.jpg)
<http://stickwithclick.com/images/Dollar-Amount-of-2015-Cost-allocation-change.jpg>

⁴⁰ [Moss Adams Report indicating basis for change](http://stickwithclick.com/images/Moss-Adams-Click-Cost-Allocation-Report-May-20-2015.pdf) in cost allocation.
<http://stickwithclick.com/images/Moss-Adams-Click-Cost-Allocation-Report-May-20-2015.pdf>

⁴¹ Moss Adams May 20, 2015 report:
<http://stickwithclick.com/images/AMI-Will-Not-Require-a-Wired-Connection-Moss-Adams-May-2015.jpg>

⁴² AMI providers can leverage Click! and the TPU fiber-optic plant for AMI backhaul functions.

⁴³ TPU 2015 Annual Report <http://stickwithclick.com/images/Dollar-Amount-of-2015-Cost-allocation-change.jpg>

2.5.4 Expanding TPU Usage of Click! - Revisiting The Cost Allocations.

Finding ways for TPU to expand its utilization of the telecommunication network would support the Click! business model and allow revisiting the cost allocations that are the basis for all of Click!'s current financial "losses".

The imminent, \$80 million, AMI project represents a significant opportunity for doing this.

As the AMI project begins to unfold⁴⁴, the bid holders are insistent that Click! can play a significant role in supporting the AMI project's communication needs⁴⁵.

One manufacturer points to projects such as those by EPB Chattanooga⁴⁶, Morristown Utilities and Jackson Energy Authority -where the fiber plant uses more AMI take out points closer to the home -rather than the typical AMI architecture.

As one AMI bid holder puts it, *"We have found that this architecture provides the utility as well as the telecom entity with maximum capability within the AMI network as well as maximum flexibility in how they choose to account for costs between the entities, which can be key to any cash flow analysis."*⁴⁷

The city-owned electric utility in Chattanooga, Tennessee, offers Gigabit Internet access and the network also serves as the backbone for their smart meters and smart grid. The same box "that powers the Internet, TV and Phone also powers the smart meter"⁴⁸

Their smart grid includes 180,000 smart meters that provide two-way communication; 1,400 smart switches that allow the utility to isolate power outages; and sensors that allow for precise voltage management to reduce waste.

Utilization of Click! Network by the AMI project would require TPU staff to revisit the cost allocations.⁴⁹ Resulting changes in those allocations would vastly improve the profitability of Click!'s current business model and support long term financial sustainability.

Accurate allocations are useful for making financial projections and decisions related to Click! and its expansion. With Click! imbedded into the AMI project, favorable, and fair, cost allocations will support Click! for years to come.

2.5.5 Achieving Profitability – Easily Done! Even Under The 94% Cost Allocation Formula

More than anything, long term financial stability for Click! Network requires increasing revenues. Finding more users, commercial and non-commercial, increases profits. Profits that can support digital inclusion and be used to expand and maintain the network.

⁴⁴ The AMI RFP was just released in April of 2018. Link: <http://cms.cityoftacoma.org/Purchasing/FormalBids/PS18-0015F.pdf>

⁴⁵ With Click! supporting the backhaul functions of the AMI project -it eliminates the need to install numerous 900Mh radios throughout the project footprint.

⁴⁶ The city-owned electric utility in Chattanooga, Tennessee, became the first U.S. company to offer Internet access speeds of 1 gigabit per second to customers. The [fiber also serves as the backbone for a sophisticated smart grid.](http://stickwithclick.com/images/Smart-Grid-Paybacks-The-Chattanooga-Example.pdf)
<http://stickwithclick.com/images/Smart-Grid-Paybacks-The-Chattanooga-Example.pdf>

⁴⁷ Email 4/24/2018 from AMI vendor to Mitchel Shook, CEO Advanced Stream

⁴⁸ WTVC NewsChannel 9 "EPB Makes Lightning Fast Internet in Chattanooga" <https://youtu.be/L8sBp5tb3oA>

⁴⁹ Shifting of costs onto Click! was based on the assumption that Click cannot support AMI. If this premise is an err, then cost should shift back.

At the current 94% cost allocation, Click! shows a very small operating loss -just \$2.4 million in 2017⁵⁰. That loss can easily be covered, by a small price increase, of just \$5.29, per ISP and CATV customer⁵¹.

By allowing the ISPs to add more customers, under a “Plan B 2.0” for example, that price increase can be reduced or eliminated. No price increase is needed with Advanced Stream’s proposed membership drive - to gain 9,000 more Internet customers⁵² - and generate an additional \$2.8 million a year in wholesale ISP profits for Click! - thereby covering all of Click!’s operational losses under the current TPU cost allocation.

3. Affirmations - Addressing The Core Project Goals

This section shows how the 12 strategic goals are impacted by Advanced Stream’s proposed strategy of “Staying the Course” with an option to “pivot” if needed.

3.1 Public Ownership and Use of the Telecommunications Assets

Staying the course, and building upon the current public/private open access arrangement with the ISP and MSA retail service partners⁵³, insures the continued public ownership of the telecommunications assets. This option provides the best security for the network and assets necessary for TPU operations and the least disruption for current Click! employees, while securing future access to the network for public purposes.

3.2 Equitable Access to Services - Digital Equity Action Committee

By staying the course, TPU and Click! staff remain fully in charge of future expansion decisions. Residential and commercial ratepayers will continue to benefit from the impartial, equitable, strategy Click! has historically followed for building out the network.

3.3 Affordability -Expanding Commercial Activity to Support Public Policy

Under the current model, Click! offers discounted residential Cable TV services to low income customers.⁵⁴ Advanced Stream has its \$14.95 Digital Inclusion package for qualified low-income customers. Click! can easily support such programs, in conjunction with the ISP partners, by simply providing a wholesale “Digital Inclusion” package to the ISPs. The ISPs would be contractually bound to deliver these services to the end users at the wholesale cost⁵⁵.

Click! could update the agreements, when renewing the contracts with the wholesale ISP partners, and require them to provide some WiFi and cable modem services for free, or at low cost, to prioritized areas, or "inclusion zones", as part of their contracts.

⁵⁰ Not including the sunk cost of depreciation and amortization -which were \$2,455,130. With depreciation and amortization included, Click! shows a \$4.9 million loss.

⁵¹ Given 38,623 total wholesale ISP and CATV customers, an increase of \$5.29 per month covers the \$2.4 million loss.

⁵² Like the ISP did in 2012 under Plan-B, when they added 6,000 new customers.

⁵³ The retail service providers, Advanced Stream, Rainier Connect, Net Venture, Optic Fusion, Zayo, Level 3, Centurylink, Noel, and Wave Broadband currently provide a range of services over Click! network

⁵⁴ Customers that qualify for TPU’s Energy Assistance Program also receive discounted CATV services.

⁵⁵ The ISPs should not be profiting from customers on this program. It’s their turn to “give back” to society -for the 20 years of success that they have enjoyed by operating over Click! Network.

3.4 Net Neutrality For All Customers

This “Stay the Course” option makes no change with respect to Click!’s ability to set and adhere to net neutrality principles. This strategy supports Tacoma’s strong belief in Net Neutrality – that all lawful internet content is equally accessible, regardless of its subject matter or viewpoint. With Click! in control of the DNS servers, the Internet gateway routers, and IP address block, a retail ISP over Click! cannot speed, slow, or block internet content based upon political views, paid prioritization or other businesses interests.

Since President Trump has overturned the FCC internet privacy rules, private telecom companies can now collect and sell their customers’ private online usage information. Given federal rollbacks of net neutrality and internet privacy protections, municipal ownership and operation of Internet services is one sure way to protect customers’ constitutional rights to free speech and privacy.

The ACLU has recently called on local governments to pursue providing broadband to residents to help counteract federal rollbacks of net neutrality and internet privacy protections⁵⁶. Now is not the time to make any drastic changes to Click! Network’s proven business model.

3.5 Open Access - Preserving A Proven Strategy for Success

“Staying the Course” preserves Tacoma’s open access network, and the public-private partnerships that have been the foundation of Click! success since its inception. Customers benefit from the competition and better service that open access brings to our local market.

This open access model is a proven strategy for winning new customers. The ISPs have demonstrated their ability to bring additional customers when called upon.

3.6 Preserving Competition –While rolling out Gigabit Speeds

“Staying the Course” preserves, even increases⁵⁷, existing competition in the market.

3.7 Safeguarding Municipal Use By Tacoma Power, The City, And Other Local Governments

Under a “Stay the Course” alternative, Click! would continue maintaining and supporting the City's Institutional Network (I-NET) and the 130 public institutions that currently benefit from it.

Click! positively impacts our community, furthering education, job and civic engagement opportunities. This strategy safeguards continued municipal use. Clearly now is not the time to give up on Click!

3.8 Financial Stability For Click! - Switched IPTV and Gigabit Now!

The implementation of Gigabit speed is one of the most important goals for Click! Staying current with the latest technological developments is imperative.

Moving Click! to IPTV and delivering Gigabit service to Tacoma will lead to a dramatic addition of customers. Click! has always experienced growth in customers as new, higher speed, packages are introduced. The last

⁵⁶ Jay Stanley, Senior Policy Analyst, ACLU MARCH 30, 2018: [Public Broadband Can Help Protect the Open Internet and Close the Digital Divide](https://www.aclu.org/blog/free-speech/internet-speech/public-broadband-can-help-protect-open-internet-and-close-digital)
<https://www.aclu.org/blog/free-speech/internet-speech/public-broadband-can-help-protect-open-internet-and-close-digital>

⁵⁷ If our business plan is followed, more retail ISP partners would be added to Click!

major upgrade, from DOCSIS 2.0 to DOCSIS 3.0, occurred in 2012 and, in conjunction with Plan-B, resulted in an additional 6,000 ISP customers.

Fortunately Click! is in the right place at the right time with its state of the art DOCSIS 3.1 capable platform. Click! has issued an [RFP for Software Based CMTS](#). The respondents have shown that new technology now allows a surprisingly inexpensive way to add symmetrical Gigabit speeds to Click! Network. Respondents have provided bids that will enable Click! to roll out Gigabit service for under \$1.2 million⁵⁸.

Thanks to recent technological developments in the DOCSIS standards, distributed architecture, and specifically Remote PHY (R-PHY), proposals from vendors such as Cisco and Harmonic⁵⁹, now show that fully deploying Gigabit over Click! will cost between \$1 and \$1.2 million⁶⁰.

To meet the soaring demand for bandwidth, R-PHY⁶¹ removes the physical layer (PHY) of a traditional cable headend CMTS or CCAP and pushes it to the network's fiber nodes that connect to the cable modem at the customer's site⁶².

For the Harmonic solution⁶³ the net price is just \$1.1 million - after a \$268,965 buy back discount for Click!'s CBR8 Cisco router⁶⁴. While the Cisco solution would cost just \$1 million⁶⁵, after a \$200K buyback credit. There is a licensing cost going forward, under Cisco's Infinite Broadband Unlocked (IBU) Licensing Program that allows the operator to deploy as much DOCSIS 3.0 / 3.1 downstream and upstream spectrum as they choose, but only pay a \$1.10 monthly fee based on the number of subscribers that the operator has on their system⁶⁶.

Significant deployments of this new technology, with distributed architecture and specifically Remote PHY (R-PHY), are now happening around the world⁶⁷ and the current ISP partners are willing to support this effort with time and resources⁶⁸.

A SIPV solution allows a full range of advanced digital video services – all without significant CAPEX, OPEX. This upgrade is estimated to cost \$415,568⁶⁹ and is essential for freeing up the channels needed for future

⁵⁸ Both the Cisco solution and Harmonic solution estimate DOCSIS 3.1 solutions, that deliver Gigabit, can be fully enabled for less the \$1.5 million. Details of these RFQ are under non disclosure, but are in the possession of Click! Staff and available if needed.

⁵⁹ Harmonic's CableOS CCAP solution, Submitted by Mega Hertz LLC has no licensing cost; but, is not "standards based". It provides a software-based CMTS running on off-the shelf 1-RU servers. It is an end-to-end Remote PHY system with high RF port density, CableOS easily enables the migration to multi-gigabit broadband with DOCSIS 3.1

⁶⁰ Much less than the \$5 to \$ 10 million estimates that were presented two years ago.

⁶¹ RPHY takes the QAM modulation/demodulation portion of the CMTS and separates it to a location outside of the CMTS. This function will now be handled directly in an HFC node in the field or a "shelf" type unit located in a hub or cabinet. The connection between the CMTS and the Remote PHY Device (RPD) is traditional Ethernet.

⁶² <https://blogs.cisco.com/sp/putting-the-why-in-remote-phy>

⁶³ The Harmonic solution is not "standards based" -according to CCI (a competitive bidder on this RFP for Software Based CMTS Specification No. PC17-0454F <https://www.harmonicinc.com/solutions/software-based-ccap/>

⁶⁴ From Harmonic's Jan 2018 Proposal: "Harmonic will buy back the CBR8 -The buyback will be issued as a discount from total price, in an amount of \$268,965.52.

⁶⁵ Click!'s CMTS is a Cisco based. CCI Systems, Inc is proposing the configuration and activation of Remote PHY CMTS Network for Click! Cisco has recently demonstrated full duplex DOCSIS 3.1 architecture. They are proposing a gigabit solution for \$1 million with a \$1.10 monthly subscription fee for licensing.

⁶⁶ The \$1.10 per user monthly subscription fee is billed quarterly.

⁶⁷ MultiChannel News FEB 14, 2018 "Com Hem, a Sweden-based operator that serves about 1.5 million customers, is deploying CableOS - the operator's lab unit is testing symmetrical speeds of 1.2 Gbps in Stockholm using DOCSIS 3.1"

<https://www.multichannel.com/news/harmonic-ids-real-deployment-its-virtual-ccap-418128>

⁶⁸ Additional staffing is often required, to manage customer notifications, for planned outages that occur during upgrades. The ISPs have traditionally performed this important function. The ISPs can cover the costs for the ongoing licensing, if the Cisco solution is selected (estimated to be \$290K per year).

⁶⁹ Turn key cost as proposed to Click! by Adara. Includes the Digital content manager SIPV headend equipment, RF gateway, Motorola NE 2500 Bulk Encryptor, with MPTS licence, Virtual Services Resource Manager, and all configuration and setup

broadband growth.⁷⁰ The move to SIPV will be seamless, from a customer perspective, since the new system is compatible with the current set top boxes and TIVO equipment.

SIPV will enable Click! to quickly and inexpensively free up as many as 50 or more video QAM (or EIA) channels, making them immediately available for DOCSIS 3.0, 3.1 and FULL DUPLEX expansion.

3.8.1 Cable Television And Increasing Revenues

Click! Network's provision of retail cable television service supports the retention of the profitable wholesale ISP partners. Having a CATV product reduces customer churn. These products go hand in hand.

At the beginning of 2018 there were 22,600 ISP and 16,010 CATV accounts - more than 70% are Cable TV.⁷¹ If Click! were to take the drastic step of shutting down, or exiting the CATV business, those customers would be pushed into the hands of Comcast.

Generally, when a customer moves their CATV service to another provider they also bundle the Internet service; so, by exiting the CATV business Click! would lose both the Cable TV customer and the lucrative wholesale ISP customer.

These wholesale ISP customers are very profitable for Click!⁷² - contributing about \$6.5 million in net profit per year⁷³. Exiting the CATV business and losing these customers would be a very damaging financial mistake for Click!.

Tacoma Power's proportionate share of O&M costs will change over time, as TPU's usage of the telecommunications network changes. One recent example of increased usage by TPU is moving their new radio system onto the telecom plant⁷⁴.

In Section 8, on Business Structure, we offer an alternative path for CATV - a way for policy makers to pivot under this "Stay the Course" path and shift Click! away from CATV (should circumstances require such a drastic change)

3.9 Promoting Economic Development And Educational Opportunities

"Staying the Course" is the best alternative for supporting Tacoma's economic development and educational opportunity. So much of Tacoma's amazing progress in this area is closely tied to the creation and growth of Click! Network.

Beginning in 1997, Tacoma was promoted as "America's most wired city". It was during this period that the University of Washington decided to locate its campus in Tacoma. Many companies located their businesses in Tacoma, to take advantage of the broadband speeds that were unavailable in other communities.

⁷⁰ Description of SIPV by Adara Technologies : <http://www.adara-tech.com>
http://www.adara-tech.com/sites/default/files/docs/resources/adara_sipv_white_paper_final_june24_2017.pdf

⁷¹ As of Jan 2018, there were 16,010 total Cable TV Customers -with 15,455 Residential and 555 Commercial - source RFI/Q

⁷² The total marginal cost for an ISP customer is approximately \$1.40 and the ARPU (average revenue per user) revenue is \$24, so the wholesale ISP customer has a monthly marginal contribution of \$22.60. This is a 94% profit margin. It should be noted that the cost for the gateway is essentially a fixed cost, so additional ISP revenue has a 100% profit margin.

⁷³ That is gross wholesale ISP revenue minus the fixed costs for the gateway.

⁷⁴ Tacoma Power Utility Technology Services RFP Digital Radio System For Tacoma Public Utilities Specification No. Ps17-0256f Page 126 "The current microwave transport network utilized by TPU consists of TDM technology microwave radio infrastructure. TPU is currently in the process of transitioning the TDM microwave network into a IP/MPLS network"

Similarly, by upgrading Click! now, to offer gigabit internet service, Tacoma can bring economic development and educational opportunities to our community for years to come.

3.9.1 Gigabit Speeds Bring Economic Growth

Click! Management has partially implemented plans for delivering symmetrical Gigabit speeds -both over the current DOCSIS platform⁷⁵ and over the FTTP roll out⁷⁶. The cost estimates for deploying Gigabit service over Click! have recently been drastically reduced. Deploying Gigabit will result in tremendous economic growth.

3.9.2 Switched IP Video

Gigabit speeds and the ever increasing need for more bandwidth will require moving to IPTV technology to free up RF spectrum. This will require moving to Switched IP Video, or SIPV. Unlike all other technologies employed for DOCSIS 3.1 expansion, SIPV enables operators to quickly and inexpensively free up as many as 50 or more video QAM (or EIA) channels, making them immediately available, in as little as 90 days, for DOCSIS 3.1 and FULL DUPLEX expansion. In addition, using only 12 - 24 QAMs or fewer, SIPV delivers an unlimited video channel offering of SD, HD and UHD/4K programming.

3.10 Job Options and Security For Click! Staff And Protecting The Intellectual Capital Of The System

By following a “Stay the Course” strategy, Click! fully preserves its job security and the intellectual capital of the the system.

3.11 Protecting Customer Privacy

Under the current model, the City, TPU and Click!’s well established policies for protecting customer privacy would continue. The Tacoma City Council passed Res. NO. 39702 in 2017 that protects customer privacy in Tacoma⁷⁷

TPU employees are always careful when gathering information to provide needed services and in protecting the public’s privacy. Click! carefully follows the requirements of Section 631 of the Cable Communications Policy Act of 1984⁷⁸. Preserving the current business model insures these practices continues.

3.12 Preserving Click!’s Goodwill, Including Its Market-leading Customer Service

By following a “Stay the Course” strategy, Click! fully preserves its goodwill and world class customer service.

4. Structure, Financial Qualifications, and Experience.

Advanced Stream is an LLC, wholly owned by our founder, Mitchell Shook. With no debt, and 20 years of successful experience operating as an ISP partner in good standing over Click! Network, Advanced Stream is on solid footing to serve customers, partners, employees and the community for the long run.

⁷⁵ Breakthroughs in [DOCSIS 3.1 now allow for symmetrical gigabit speeds.](#)

⁷⁶ Click! has rolled out FTTH in greenfield areas and future expansion will utilize this technology.

⁷⁷ CANDICE RUUD <http://www.thenewstribune.com/news/politics-government/article145363804.html>

⁷⁸ Click! Customer Privacy Notice <https://www.clickcabletv.com/about/legal-notices/catv-subscriber-agreement/>

Over these many years, Advanced Stream has collaborated with Click! staff on finding ways to reduce costs and streamline our operations. Those efforts would naturally continue under the current business model.

Advanced Stream has no debt and sufficient capital on hand to carry out its obligations and commitments under this proposal.

Advanced Stream has demonstrated its ability to implement and successfully complete aggressive customer acquisition strategies before. The example of the Plan-B, the last membership drive that Advanced Stream (and the other ISPs) participated in, from 2012, demonstrated this most clearly.

5. Technical and Transitional Capabilities

By “Staying the Course”, Click! staff continues their capable management of all aspects of the HFC and FTTP network. Advanced Stream and the other ISP continue operating under the terms of their current ISP partnership agreements. In the event the “Drastic Change” pivot course is implemented by policy makers, the current Click! staff would transition to the proposed new non-profit entity, as described in Section 8.1, so there is a continuity of staff and technical capabilities under the Advanced Stream proposal.

6. Operational Capabilities

Advanced Stream, under its partnership with Click!, currently supports over 9,000 ISP customers, providing cable modem, Email and VoIP services. With 15 employees located in Tacoma, Advanced Stream is prepared to hire the additional staff needed for its proposed 9,000 new ISP customer membership drive.

7. Sales and Marketing - 20th Anniversary Membership Drive and Plan B 2.0

Under the current model, Click! Has a unique opportunity to take advantage of a key anniversary by announcing a membership drive. In July 2018, Click! will celebrate the 20th anniversary of installing the first customer. That customer is still with Click! today. By organizing media and promotional efforts, in conjunction with the ISP partners, Click! could use this opportunity to kick off a membership drive for adding 9,000 more customers.

With cooperation and coordinated efforts between Click! staff and the ISP partners, amazing growth can occur. One example, of how successful such a program can be, happened in 2012, when the current ISP partners⁷⁹ agreed to add 6,000 new Internet customers to Click! Network over a four year period.

The ISPs succeeded in achieving that goal, with an effort that was known as “Plan B”⁸⁰ - the plan was named as an alternative to an “All In Compete” model that Click! management proposed at the time. The customer acquisition goals for Plan B were tracked on a monthly basis accomplished over that 4-year period⁸¹.

Click! could, once again, enlist the support its ISP partners, by leveraging their marketing skills and resources, to lead a membership drive designed to acquire the additional 9,000 Internet customers.

⁷⁹ Advanced Stream, Net Venture and Rainier Connect.

⁸⁰ [Click's slide talking about Plan B](#)

<http://stickwithclick.com/images/Description-of-Plan-B-from-Tenzins-presentation-to-the-TPU-Board-6-2012.jpg>

⁸¹ Against a backdrop of sensationally damaging media reports about the imminent demise of Click! and a proposal by TPU management to offload Click! In a firesale to Wave Broadband at one point in 2015.

These additional customers would generate an additional \$2.8 million a year in wholesale ISP profits for Click! - thereby covering all of Click!'s operational losses⁸².

This membership drive could be accomplished in a similar 4-year time frame⁸³ - with the ISPs bearing all the marketing expenses and promotional costs for acquiring these customers, while Click! benefits from the additional wholesale revenue⁸⁴. The program could be tracked, on a monthly basis, with the ISPs adding 188 new customers per month.

Such increased usage of Click! Network, and the additional revenue it brings, ultimately supports the roll out of gigabit services and the important digital inclusion efforts.

7.1 New Commercial Opportunities - Wireless 5G Technology

One exciting example of an additional revenue source that can support Click!, is the recent breakthrough in wireless 5G technology. TPU's telecommunications fiber plant can support the coming 5G wave. To support consumers' ever-growing needs for bandwidth, with the Internet of Things (IOT) and smart homes, these next-generation wireless platforms are coming soon - requiring many small cell antenna sites for backhaul⁸⁵.

Click! Network, with its wireless-enabling infrastructure of fiber and pole attachments, is in the right place at the right time - perfectly situated to provide this backhaul functionality.

City and TPU staff must develop a comprehensive city-wide policy for streamlining the coming flood of requests for microcells on publicly owned assets. As wireless companies seek access and usage of public assets for their wireless deployments, the City should have requirements in place that allow for free or low-cost services to digitally disadvantaged Tacoma residents.

8. Business Structure - "Stay the Course" and Pivot Under "Worst Case"

As we have shown in Section 3, with Advanced Stream's proposal, the current public-private ISP partnership arrangement is leveraged and all 12 important policy goals are met.

Click! remains operating as a part of TPU, while the private ISP partners stand ready to step in and help, by taking over the marketing and customer service functions of the CATV business, if need be.

This strategy provides policymakers a successful path forward for Click! - with an option for lowering operating costs that can be implemented if needed.

With such uncertainty⁸⁶ over Click!'s status, is it prudent to make drastic changes without the facts?

Ask yourself, "If Click! is such a troubled, unprofitable, enterprise, why are bidders lining up to take it off the community's hands?"

⁸² Click! showed a small operating loss, of only \$2.4 million, for 2017. With 10,000 additional ISP customers, Click could generate \$2.88 million a year in net profit. ISP revenue is 100% marginal profit, since there are no variable costs. The cost for the gateway is a fixed cost.

⁸³ Mitchell Shook, the author of this paper, led the membership drive for Advanced Stream under Plan-B.

⁸⁴ The average revenue per ISP user on Click! is \$24 and most ISP customers take CATV also. Since CATV has a 20% gross margin, the addition CATV customers would contribute be an additional \$1.1 million a year in gross profit.

⁸⁵ Sean Kinney RCR Wireless, "operators to deploy 100-350 small cells per square kilometer by 2020"

<https://www.rcrwireless.com/20171212/network-infrastructure/report-finds-major-increase-in-small-cell-deployments-tag17>

⁸⁶ We are confident in the City of Tacoma's appeal and feel certain Click! and the City will prevail in the [Coates v City of Tacoma case](http://stickwithclick.com/images/City-of-Tacomans-Response-to-Plaintiffs-Mo-for-Partial-SJ-50739118.pdf) <http://stickwithclick.com/images/City-of-Tacomans-Response-to-Plaintiffs-Mo-for-Partial-SJ-50739118.pdf>

Policy makers need more information about Click!’s financials before making drastic changes to what might be a very successful business. What did City Council’s audit from 2016 show? Where are those results? Are the assumptions underlying the cost allocations⁸⁷, which are the root of all Click!’s troubles, fair and accurate?

What is the actual legal status of Click!? Who is right, in the Coates v. City of Tacoma case? Perhaps the attorneys representing the City in this case are correct -in their insistence that Click! is a legally authorized endeavor and that financial losses are a “disputed issue”. This week, on April 23rd, they filed a compelling argument for why the “Sky is Not Falling”⁸⁸.

If Click!’s operational statements are a “disputed issue”, what are we doing here? Wouldn’t it be prudent to get the facts straight before allowing private sector interest to acquire this precious community asset thru this RFI/Q process?

Making drastic policy changes in such an uncertain environment is unwise.

There are few, if any, risks associated with “Staying the Course” while the legal and “disputed” cost accounting issues are resolved; and, on the positive side, we can begin immediately to implement Advanced Stream’s proposals for bringing equitable access to Tacoma.

There is great risk in following a path toward privatization, in turning over 20 years of hard work and community investment in our precious municipal asset, to an outside entity.

Perhaps “If it ain’t broke, don’t fix it” is the appropriate policy at this moment; and, redoubling efforts to improve Click!, while providing a last resort contingency plan, for unlikely and unexpected events, as Advanced Stream proposes, is the proper path forward.

8.1 Drastic Changes - a “Worst Case” or “Emergency” Scenario

Advanced Stream’s proposal offers a two step solution - a safety net for an unlikely event, or a “Worst Case” emergency scenario. An example of an “unlikely event” might be if Click! is declared to be an illegal activity and forced to exit or liquidate its business by a court. Advanced Stream’s proposal offers a way for policy makers to dramatically lower cost by “pivoting”, from a “Stay to Course” strategy, to a “Drastic Change” emergency mode strategy.

Under this alternative, Advanced Stream proposes that Click! engineering and operations staff would continue to operate the telecommunications plant, as employees of TPU, providing the current wholesale ISP and MSA services, while the private sector ISP partners would expanding their current role, of assisting with CATV sales, to begin accepting monthly payments for Click! CATV products -like a payment center.

The biggest change would be the establishment of a new 501 (c) non-profit entity that would perform CATV installations, high level support, and customer service functions while maintaining and improving the CATV business - under and agreement similar to the current ISP contracts.

In addition to allowing the ISPs to function as payment and service centers, for their respective CATV customers,⁸⁹ another significant change would be expanding the ISPs responsibility for CATV support.

Since the ISPs and Click!, in most cases, have a mutual relationship with these shared customers, any strategy to transfer away the CATV business and customers must be sensitive to the current non-disclosure

⁸⁷ That Click cannot support AMI, while other cities, such as Chatanooga, use their municipal networks to support AMI.

⁸⁸ City of Tacoma April 23, 2018 -[Motion for Discretionary Review](http://stickwithclick.com/images/City-of-Tacoma-Motion-for-Discretionary-Review-4-23-18.pdf)
<http://stickwithclick.com/images/City-of-Tacoma-Motion-for-Discretionary-Review-4-23-18.pdf>

⁸⁹ Essentially a franchise, licensing or joint venture type arrangement in support of the Click! brand.

agreements in the ISP contracts - in particular the private ISPs customer lists and the details of those valuable relationships. The ISPs have worked for many years to acquire these mutual customers and it would be unfair, illegal and harmful for Click! to hand over one ISPs CATV customers to another, a competitor, ISP.

Advanced Stream, for example, has spent 20 years building up it's customer base - a mutual customers base - with Click! as a partner. Those shared customers are valuable assets that belong, partially, to Advanced Stream and the other respective ISPs. Putting one ISPs customers in the hands of a competitor would be unfair; therefore, our solution places them into a non-profit entity that would protect the privacy and confidentiality of these customer relationships.

As future ISPs join the network, the newly created Click! non-profit cable TV entity would continue managing CATV services on the network - much as Click! does now. This ensures the continued confidentiality of the mutual customer information - thereby protecting the ISPs valuable customer lists.⁹⁰

Nevertheless, Since the ISPs have had a good run, with 20 years of success, operating on Click! Network, it seems reasonable to seek their support in event such a "worst case" transition is required.

Advanced Stream feels this would be a way for the ISPs to "give back" to the community -by stepping in to "save the day" in the event of an emergency.

In this spirit, of "giving back", the ISPs would agree to fund the creation of this 501 (c) non-profit entity - to license the Click! CATV brand and purchase the existing CATV assets from TPU at book value⁹¹ and enter into a operating agreement with TPU for the CATV plant. This agreement would be similar to that by which the private ISP partners currently operate under. We have provided a flowchart in Exhibit A that depicts the arrangement.

Additionally, this non-profit entity would hire all current Click! customer service and installation employees - with current pay rates, contracts and accrued benefits intact.

Advanced Stream is willing to carry out, alone if necessary, the facilitation of this type of transition; hopefully, the other ISP, Rainier Connect, would similarly support our proposal for a shared solution.

The ISPs have collaborated successfully in the past -to deliver solutions at key moments in Click!'s evolution. Most notably was the "Plan B", in 2012, where the ISPs invested their resources to capture 6,000 new customers by agreement.

Advanced Stream's proposal would include honoring the terms of the contract with IBEW Local 483, thereby insuring Click! staff benefits and contracts are kept intact. Advanced Stream would also work with TPU on a transition path to make sure that all personnel benefits are securely transferred and a seamless relocation path is created for all of affected Click! employees.

Finally, Advanced Stream, or the ISPs jointly,⁹² would agree to cover any operating losses and provide immediate funding for the costs associated with needed CATV upgrades - such as implementing a switched IPTV platform. Any profits that accumulate from CATV operations would remain in the non-profit entity and be used for maintenance, future upgrades to the system and funding employee benefits.

⁹⁰ Since the ISPs and Click!, in most cases, have a shared a relationship with these common customers, any transfer of the CATV customers must be sensitive to the current non-disclosure elements in the ISP contracts, in particular the private ISP customer lists and details of those valuable relationships. The ISPs have worked for many years to acquire these mutual customers and it would be unfair for Click! to hand over their CATV customers to just one of the ISPs - thereby harming the other ISP.

⁹¹ Including the set top boxes and other CPE assets,

⁹² sharing the costs, on a prorata basis.

This alternative preserves the benefits Click! has brought to our community while maximizing TPU ratepayer's investment in this \$200 million asset.

8.2 The City Can Help Reduce Risks

One way that the City can reduce risk of harm to Click! and its brand, is by being proactive and support the existing public-private partnership model by renewing the ISPs contracts. At this important moment in Click!'s history, such certainty is essential for our customers, prospective clients, and the employees of both Click! and the ISP partners.

The City can also provide certainty, by supporting Advanced Stream's strategy of "Staying the Course". Doing otherwise risks delaying implementation of Click!'s roll out of gigabit service; and, presents the loss of customer that could be acquired with a first mover advantage. If Comcast gets gigabit first, Click! could also suffer an exodus of customers.

9. Schedule - Gigabit in 90 days.

Once a "Stay the Course" strategy is approved, and the ISP contracts are renewed, the ISPs can get to work immediately and begin adding the proposed 188 customer per month.⁹³ We can kick off the program with a "20th Anniversary" celebration and grass roots membership drive.

Rolling out SIPV will take an additional 90 days. Once completed, this frees up the bandwidth that allows Click! to bond channels needed for achieving Gigabit speeds under the current DOCSIS 3.0 plant.⁹⁴

10. Maintenance

Under this proposal, Click! would continue to maintain the network and the CATV system, while the ISPs would continue to maintain the cable modems and other Internet related customer premise equipment. In the event policy makers are forced to pivot to the "Drastic Change" path under this strategy, then the ISPs would take over the responsibilities for the CATV system and CPE equipment.

11. Financing, Funding, and Payments

Under "Stay the Course" no drastic changes, the ISPs and MSAs will continue making their monthly payments, which currently total \$810,000 a month, to Click! for wholesale Internet and broadband services. The payments are based on per broadband subscribers - according to the service level pricing provided by the IPS and MSA contract. These payments would increase under the "Stay the Course" proposal, given the increase in customer counts. The amounts are also subject to increases and adjustments, under the terms of the ISP and MSA contracts.

Since these contracts are ready in place, there is no delay in implementing this strategy.

⁹³ This strategy is similar to the Plan-B from 2012 and will add 9,000 customers over the next 4 years.

⁹⁴ DOCSIS 3.1 requires the Harmonic or Cisco upgrade. We can still get Gig service by bonding more channels under 3.0

To assist with the implementation of DOCSIS 3.1 and SIPV, Advanced Stream is willing to provide an Interest free loan, if needed, to fund these improvements. This loan would be retired in exchange for future services billed under the ISP contract.

In the event of a worst case scenario, Advanced Stream would provide funds the formation of the non-profit entity for running the CATV business. These funds would be used for the purchase, from TPU, of the CPE equipment, and other assets, required to carry on the CATV business.

Advanced Stream requires no outside financing, or other sources of capital, to facilitate the expansion of the partnership or implementation of our proposal.

Advanced Stream has outlined, in section 8.1, its proposal for funding network expansion, equipment refreshes and customer expansion. No financing will be required and no service payments from the City are needed.

Our proposal would continue Advanced Stream's "low price guarantee" strategy - with current subscriber pricing, or lower, to be maintained. Current pricing is available on our website.⁹⁵ When Gigabit speeds become available, we propose offering that service at \$75 a month.

Advanced Stream has demonstrated its ability to execute grass roots, social media charged, highly effective customer acquisition strategies. From knocking on doors to shaking signs, Advanced Stream is highly visible in the community during customer acquisition campaigns. Advanced Stream also employs direct marketing, via postal mailers and inserts in the Tacoma Public Utility billing statements. We leverage our existing customer base, by offering them financial incentives (finder fees) for referring new customers. These practices, and others would form the basis of our marketing strategy.

Click! has approximately a 15% market share of Internet. Our sales objectives for Internet would be net 2,256 new customers per year. So the first year we would increase the customer base by 2,256 and 4,512 by the second year and 6,768 by year three.

If we begin now, Click!'s market share would be 16.5%⁹⁶ in June of 2019, 18% by June of 2020 and 19.5% by June 2021.

Past performance has demonstrated Advanced Stream's ability to aggressively acquire customers and achieve the proposed increases in market share and take rate.

We have provided a flowchart, in Exhibit A, that depicts the flow of funds.

⁹⁵ Residential pricing is available: <http://www.advancedstream.com/content/residential>
Commercial pricing is available: <http://www.advancedstream.com/content/commercial>

⁹⁶ As of May 2015 Click! Had a 15% market share of Internet.

12 Services - Switched IPTV and Gigabit Now!

Staying the Course will allow the retail ISP partners to continue providing Internet, phone, hosting and email services, while Click! staff can continue to serve their MSA customers while completing their well organized, and partially implemented, roll out of Gigabit speed services - one of the most important goals for Click!

Staying current with the latest technological developments is imperative. Moving Click! to IPTV and delivering Gigabit service to Tacoma will lead to a dramatic addition of customers.⁹⁷

Thanks to recent developments in the DOCSIS standards, distributed architecture, and specifically Remote PHY (R-PHY), proposals from vendors such as Cisco and Harmonic⁹⁸, now show that fully deploying Gigabit over Click! will cost under \$1.2 million⁹⁹.

With a state of the art DOCSIS 3.1 capable platform, Click! is in the right place at the right time.

Thru Click!'s recent RFP for Software Based CMTS, respondents have shown new technology allows a surprisingly inexpensive path to symmetrical Gigabit speeds for Click! Click! Can roll out Gigabit service for under \$1.5 million¹⁰⁰.

To meet the soaring demand for bandwidth, R-PHY¹⁰¹ removes the physical layer (PHY) of a traditional cable headend CMTS or CCAP and pushes it to the network's fiber nodes that connect to the cable modem at the customer's site¹⁰².

For the Harmonic solution¹⁰³ the net price is just \$1.1 million - after a \$268,965 buy back discount for Click!'s CBR8 Cisco router¹⁰⁴. While the Cisco solution would cost just \$1 million,¹⁰⁵ after a \$200K buyback credit. There is a licensing cost going forward, under Cisco's Infinite Broadband Unlocked (IBU) Licensing Program that allows the operator to deploy as much DOCSIS 3.0 / 3.1 downstream and upstream spectrum as they choose, but only pay a \$1.10 monthly fee based on the number of subscribers that the operator has on their system¹⁰⁶.

⁹⁷ Click! has always experienced growth in customers as new, higher speed, packages are introduced.

⁹⁸ Harmonic's CableOS CCAP solution, Submitted by Mega Hertz LLC has no licensing cost; but, is not "standards based". It provides a software-based CMTS running on off-the shelf 1-RU servers. It is an end-to-end Remote PHY system with high RF port density, CableOS easily enables the migration to multi-gigabit broadband with DOCSIS 3.1

⁹⁹ Much less than the \$5 to \$ 10 million estimates that were presented two years ago.

¹⁰⁰ Both the Cisco solution and Harmonic solution estimate DOCSIS 3.1 solutions, that deliver Gigabit, can be fully enabled for less the \$1.5 million.

¹⁰¹ RPHY takes the QAM modulation/demodulation portion of the CMTS and separates it to a location outside of the CMTS. This function will now be handled directly in an HFC node in the field or a "shelf" type unit located in a hub or cabinet. The connection between the CMTS and the Remote PHY Device (RPD) is traditional Ethernet.

¹⁰² <https://blogs.cisco.com/sp/putting-the-why-in-remote-phy>

¹⁰³ The Harmonic solution is not "standards based" -according to CCI (a competitive bidder on this RFP for Software Based CMTS Specification No. PC17-0454F <https://www.harmonicinc.com/solutions/software-based-ccap/>

¹⁰⁴ From Harmonic's Jan 2018 Proposal: "Harmonic will buy back the CBR8 -The buyback will be issued as a discount from total price, in an amount of \$268,965.52.

¹⁰⁵ Click!'s CMTS is a Cisco based. CCI Systems, Inc is proposing the configuration and activation of Remote PHY CMTS Network for Click! Cisco has recently demonstrated full duplex DOCSIS 3.1 architecture. They are proposing a gigabit solution for \$1 million with a \$1.10 monthly subscription fee for licensing.

¹⁰⁶ The \$1.10 per user monthly subscription fee is billed quarterly.

Significant deployments of this new technology, with distributed architecture and specifically Remote PHY (R-PHY), are now happening around the world¹⁰⁷ and the current ISP partners are willing to support this effort with time and resources¹⁰⁸.

A switched IPTV solution allows a full range of advanced digital video services – all without significant CAPEX, OPEX. This upgrade is estimated to cost \$415,568¹⁰⁹ and is essential for freeing up the channels needed for future broadband growth.¹¹⁰ The move to SWIP will be seamless, from a customer perspective, since the new system is compatible with the current set top boxes and TiVo equipment.

Switched IP Video (SIPV) will enable Click! to quickly and inexpensively free up as many as 50 or more video QAM (or EIA) channels, making them immediately available for DOCSIS 3.0, 3.1 and FULL DUPLEX expansion.

12.1 FTTH program

Staying relevant, with cutting edge technology, is essential for Click!’s long term success. Click! has always been updated and remained a competitive force in the market. Currently, Click! Is rolling out cutting edge technology with a recent, successfully completed, FTTH pilot project in a new subdivision (The Knolls) consisting of 165 homes in University Place.

Click! is currently in the process of completing the integration of the Calix AXOS platform with existing back office systems, conducting staff training, and developing sales and marketing plans. Marketing of FTTH service will begin once these activities have been completed.

12.2 Cable Television And Increasing Revenues

Providing a retail CATV product makes the platform “sticky” - supporting retention of very profitable wholesale ISP customer. . Since the CATV product reduces customer churn, these products go hand in hand.

With 22,600 ISP and 16,010 CATV accounts, more than 70% are Cable TV¹¹¹. If Click! were to take the drastic step of shutting down, or exiting the CATV business, those customers would be pushed into the hands of Comcast.

Generally, when a customer moves their CATV service to another provider they also bundle the Internet service; so, by exiting the CATV business Click! would lose both the Cable TV customer and the lucrative wholesale ISP customer.

¹⁰⁷ MultiChannel News FEB 14, 2018 “Com Hem, a Sweden-based operator that serves about 1.5 million customers, is deploying CableOS - the operator’s lab unit is testing symmetrical speeds of 1.2 Gbps in Stockholm using DOCSIS 3.1”

<https://www.multichannel.com/news/harmonic-ids-real-deployment-its-virtual-ccap-418128>

¹⁰⁸ Additional staffing is often required, to manage customer notifications, for planned outages that occur during upgrades. The ISPs have traditionally performed this important function. The ISPs can cover the costs for the ongoing licensing, if the Cisco solution is selected (estimated to be \$290K per year).

¹⁰⁹ Turn key cost as proposed to Click! by Adara. Includes the Digital content manager SIPV headend equipment, RF gateway, Motorola NE 2500 Bulk Encryptor, with MPTS licence, Virtual Services Resource Manager, and all configuration and setup

¹¹⁰ Description of SIPV by Adara Technologies : <http://www.adara-tech.com>

http://www.adara-tech.com/sites/default/files/docs/resources/adara_sipv_white_paper_final_june24_2017.pdf

¹¹¹ As of Jan 2018, there were 16,010 total Cable TV Customers -with 15,455 Residential and 555 Commercial

These wholesale ISP customers are very profitable for Click!¹¹² -contributing about \$6.5 million in net profit¹¹³ -per year. Exiting the CATV business and losing these customers would be a very damaging financial mistake for Click!.

Tacoma Power's proportionate share of O&M costs will change over time, as TPU's usage of the telecommunications network changes. One recent example of increased usage by TPU is moving their new radio system onto the telecom plant¹¹⁴.

12.3 Switched IP Video

The need for more bandwidth will require moving Click! CATV to a switched IPTV technology and Advanced Stream is willing to provide the capital, as an interest free loan, for this upgrade.

Switched IP Video, or SIPV, will allow Click! to inexpensively free up as many as 50 or more video QAM channels for DOCSIS 3.1 and FULL DUPLEX expansion. With just 12 to 24 QAMs, SIPV delivers unlimited video channels offering of SD, HD and UHD/4K programming.

13. Pricing

Advanced Stream has always provided transparency and a "low price guarantee". What you see is what you get. There are no confusing taxes or misleading "surcharges" on our billing. No hidden charges or other shenanigans typically found in the billing practices of the big ISPs.

Advanced Stream does provide lower, introductory, prices to new customers; but, unlike the large ISPs, there is no contract or "early termination" penalty for cancelling the service.

Advanced Stream is committed to bringing the lowest prices for Internet access to our community and to bridging the digital divide for low-income individuals. Under a "Stay the Course" strategy, Advanced Stream will donate at least 200 computers per year to qualifying families, while expanding its \$14.95 "Digital Inclusion" program¹¹⁵.

Advanced Stream will also support Click! efforts to make Tacoma a Gig City - delivering a Gigabit product for \$75.95 a month.

14. Equitable Access to Services - Digital Equity Action Committee

Click! serves the entire community. Over the past 20 years, Click! has taken an equitable approach to constructing the Network. It has been built in a way that makes it available to residents of Tacoma without consideration of geographic, demographic, or socioeconomic status.

¹¹² The total marginal cost for an ISP customer is approximately \$1.40 and the ARPU (average revenue per user) revenue is \$24, so the wholesale ISP customer has a monthly marginal contribution of \$22.60. This is a 94% profit margin. It should be noted that the cost for the gateway is essentially a fixed cost, so additional ISP revenue has a 100% profit margin.

¹¹³ That is gross wholesale ISP revenue minus the fixed costs for the gateway.

¹¹⁴ Tacoma Power Utility Technology Services RFP Digital Radio System For Tacoma Public Utilities Specification No. Ps17-0256f Page 126 "The current microwave transport network utilized by TPU consists of TDM technology microwave radio infrastructure. TPU is currently in the process of transitioning the TDM microwave network into a IP/MPLS network"

¹¹⁵ [Advanced Stream's Digital Inclusion Package](https://www.advancedstream.com/digital-inclusion) <https://www.advancedstream.com/digital-inclusion>

The key to equitable access is ensuring the financial sustainability of Click!’s business model. Achieving financial sustainability requires a business plan that incorporates strategies to expand the usage of Click!.

This can be accomplished by redoubling efforts to acquire customers under the current open access business model; and, by collaborating with local governments and public stakeholders.

Tacoma could benefit by following Seattle’s lead in the formation of a Digital Equity Action Committee¹¹⁶. This committee would provide guidance and craft community policies for sustainable equitable access.

14.1 Digital Equity Action Committee -Community Broadband Roadmap

Click! has made significant accomplishments, bringing lower rates and better service for Tacoma¹¹⁷; however, more can be accomplished.

With the establishment of a “Digital Equity Action Committee”, Tacoma could coordinate efforts for developing a “Community Broadband Roadmap” for digital inclusion. This committee could follow strategies outlined by ConnectHome USA¹¹⁸.

This “Roadmap” would contain Tacoma’s strategic vision and goals for digital inclusion. By locating and identifying existing community resources, the “Roadmap” will help public officials, planners, citizen groups and other stakeholders achieve the goal of getting residents connected.

Last month the City of Pittsburgh and the Housing Authority of the City of Pittsburgh announced their success; *“The ConnectHome USA platform catalyzes collaboration towards a bigger vision for the city and county around digital inclusion. The initiative provides a framework for building a more substantial plan for digital inclusion in addition to providing resources through local and national partnerships and mentorship from cities leading in connecting residents. to close divide in HUD housing”*¹¹⁹

This important issue cannot wait! With a lack of access to the Internet, and the equipment and skills necessary to use it, disadvantaged families are becoming increasingly isolated from our digital society.¹²⁰

Under the current business model, the ISP partners can be enlisted to deploy their resources and knowledge in bringing solutions for digital equity to Tacoma.

¹¹⁶ Statement from City of Seattle: “Digital equity seeks to ensure all residents and neighborhoods have the information technology capacity needed for civic and cultural participation, employment, lifelong learning, and access to essential services. Working toward digital equity involves intentional strategies and investments to reduce and eliminate historical barriers to access and use technology”

<https://www.seattle.gov/tech/initiatives/digital-equity>

¹¹⁷ A [recent study by the Berkman Klein Center](#) for Internet and Society at Harvard University looked at the prices charged by community-owned broadband networks and found that in 23 out of 27 networks the municipal supported offering had the lowest price in the market for broadband.

¹¹⁸ ConnectHome was a pilot, launched by the White House and HUD in 2015, to narrow the digital divide for K-12 families living in public housing. ConnectHomeUSA builds upon the success of the ConnectHome pilot by expanding to reach new communities with digital inclusion best practices and resources provided by numerous stakeholders to help their residents get connected. Under the leadership of national nonprofit EveryoneOn, ConnectHomeUSA aims to reach 100 new communities by 2020 with a potential impact of connecting 350,000 residents.

¹¹⁹ On March 13, 2018 Allegheny County and the Allegheny County Housing Authority and the City of Pittsburgh and the Housing Authority of the City of Pittsburgh have announced their acceptance into the ConnectHome USA Program. <http://www.sopghreporter.com/story/2018/03/13/news/city-county-accepted-into-connecthome-digital-inclusion-program-to-close-divide-in-hud-housing/18630.html>

¹²⁰ From <https://connecthomeusa.org> “As of 2016, 46% of families living in public housing do not have high-speed Internet at home or rely solely on smartphones. These Americans are missing out on the high-value educational, economic, and social impact of the Internet, and being left behind. Kids on the wrong side of the “homework gap” lack the tools they need to do their coursework outside of school.”

14.2 Equitable Internet Access and Computers Too

With a Digital Equity Action Committee, and a Community Broadband Roadmap, we can coordinate efforts to distribute computers in support of digital inclusion efforts. Click!’s ISP partners are willing to donate computers and help organize these efforts.¹²¹ It is estimated that over 500 computers per year could be given to qualifying families by such a program.¹²²

Local businesses and community organizations—such as universities, schools, government agencies, libraries, hospitals, nonprofits, foundations, and even housing agencies—regularly upgrade and replace their computers before the end of their useful life. Rather than go to waste, these computers can be refurbished and updated for reuse.¹²³ Refurbished devices can then be made available to housing agencies and assisted residents for free or reduced cost.

With a program to train youth to refurbish these devices, we can impart valuable job skills in the process. For example, Kansas City pays and trains youth residents to refurbish computers and offers “digital literacy” classes through a summer youth employment program.

Advanced Stream has coordinated similar programs in the past and is prepared to immediately re-activate those efforts should a “Stay the Course” strategy be adopted by City Council -with the Click!/ISP contracts being renewed.

14.3 Bringing Competitive Broadband To the TPU’s Service Areas Not Currently Served By Click!

The future expansion of the network will likely employ FTTH technology. For example Click! recently rolled out such FTTH technology in a FTTH pilot project in at The Knolls -a new subdivision consisting of 165 homes in University Place.

Additionally, Click! is currently in the process of completing the integration of the Calix AXOS platform with existing back office systems, conducting staff training, and developing sales and marketing plans. Marketing of FTTH service will begin once these activities have been completed.

In the very far reaches of Pierce County, like areas in the southern footprint of TPU’s service area, such as Fredrickson, where running fiber is too expensive, Click! can inexpensively deploy hybrid point-to-multipoint technology, using a combination of frequencies including WiFi and 3.65 GHz.¹²⁴ This is done by placing transmitters on towers and beaming signals to dishes at the customer location. This is now becoming more and more common around the world.

As TPU Consultant, Doug Dawson, mentioned recently, *“A hybrid model makes a huge difference in financial performance. I’ve now seen an engineering comparison of the costs of all-fiber and a hybrid network in half a dozen counties and the costs for building a hybrid network are in the range of 20% – 25% of the cost of building fiber to everybody. That cost reductions can result in a business model with a healthy return that creates significant positive cash over time”*

¹²¹ Advanced Stream has led such programs in the past, where computers are loaned or given to families that need them.

¹²² Advanced Stream would be willing to donate 200 computers per year. Rainier Connect and Net Venture have indicated they would likely match that number. Chromebox and notebooks can be provided for about \$150 each

¹²³ Advanced Stream is prepared to announce such a program, in conjunction with The Boys and Girls Club of South Puget Sound, to provide computers to qualified families.

¹²⁴ CCG Doug Dawson <https://potsandpansbyccg.com/tag/hybrid-broadband-model/>

15. Affordable Access

Click! can be the foundation for curing Tacoma’s digital divide. By embracing the private ISP partners, and leveraging their marketing skills and entrepreneurial expertise, Click! can grow faster and more efficiently.

The ISPs, as private entities, are not encumbered by layers of counterproductive bureaucracy that can impede the swift action required when accepting, or making donations. They are not burdened by concerns about “gifting public funds” etc. Consequently, these ISP are well suited to administer a computer donation, refurbishing, and redistribution program. These important digital equity goals are best accomplished under the current Click! business model.

The greater Click!’s profits, the more that can be done to lower prices in support of digital inclusion efforts. There are many potential opportunities for expanding commercial activities and raising additional revenue thru Click!. These will be discussed in more detail under section 3.8 “Financial Stability”.

Under the current model, Click! offers discounted residential Cable TV services to low income customers.¹²⁵ Advanced Stream has its \$14.95 Digital Inclusion package for qualified low-income customers.

Click! can providing the ISPs with a wholesale “Digital Inclusion” package. The ISPs would deliver these services to the end users, without a profit, at the wholesale cost¹²⁶.

Significant resources are expended in delivering retail ISP services to end users . Facilitating monthly payments, coordination Installations, providing customer support, expert troubleshooting, and enforcing acceptable usage policies are some examples of the tasks performed by the ISPs.

Since the ISP partners currently perform these functions, they are in the best position to perform these functions in support of Tacoma’s digital inclusion efforts.

15.1 Discounted Internet Programs

While the current Click! business model supports low rates, additional efforts can be deployed to bridge the digital divide. Internet rates in Tacoma¹²⁷ are almost 50% less than in Seattle, due to the competition that Click! brings to the market¹²⁸. Comcast matches the lower rates that Click! Network offers in Tacoma. This competition saves local users an estimated \$20 Million per year.¹²⁹

This is just the beginning of what is possible. There remain significant disparities in internet access and digital literacy skills for those of lower education, low-incomes, seniors, disabled, minorities, and immigrants. The City has significant disadvantaged districts/corridors. City parks could also benefit from low-cost or free wireless access. Coordinated efforts are needed to achieve affordable access to broadband services and to provide needed computers.

With a Digital Equity Action Committee charged with formulating our “Community Broadband Roadmap” for a “Digital Inclusion Program”, Click!’s private ISP partners could be contractually obligated to provide and expand their discounted Internet programs. Revenue sharing formulas, to set aside funding for such

¹²⁵ Customers that qualify for TPU’s Energy Assistance Program also receive discounted CATV services.

¹²⁶ The ISPs should not be profiting from customers on this program. It’s their turn to “give back” to society -for the 20 years of success that they have enjoyed by operating over Click! Network.

¹²⁷ <http://www.advancedstream.com/content/residential>

¹²⁸ <https://www.xfinity.com/locations/washington/seattle/internet-service>

¹²⁹ Average of \$20 monthly savings going to approximately 100K Cable modem customers in Tacoma area.

discounted services could easily be established; similarly, franchise holders, such as Comcast, could also be made to expand the eligibility criteria for its discounted Internet program as part of any future franchise agreement renewal.

15.2 "Inclusion Zones" Bring Free or Low-Cost WiFi Service To Prioritized Areas

Under this option, Click! could update the agreements with the wholesale ISP partners and require them to provide some WiFi and cable modem services for free, or at low cost, to prioritized areas, or "inclusion zones", as part of their contracts. Similar requirements which benefit the public, have traditionally been a part of CATV franchises. It would not be difficult to place WiFi requirements on the ISPs.

Click! would support this effort by providing the backhaul capacity, with aggregation nodes, allowing access to the Internet over the Click! Gateway.

15.3 Street Lights and WiFi

For an example of municipal WiFi, see how Plainville Connecticut made free Internet available over their streetlight fixtures. The WiFi service was added to 123 of the 1,424 new energy-efficient LED fixtures installed on all municipal light posts. These high-tech streetlights sip energy, dim by remote control and are also free WiFi hotspots.¹³⁰

15.4 Deploying WiFi and the Digital Inclusion Program

With support from its ISP partners, Click! could easily deploy WiFi and other technologies in addressing Tacoma's digital equity and digital inclusion needs. A City run digital inclusion program would identify "digital inclusion areas" -like low-income areas, multi-dwelling public housing facilities and parks. Then these "inclusion zones" would receive public WiFi access, with state of the art technology utilizing Click! Network.

The ISP partners would support this effort by adding wireless access points, to create a wireless local area network (LAN) with a controller that would operate in conjunction with an API authentication system based on the Tacoma Public Library membership database. Essentially anyone with a Tacoma Public Library card and a device would be able to login with those credentials¹³¹.

As part of their contracts, the retail ISP partners could be required to provide the management, installation, security, support and enforcement of Click! Network's acceptable use policies¹³² for this system -at no cost to the City¹³³. Additional corporate sponsorship could even play a role in supporting free WiFi services¹³⁴.

¹³⁰ Bill Leukhardt "Plainville Streetlights To Provide WiFi, Not Just Light"

<http://www.courant.com/community/plainville/hc-plainville-streetlights-WiFi-0921-20160920-story.html>

¹³¹ What Barcelona has done:

<http://datasmart.ash.harvard.edu/news/article/how-smart-city-barcelona-brought-the-internet-of-things-to-life-789>

¹³² Click! Network Use Policy <https://www.clickcabletv.com/about/legal-notice/internet-acceptable-use-policy/>

¹³³ For example, 10% of ISP gross sales could be placed in a non-profit joint venture entity that the ISPs jointly manage and operate to provide this service.

¹³⁴ TAYLOR SOPER, GeekWire "Google donates \$344K for free WiFi in Seattle"

<https://www.geekwire.com/2016/google-donates-344k-provide-WiFi-seattle-community-centers-affordable-housing-developments>

16. Net Neutrality For All Customers

With Click! Remaining in control of the Internet gateway routers, IP address block and DNS servers, a retail ISP partner cannot speed, slow, or block internet content based upon political views, paid prioritization or other businesses interests

With Advanced Stream's "Stay the Course" option, there are no changes in Click's ability to set and adhere to net neutrality principles. This supports Tacoma's strong belief in Net Neutrality – that all lawful internet content be equally accessible, regardless of its subject matter or viewpoint.

17. Fostering Competition with Open Access

"Staying the Course" preserves Tacoma's tradition of having an open access network. The public-private partnership with the ISPs has been the foundation of Click! success since its inception. Customers benefit from the competition and better service that open access brings to our local market.

This open access model is a proven strategy for winning new customers. The ISPs have demonstrated their ability to bring additional customers when called upon.

17.1 The More The Merrier! Opening up our Open Access Network

By building on the successful open access formula, allowing additional qualified ISPs to join the network, prices can be even lower and customer service all the more amazing. Competition between the ISPs demands that. These new ISPs would bring fresh and exciting ideas and resources to Click! They would support Click! marketing efforts and help take additional market share. We must expand Click!'s wholesale ISP and retail Cable TV customer base.

Think of these ISPs as channel partners. Support a channel distribution model is a time proven method of building a business. Increasing the number of channel partners (ISPs),¹³⁵ is a win-win for Click!. When an ISP partner signs up a customer, most of these new customers also subscribe to CATV services¹³⁶.

Why limit the network to just 2 or 3 ISP providers? Advanced Stream supports a "All Hands On Deck" approach, with more ISPs promoting our municipal Internet service to potential customers.

It's a numbers game. With more marketing resources being deployed to acquiring customers for Click!. The wholesale Internet customer and CATV base grows even faster.

Profits from these activities can be reinvested to further network expansion and support the community's important digital equity initiatives.

¹³⁵ There were 22,613 ISP customers and 16,010 CATV customer, in Jan 2018

¹³⁶ From Click! 2018 RFIQ Attachment -ISP w/CATV Penetration based on total ISP Subs

18. Privacy

The Tacoma City Council passed a resolution in 2017 that protects customer privacy in Tacoma. It prevents the private ISP partners from collecting or selling customers' personal information without written approval. With

"Stay the Course" the City, TPU and Click!'s well established policies for protecting customer privacy continue.¹³⁷

TPU employees are always careful when gathering information to provide needed services and in protecting the public's privacy. Click! carefully follows the requirements of Section 631 of the Cable Communications Policy Act of 1984¹³⁸. Preserving the current business model insures these practices continues.

Given federal rollbacks of net neutrality and internet privacy protections; and, since private telecom companies can now collect and sell their customers' private online usage information, a "Stay the Course" strategy of municipal ownership and operation of Internet services protects customers' constitutional rights to free speech and privacy.

To counteract these federal rollbacks of net neutrality and internet privacy, the ACLU recently asked local governments to consider taking a direct role in providing broadband to residents.¹³⁹

Tacoma was a pioneer in the effort to provide municipal access to the Internet. Tacoma was the first municipality to take such action and actually cast off the chains of monopoly.

If the ACLU is recommending other cities follow this path now, we cannot make drastic changes to Click! Network's business model and give up all that has been accomplished. It would be a huge embarrassing for our community if policy makers were to do so.

19. Local Participation - Promoting Economic Development And Educational Opportunities

Click! Is an amazing asset that hold tremendous untapped potential for our community. How can Tacoma policymakers seriously consider abandoning Click! now? Especially when so many other municipalities around the country are jumping headlong into developing their own broadband solutions and trying to provide these essential services to their citizens at reduced cost.

19.1 Underutilized Dark Fiber -Additional Revenue from Local Governments

Click!'s 180-count fiber network backbone is a broadband superhighway -with tremendous room for expansion and increased utilization. Click! currently utilizes just 12 strands, and more than one-half of the network is unused dark fiber -just waiting to be deployed for our community! Also, Click! Also holds tremendous potential for smart city functionality, such as added public safety services, intelligent traffic and

¹³⁷ CANDICE RUUD, [News Tribune April 2017: ISPs can't sell your personal info](http://www.thenewstribune.com/news/politics-government/article145363804.html)
<http://www.thenewstribune.com/news/politics-government/article145363804.html>

¹³⁸ Click! Customer Privacy Notice <https://www.clickcabletv.com/about/legal-notices/catv-subscriber-agreement/>

¹³⁹ Jay Stanley, Senior Policy Analyst, ACLU MARCH 30, 2018: [Public Broadband Can Help Protect the Open Internet and Close the Digital Divide](#)

parking systems; and, the many not yet imagined smart city functions - that future developments (especially with the Internet of Things) is sure to bring.

19.2 Expanding Usage of I-NET

By expanding usage of I-NET, Click! can gain support from other local governments and public stakeholders - to help by sharing the costs for operating and maintaining this essential community asset.

The City of University Place, for example, could be invited to support Click! by bringing its schools and government offices onto I-NET. When Click! was built, those drops were put in place, so the connections already exist and are ready to be lit. Pierce County could also benefit from utilizing Click! to support their efforts - especially in the southern part of TPU's footprint.

Pierce County recently commissioned a study¹⁴⁰ to evaluate the lack of broadband connectivity in these areas. This study will soon *"provide recommendations on how to expand broadband access in the County with a focus on rural areas such as Frederickson"*¹⁴¹

Click! can also benefit by securing other I-NET users with its service area. There are many libraries (all the Pierce County Library System), many K-12 schools and higher education institutions that could utilize the surplus TPU fiber to lower their telecommunications costs.

Click! would benefit from the additional revenue these sources could provide. That revenue would offset the costs for maintaining and operating the telecommunications plant.

Advanced Stream's founder, the author of this report, has close ties to members on the Pierce County Council ; and, is in close contact with them about their goals for improving broadband access.

19.3 Gigabit Speeds Bring Economic Growth

Click! Management has plans for delivering symmetrical Gigabit speeds -both over the current DOCSIS platform¹⁴² and over the FTTP roll out¹⁴³. The cost estimates for deploying Gigabit service over Click! have recently been drastically reduced. Deploying Gigabit will result in tremendous economic growth

As reported by Muni NetWorks, these investments improve the productivity of existing businesses and attract new businesses to communities: *"They also create millions of dollars in savings that can be reinvested into local economies. networks improve the productivity of existing businesses and attract new businesses to communities, allow individuals to work from home more effectively, support advanced healthcare and security systems, strengthen local housing markets, and represent long term social investments in the form of*

¹⁴⁰ 2018 Contract for Pierce County Broadband Study:

<http://stickwithclick.com/images/Contract-for-Pierce-County-Broadband-Study-2018.pdf>

¹⁴¹ Pierce County: Evaluation of Broadband Connectivity and Access in Pierce County

<http://stickwithclick.com/images/Evaluation-of-Broadband-Connectivity-and-Access-in-Pierce-County.pdf>

¹⁴² Breakthroughs in DOCSIS 3.1 now allow for symmetrical gigabit speeds.

¹⁴³ Click! has rolled out FTTH in greenfield areas and future expansion will utilize this technology.

better-connected schools and libraries. They also create millions of dollars in savings that can be reinvested into local economies¹⁴⁴ ..

19.4 Becoming a “Glg City”

With the launch of Click! In 1997, Tacoma began promoting itself as “America’s most wired city”. 20 years ago City policymakers were ahead of their time. They had a clear “vision” of the future. They knew that broadband Internet would become an essential public utility - that broadband and ALL of its benefits could be harnessed and used to improve the lives of the citizens of Tacoma.

Many significant economic development events occurred at the time of Click!’s creation. During this period the University of Washington located its campus in Tacoma. Similarly, seeing broadband speeds, that were unavailable in other communities, many companies relocated their businesses to Tacoma.

The creation and expansion of Click! Network has supported Tacoma’s amazing progress. By upgrading Click! now, to become a “Gig City” offering gigabit internet service, Tacoma can bring economic development and educational opportunities to our community for years to come.

The Advanced Stream alternative, of “Staying the Course” and becoming a “Glg City”, is the best way to support, not only Tacoma’s economic development and educational goals, but all 12 of the most important policy goals outlined in this proposal.

Tacoma has the history; hopefully, we have the visionary leaders of today, thinking of tomorrow, who understand that redoubling our efforts and “Staying the Course” best serves Tacoma’s citizens.

The future of Click! Network is in your hands.



¹⁴⁴ muninetworks.org <https://muninetworks.org/content/municipal-networks-and-economic-development>

20. References

1. Click! (City of Tacoma and TPU).

3628 S 35th St,
Tacoma, WA 98409

2. Momentum Telecom Inc

29363 Network Place
Chicago, IL 60673-1293

3. Arris Solutions, Inc.

3871 Lakefield Drive
Suwanee, GA 30042

21 Responsibility Matrix

City of Tacoma | RFI/Q for Click! Partnership Arrangement | March 2018

Questions / Matrix to Be Completed

Do you propose to act as a retail internet service provider (ISP)? YES

Do you propose to allow multiple retail internet service providers (ISP)? YES

Do you propose to lease the HFC network from the City? NO

Functional Area	Tasks/ Responsibilities	Operational Responsibility				Funding Responsibility			
		City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications	City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications
Debt Service Payments	New debt for customer expansion and network upgrade		X				X		
Security for Financing	New debt for customer expansion and network upgrade		X				X		
Ownership	HFC network (fiber and coaxial) – existing	X	X			X	X		
	HFC electronics – existing	X	X			X	X		
	Customer drop and grounding block – existing	X	X			X	X		
	Entry from grounding block and in-premises wiring – existing	X	X			X	X		
	CPE – existing				X				
	Customer ownership – existing				X				
	HFC network (fiber and coaxial) – new	X	X			X	X		
	HFC electronics – new/upgrade	X	X			X	X		
	Customer drop and grounding block – new	X	X			X	X		
	Entry from grounding block and in-premises wiring – new	X	X			X	X		
	CPE – new				X				X

Functional Area	Tasks/ Responsibilities	Operational Responsibility				Funding Responsibility			
		City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications	City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications
	Customer ownership – new				X				X
Insurance	Outside plant – existing	X	X						
	Drop and grounding block – existing	X	X						
	Network electronics – existing	X	X						
	Entry cable, CPE, and in-premises wiring – existing				X				X
	Outside plant – new	X	X						
	Drop and grounding block – new	X	X						
	Network electronics – new	X	X						
	Entry cable, CPE, and in-premises wiring – new								
Replenishment	CPE				X				X
	Subscriber electronics				X				X
	Core electronics	X				X			
Taxes	USF and other federal tariffs and fees				X	X			X
	Sales (state, county, municipal)				X	X			X
	PILOT				X	X			X
	Other (list)				X	X			X
Outside Plant	Pole attachments	X	X			X			X
	ROW fees (backbone, middle-mile, and last-mile)	X	X						
	ROW fees (drops)	X	X						
	Locates	X	X			X			
	Trouble ticket processing				X				X
	HFC maintenance – material	X	X			X			
	HFC maintenance – labor	X	X			X			

Functional Area	Tasks/ Responsibilities	Operational Responsibility				Funding Responsibility			
		City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications	City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications
	Strand management	X							X
	Inventory maintenance	X			X				X
	Real estate for hub sites and equipment in field Facilities (warehouse, crew, etc.)	X				X			
	NOC for OSP (lease)	X				X			
	Design	X				X			
	Construction oversight	X				X			
	Network engineering – fiber and/or coax (last mile)	X				X			
	Network engineering – fiber and/or coax (backbone and middle mile)	X				X			
	Drop installation (network demarcation to building entry)	X				X			
	Maintain inventory (optical and coaxial network elements)	X				X			
	Network operations center – facilities	X				X			
	Network operations center – staffing 24x7	X				X			
Network Operations	Facilities (staff)	X				X			
	Facilities (warehouse & staging)	X				X			
	Provide DIA	X				X			
	Network engineering-electronics (last mile)	X				X			
	Network engineering-electronics (backbone and middle mile)	X				X			
	In-building wiring	X				X			

Functional Area	Tasks/ Responsibilities	Operational Responsibility				Funding Responsibility			
		City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications	City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications
	Customer installation (on-premises)				XXX				XXX
	Customer activation and provisioning				XXX				XXX
	Maintain inventory (active network elements)				XXX				X
	Hardware and support maintenance fees (vendor charges)	XXX				XX			
	Contract management (retail ISPs)	XXX				XX			
	Contract management (customer)								XXX
Customer Service	Billing and invoicing				XXX				XXX
	Bad debt (customer)				XXX				XXX
	Collections				XXX				XXX
	Tier 1 support 24x7 (basic customer issues)				XXX				XXX
	Tier 2 support 24x7 (basic technical support)				XXX				XXX
	Tier 3 support 24x7 (advanced technical support)	X				X			
	Prepare and manage SLAs	X				X			X
	Branding	X				X			
Sales and Marketing	Marketing				XX				XX
	Sales	XX			XX				XX
	Customer acquisition and retention				XX				XX
	Service performance objectives				XX				XX
	Service catalog				XX				XX
	Monitor pricing				XX				XX
	Set pricing (based on contract conditions)				XX				XX
Develop and manage customer contracts				XX				XX	

Functional Area	Tasks/ Responsibilities	Operational Responsibility				Funding Responsibility			
		City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications	City	Respondent	Retail ISP (if Not Respondent)	Exceptions / Clarifications
	Execute customer contracts								
	Provide subscription records				XX				XX
	Provide subscriber invoice and payment status (payments)				X				X
Reporting	Provide network status information (for tier 1 support)				X				X
	Provide network status information (for tier 2 support)				X				X
	Provide network status information (for tier 3 support)	X				X			
	Provide with network status (uptime, outages, etc.)				XX				XX
	Provide monthly sales and leads reports				XX				XX

[Responses to Appendix A: Responsibility Matrix Clarifications.](#)

Respondent is uncertain by the Responsibility Matrix’s usage of the term “CITY” in the column headings, under Operational and Funding Responsibility - we have assumed it to mean the current municipal entity that operates the Click! Network. Which is TPU, or the operational division, Click! Network. All of our responses to the Responsibility Matrix reflect this assumption.

Ownership

CPE – Existing: Respective ISP’s will retain their own Internet customers’ equipment and Click! will retain its own CATV customers’ equipment. In the event circumstances force policy makers to follow the emergency ‘pivot’ path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Customer ownership – existing: Respective ISP’s will retain their own Internet customers and Click! will retain its own CATV customers. In the event circumstances force policy makers to follow the emergency ‘pivot’ path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

CPE – New: ISP’s will take ownership of new Internet customers’ equipment they sign up. Click! will be responsible for new CATV customers’ equipment they sign up. In the event circumstances force policy makers to follow the emergency ‘pivot’ path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Customer ownership – new: ISP’s will take ownership of new Internet customers they sign up. Click! will be responsible for new CATV customers they sign up. In the event circumstances force policy makers to follow

the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Insurance

Entry cable, CPE, and in-premises wiring – existing: The wholesale ISP partners and Click! will be responsible for insuring their own customer's CPE. Click! will be responsible for insuring Entry cable, and in-premises wiring. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Entry cable, CPE, and in-premises wiring – new: The wholesale ISP partners and Click! will be responsible for insuring their own customer's CPE. Click! will be responsible for insuring Entry cable, and in-premises wiring. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Replenishment

CPE: The wholesale ISP partners and Click! will be responsible for replenishing their own customer's CPE. Click! will be responsible for replenishing their own customer's CPE. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Subscriber Electronics: The wholesale ISP partners and Click! will be responsible for replenishing their own customer's subscriber electronics. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Taxes

USF and other federal tariffs and fees: The wholesale ISP partners and Click! will be responsible for paying their own federal taxes and fees. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Sales: The wholesale ISP partners and Click! will be responsible for paying their own sales tax. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

PILOT: The wholesale ISP partners and Click! will be responsible for paying their own PILOT. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Other: The wholesale ISP partners and Click! will be responsible for paying their own taxes. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Outside Plant

Trouble Ticket processing: The wholesale ISP partners and Click! will be responsible for their own trouble ticket processing. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Inventory maintenance: The wholesale ISP partners and Click! Will be responsible for their own inventory management. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Network Operations

Customer installation (on-premises): Click! will be responsible for installing the coax or fiber lines to the customers homes, the ISP's will be responsible for installing CPE to connect customer to the Internet. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Customer activation and provisioning: Click! will be responsible for the provisioning system and the ISP's will responsible for the activation in the provisioning system. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Maintain inventory (active network elements): The wholesale ISP partners and Click! Will be responsible for their own inventory management. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Contract management (customer): The wholesale ISP partners and Click! will be responsible for maintaining their own customer's contracts. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Customer Service

Billing and invoicing: The wholesale ISP partners and Click! will be responsible for billing and invoicing their own customers. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Bad debt (customer): The wholesale ISP partners and Click! will be responsible for their own customer's bad debt. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Collections: The wholesale ISP partners and Click! will be responsible for their own collections. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Tier 1 support 24x7 (basic customer issues): The wholesale ISP partners and Click! will be responsible for their own Tier 1 support. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Tier 2 support 24x7 (basic customer issues): The wholesale ISP partners and Click! will be responsible for their own Tier 2 support. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Prepare and manage SLAs: To the extent its an Internet related matter, the wholesale ISP or MSA addresses such issues. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Branding: The wholesale ISP partners and Click! will be responsible for their own branding. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Marketing: The wholesale ISP partners and Click! will be responsible for their own marketing. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Sales and Marketing

Sales: The wholesale ISP partners and Click! will be responsible for their own sales. The ISPs have traditionally promoted the Click! products and brand. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Customer acquisition and retention: The wholesale ISP partners and Click! will be responsible for their own customer acquisition and retention. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Service Performance Objectives: The wholesale ISP partners and Click! will be responsible for their own Service Performance Objectives. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Service catalog: The ISPs and Click! are responsible for their own service catalogs. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Monitor pricing: To the extent that it relates to Internet service and MSA those entities are responsible for monitoring their own pricing. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Set Pricing (based on contract conditions): The wholesale ISP partners and Click! will be responsible for their own pricing. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Develop and manage customer contracts: The wholesale ISP partners and Click! will be responsible for their own customer contracts. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Execute customer contracts: The wholesale ISP partners and Click! will be responsible for executing their own customer contracts. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Provide Subscription Records: The wholesale ISP partners and Click! will be responsible for their own subscription records. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Provide subscriber invoice and payment status (payments):The wholesale ISP partners and Click! will be responsible for their own invoicing and payments. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Reporting

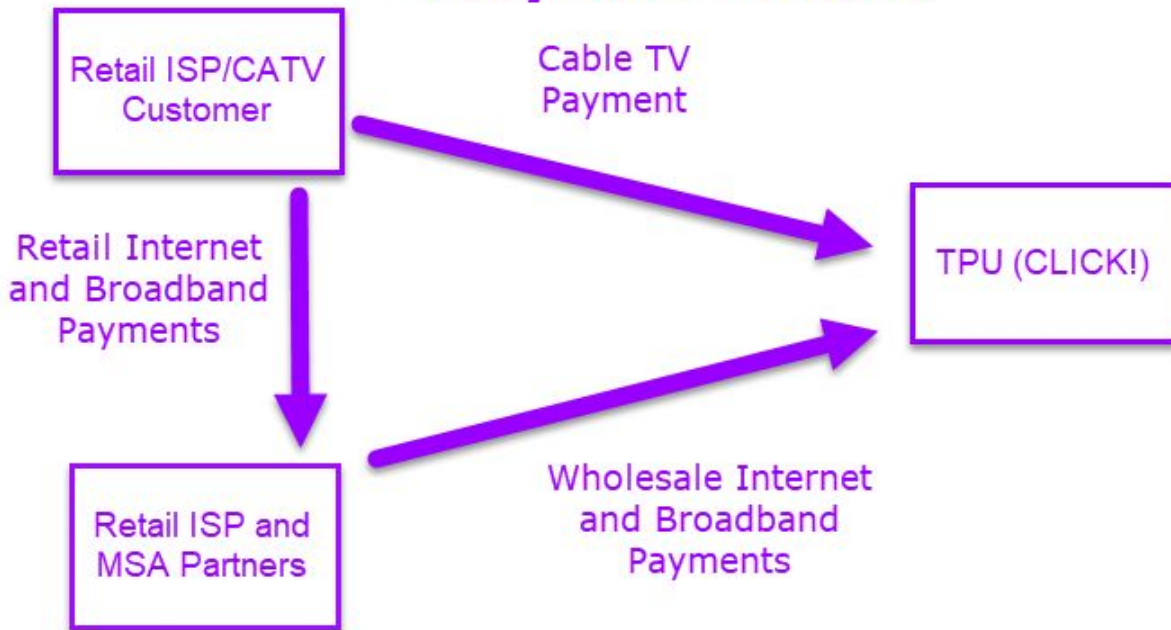
Provide network status information (for tier 1 support): The wholesale ISP partners and Click! will be responsible for their own network status reporting. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Provide network status information (for tier 2 support): The wholesale ISP partners and Click! will be responsible for their own network status reporting. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Provide network status information (for tier 3 support): The wholesale ISP partners and Click! will be responsible for their own network status reporting. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Provide monthly sales and leads reports: The wholesale ISP partners and Click! will be responsible for their own sales and leads reporting. In the event circumstances force policy makers to follow the emergency 'pivot' path, the Click! duties would then fall to the new 501 (c) non profit entity, as our proposal contemplates.

Stay the Course



Emergency Pivot Alternative

