Work Session WS

Milwaukie City Council

CITY OF MILWAUKIE

COUNCIL WORK SESSION

City Hall Council Chambers, 10722 SE Main Street
& Zoom Video Conference (www.milwaukieoregon.gov)

AGENDA

AUGUST 2, 2022

Council will hold this meeting in-person and through video conference. The public may attend the meeting by coming to City Hall or joining the Zoom webinar, or watch the meeting on the city's YouTube channel or Comcast Cable channel 30 in city limits. **For Zoom login** visit https://www.milwaukieoregon.gov/citycouncil/city-council-work-session-305.

To participate in this meeting by phone dial **1-253-215-8782** and enter Webinar ID **897 8131 1965** and Passcode: **519687**. To raise hand by phone dial *9.

Written comments may be delivered to City Hall or emailed to ocr@milwaukieoregon.gov. Council may take limited verbal comments.

Note: agenda item times are estimates and are subject to change. **Page #**

1. **Clackamas Cities Association Dinner – Update** (4:00 p.m.)
   Staff: Scott Stauffer, City Recorder
2. **Broadband Study Completion – Report** (4:15 p.m.) **1**
   Staff: Bonnie Dennis, Finance Director
3. **Transportation System Plan Advisory Committee – Discussion** (5:00 p.m.) **148**
   Staff: Laura Weigel, Planning Manager
4. **Adjourn** (5:30 p.m.)

Executive Session

After the work session Council will meet in executive session pursuant to Oregon Revised Statute (ORS) 192.660 (2)(h) to consult with counsel concerning the legal rights and duties of a public body with regard to current litigation or litigation likely to be filed.

Meeting Accessibility Services and Americans with Disabilities Act (ADA) Notice

The city is committed to providing equal access to public meetings. To request listening and mobility assistance services contact the Office of the City Recorder at least 48 hours before the meeting by email at ocr@milwaukieoregon.gov or phone at 503-786-7502. To request Spanish language translation services email espanol@milwaukieoregon.gov at least 48 hours before the meeting. Staff will do their best to respond in a timely manner and to accommodate requests. Most Council meetings are broadcast live on the city's YouTube channel and Comcast Channel 30 in city limits.

Servicios de Accesibilidad para Reuniones y Aviso de la Ley de Estadounidenses con Discapacidades (ADA)

La ciudad se compromete a proporcionar igualdad de acceso para reuniones públicas. Para solicitar servicios de asistencia auditiva y de movilidad, favor de comunicarse a la Oficina del Registro de la Ciudad con un mínimo de 48 horas antes de la reunión por correo electrónico a ocr@milwaukieoregon.gov o llame al 503-786-7502. Para solicitar servicios de traducción al español, envíe un correo electrónico a espanol@milwaukieoregon.gov al menos 48 horas antes de la reunión. El personal hará todo lo posible para responder de manera oportuna y atender las solicitudes. La mayoría de las reuniones del Consejo de la Ciudad se transmiten en vivo en el canal de YouTube de la ciudad y el Canal 30 de Comcast dentro de los límites de la ciudad.

Executive Sessions. The City Council may meet in executive session pursuant to Oregon Revised Statute (ORS) 192.660(2); all discussions are confidential; news media representatives may attend but may not disclose any information discussed. Final decisions and actions may not be taken in executive sessions.

CITY OF MILWAUKIE

Memorandum

To: City Council
From: Jennifer Garbely, Assistant City Engineer
Through: Kelly Brooks, Assistant City Manager
Date: 7/8/ 2022
Re: Engineering Dept. Projects – City Council Update for July 19, 2022

CAPITAL IMPROVEMENT PROJECTS:

Washington Street Area Improvements

Summary: This project combines elements of the SAFE, SSMP, Water, Stormwater, and Wastewater programs. SAFE improvements include upgrading and adding ADA compliant facilities along 27th Ave, Washington St, and Edison St. Street Surface Maintenance Program improvements are planned for Washington Street, 27th Avenue, and Edison Street. The Spring Creek culvert under Washington Street at 27th Avenue will be removed and a new structure added. The water system along Washington Street will be upsized from a 6" mainline to an 8" mainline. The stormwater system along Washington Street will be upsized from to 24" storm lines. The project is being designed by AKS Engineering and Forestry.

Update:
No update

42nd Avenue & 43rd Avenue SAFE Improvements

Summary: The combined 42nd and 43rd Avenues SAFE project will install measures to increase safety for bikes and pedestrians. Some utility work is included in the scope.

- 42nd SAFE: Reconstruct portions of the sidewalk and many sidewalk ramps for ADA accessibility. Install curb islands and other improvements to slow vehicle speeds and increase pedestrian and bicyclist safety. Water system improvements include transferring existing services from the 4" main to the existing 12" main. Sewer pipe replacement between Fieldcrest Avenue and Olsen Street.
- 43rd SAFE: Install a combination of sidewalks and shared bike/pedestrian paths along 43rd Avenue from King Road to Howe Street. Install sidewalks and shared bike/travel lane markings along Howe Street from 43rd Avenue to 42nd Avenue. Replace a problematic sanitary sewer line along 43rd Avenue from Rockwood Street to Covell Street. Ongoing discussions with an adjacent property owner will likely necessitate

transitioning from a multiuse path to sidewalk and sharrows immediately south of SE Rhodesa St on the west side.

Update: Contractor working on punch list and cleanup of the site. Landscaping may be delayed due to weather with high heat.

Lake Road Improvements

Summary: The Lake Road Improvements Project includes full depth reconstruction of the roadway from 23rd Avenue to Guilford Drive. The road will also be widened to accommodate the existing lane configuration and provide bike lanes in each direction for the full length. This project will install pervious pavement, stormwater planters, traffic signal upgrades at Lake Road and Oatfield Drive, and school zone flasher upgrades. Twelve curb ramps will be upgraded as part of this project.

Update: Contractor has two ADA ramps to repair for final sign off of the project.

Linwood Avenue SAFE Improvements

Summary: Shared bike/ped path on both sides of Linwood Avenue from just north of Harmony Road to Monroe Street. Permanent improvements will be made to the temporary diverter at the Monroe/Linwood intersection.

Update: Project is complete. ODOT Safe Routes to School Program is looking at a date in August to celebrate the project.

Meek Street Storm Improvements

Summary: Project was identified in the 2014 Stormwater Master Plan to reduce flooding within this water basin. The project was split into a South Phase and a North Phase due to complications in working with UPRR.

Update: No update at this time.

SAFE & SSMP FY 2021 Improvements (Home Ave & Wood Ave)

Summary: Project includes the Home Avenue SAFE and SSMP improvements and the Wood Avenue SSMP improvements.

- Home Avenue: Construct sidewalk on the west side of Home Avenue from King Road to Railroad Avenue. Full road reconstruction and installation of four inches of pavement from King Road to Railroad Avenue. Replace sewer pipe to improve lift station capacity on Harrison Street from 47th Avenue to Home Avenue, and on Home Avenue from Harrison Street to Monroe Street)
- Wood Avenue: Full road reconstruction and installation of four inches of pavement from Railroad Avenue to Park Street.

Update: Kerr Contractors started work in May 2022; contractor ran into severe problems with caving and overbreak when replacing the sanitary sewer line. Public Works agreed to limit the

work to replacing only the worst sections of pipe, reducing the work from 1185 feet to 200-250 feet of pipe; all of these pipe sections are in Home Ave. between Monroe and Harrison. Remaining sections of pipe will be left in place and relined with a future project. Week of July 11 they began prepping Wood Ave. For the removal of existing asphalt, cement treating the road base and repaving. On Home Ave., much of the demolition is completed; sections of the sidewalk between Guido Bocci and Hunter Ct. has been re-designed and moved to curb-tight.

Harvey Street Improvements

Summary: Project includes water service improvements on Harvey Street from 32nd Avenue to 42nd Avenue, on 42nd Avenue from Howe Street to Harvey Street, as well as 33rd Avenue and 36th Avenue. The project also includes sidewalk construction and roadway paving on Harvey Street from 32nd Avenue to 42nd Avenue.

Harvey Street: The project is being reassigned due to a staff departure.

FY 2021 Wastewater Improvements

Summary: Project includes replacement of old or high maintenance sanitary sewer mainline at 3 locations: Kent Street, 37th Avenue, Washington Street.

Update: Project is under design an approaching 60%. The design draft will soon move to Public Works for review.

Ardenwald North Improvements

Summary: Project includes street repair on Van Water Street and Roswell Street with a shared street design for bicycles, pedestrians, and vehicles. Stormwater catch basins in the project boundary will be upgraded, the water system will be upsized on 29th Avenue, 30th Avenue, and 31st Avenue, and there will be wastewater improvements on 28th Avenue, 29th Avenue, and 31st Avenue to address multiple bellies and root intrusion to reduce debris buildup.

Update: No update

King Road Improvements

Summary: King Road (42nd Avenue to city limits near Linwood Avenue) SAFE/SSMP Improvements will replace existing sidewalk and bike lane with a multi-use path, improve stormwater system, and reconstruct roadway surface.

Update: No update. Project charter is under review. Project is scheduled for engineering in FY 2023-2024.

Milwaukie Bay Park

Summary: Provided grant support letters for two state grants. Worked with NCPRD to contract for the dock to be removed and repaired.

Update: City Council and City Manager are negotiating with NCPRD on construction IGA. NCPRD has been working on getting the 50% design plan set ready and preparing for public meetings.

Wavery Heights Sewer Reconfiguration

Summary: Waverly Heights Wastewater project was identified in the 2010 Wastewater System Master Plan. The project may replace approximately 2,500 feet of existing clay and concrete pipe.

Update: Project is scheduled for FY 2023.

Monroe Street Greenway

Summary: The Monroe Street Greenway will create a nearly four-mile, continuous, low-stress bikeway from downtown Milwaukie to the I-205 Multi-Use path. Once complete, it will serve as the spine of Milwaukie's active transportation network connecting users to the Max Orange Line, Max Green Line, Trolley Trail, 17th Avenue Bike Path, I-205 path, neighborhoods, schools, and parks. Funding grants through ODOT and Metro will allow the city to complete the 2.2 miles of our section of the Monroe Greenway from the Trolley Trail to Linwood Ave in the next five years.

Update: IGA for delivery of segments D and E has been signed. City will transfer funds into an ODOT this month to start the process of hiring an engineering design consultant. A STIP / MTIP amendment to move $1.5M in safety leverage funds to the city has also been completed. The City and ODOT will now execute a second IGA regarding the terms associated with the state funds prior to transfer.

The intersection updates at Monroe and 224 are scheduled to be constructed in 2024. Staff has attended three ODOT meeting working on the redesign of this intersection. The city is working to align our improvements to A / B/ & hopefully C (depending on railroad) to the same timeline, however we cannot hire a design consultant until ODOT is further along in their design of the intersection.

Kellogg Creek Dam Removal

Summary: Project to remove the Kellogg Creek dam, replace the bridge, and improve fish passage.

Update: No update

TRAFFIC / PARKING PROJECTS, ISSUES

RIGHT-OF-WAY (ROW) PERMITS (includes tree, use, construction, encroachment)

Downtown Trees and Sidewalks

Summary: A downtown business owner applied for a permit to remove 5 trees at 10909 SE Main Street. Peter and Steve met with the applicant to propose retaining the trees by allowing for larger tree wells and raising the sidewalk to allow more space for roots under them. The city has offered to demolish and reinstall the curb; but the property owner will be responsible for replacement of the sidewalk and all future maintenance of sidewalks. Owner expressed concerns that any changes with sidewalk elevation may allow storm runoff to shed towards the front doors of the businesses.

Update: Staff has a contract with AKS; working on what type of design works best now and in the future with both the trees and sidewalks & curbs; staff met with Council on June 21, and returned on July 19 with additional information.

PRIVATE DEVELOPMENT – PUBLIC IMPROVEMENT PROJECTS (PIPS)

Monroe Apartments - 234 units

Update: Guardian Real Estate Services (same developer of Axeltree) has taken over the project. A Right-of-Way permit has been issued; contractor has recently begun street reconstruction work. Due to the community interest, we have seen on this project, we have chosen to set up a project construction web page on our website.

Railroad Estates Subdivision – 6 lot subdivision at Railroad Ave. & 56th Ave.

Update: The pre-construction meeting for this project was held on June 2nd. Construction is on hold, no new date has been provided.

Walnut Addition Subdivision – 9 lot subdivision at Roswell St. & 33rd Ave.

Update: While the subdivision was platted some 40 years ago, it was never fully constructed. Contractor has completed all underground pipe work, and has graded and placed base rock in the new street. Installation of curb/gutter and asphalt is expected in summer 2022.

Elk Rock Estates – 5 lot subdivision at 19th Ave & Sparrow St.

Update: A pre-construction meeting was held on June 15.
Construction plans have been approved. Waiting on developer to request a pre-construction meeting and for a performance bond and insurance certificate to be submitted.

32nd & Olsen – 4-story, 18-unit mixed use building

Update: Property has been listed for sale; no change is design plans or permitting since last Council update.

Birnam Oaks Apartments (formerly Waverly Woods) - 130 units (all phases)

Update: A Right-of-Way permit has been issued for construction work along property fronting on Waverly Court. Contractor has installed water and sanitary connections to city lines. Street grind and inlay, sidewalk and driveway construction expected in summer 2022

Henley Place (Kellogg Bowl redevelopment)- 175 units

Update: A Right-of-Way permit has been issued; demolition has been completed; construction of improvements is underway.

DOCUMENT ADMINISTRATION

Master Plans

Summary: Water and Wastewater System Master Plans are under contract and are being managed by Peter Passarelli.

Update: Review draft chapters in the water and wastewater master plans. Transportation Systems Plan (TSP): the city was recently awarded a Transportation and Growth Management (TGM) grant through ODOT to help fund updating and revising our TSP.

DEQ Stormwater Report

Summary: The Department of Environmental Quality (DEQ) requires an annual update report documenting how the City of Milwaukie is meeting the MS4 DEQ Permit requirements. This report is submitted annually by Public Works.

Update: Engineering is tracking CIP and PIP stormwater work to be included in the annual report.

CITY OF MILWAUKIE

WS 1.
8/2/22

OCR USE ONLY

COUNCIL STAFF REPORT

To: Mayor and City Council
Ann Ober, City Manager

Date Written: July 18, 2022

Reviewed: Bonnie Dennis, Administrative Services Director

From: Joe Gardner, Information Technology Manager

Subject: **Broadband Feasibility Study Results**

ACTION REQUESTED

Council is asked to review and discuss the results from the broadband feasibility study.

HISTORY OF PRIOR ACTIONS AND DISCUSSIONS

September 17, 2019: Duke Dexter from Clackamas Broadband Express (CBX) and Dave Cummings, the Chief Information Officer of Clackamas County, presented to Council on the broadband services in Clackamas County and how CBX provides backbone services to internet service providers (ISPs) such as Wave Broadband and the City of Sandy's service, SandyNet.

August 3, 2021: Magellan Advisors provided an overview of municipal broadband and Council directed staff to conduct a community survey and broadband feasibility study.

In October 2021, the city issued a request for proposal (RFP) and selected Uptown Services to undertake the broadband feasibility study.

ANALYSIS

The objective of the study was to identify and evaluate the financial feasibility of providing broadband services to the city. Broadband as hosted by the city would provide an enhanced effort towards affordability, availability, and reliability for residents and businesses in Milwaukie. The study included an in-depth survey to residents and business owners and a review of the city's current financial structure to determine what the potential return on investment (ROI) could be.

Dave Stockton with Uptown Services will be giving a presentation on the feasibility study that will include the evaluation of city infrastructure/network, potential partners, a pro forma financial analysis, possible funding options, and a summary of findings for discussion.

BUDGET IMPACT

If Council chooses to offer broadband, there will be significant adjustments needed to the city budget. The feasibility study was completed using the federal dollars from the American Rescue Plan Act (ARPA).

WORKLOAD & CLIMATE IMPACT

None.

COORDINATION, CONCURRENCE, OR DISSENT

The city manager and finance department staff reviewed the results of the study.

STAFF RECOMMENDATION

Staff recommends that Council consider the feasibility of broadband at a future date to determine if the negative financial ROI noted in the current report remains the same.

ALTERNATIVES

None.

ATTACHMENTS

1. Broadband Study Summary
2. Broadband Study Complete Report

Attachment 1.1.

Broadband Feasibility Study

for

The City of Milwaukie, Oregon

August 2, 2022

Uptown Services, LLC
Dave Stockton & Neil Shaw, Principals

WS3

STUDY OBJECTIVE & SCOPE

OBJECTIVE: *Identify and evaluate the financial feasibility of a range of options for the City to enhance the availability, affordability, reliability, and capacity of broadband infrastructure for residents and businesses…*

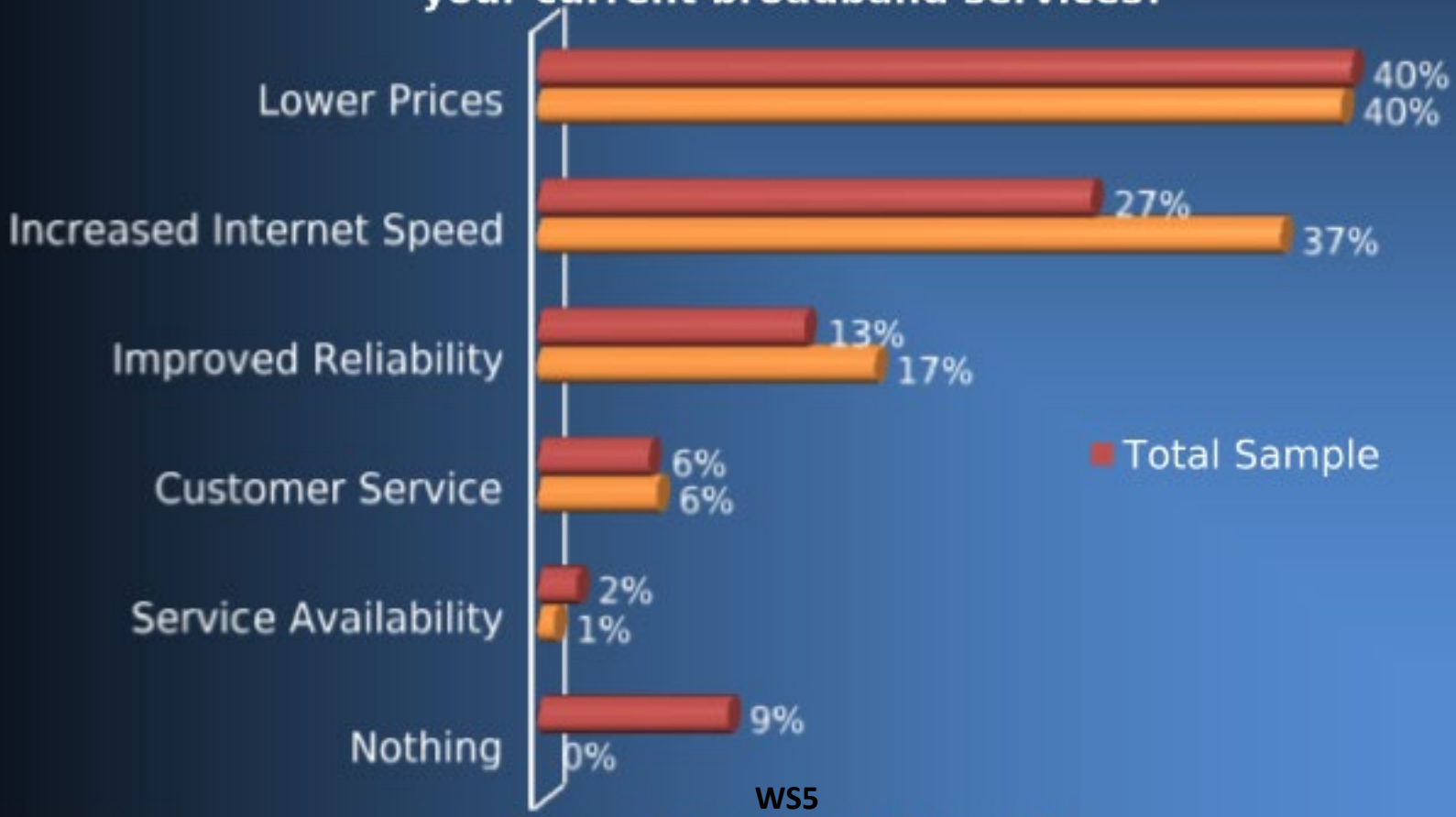
SCOPE:

1. Evaluate Current Infrastructure
2. Evaluate City's Current Network
3. Local Market Assessment and Product Strategy
4. Market Research and Stakeholder Outreach
5. Potential Partnership Options
6. Map of Broadband Environment
7. Potential Business Models
8. Network Conceptual Design and Capital Budget
9. Pro Forma Financial Analysis
10. Financing and Funding Availability

BROADBAND AREAS FOR IMPROVEMENT

Milwaukie residents see increased Internet speed and lower prices as the most important dimension for improving their broadband…

Q33: "What would you like to see most improved from your current broadband services?"



WS5

TESTED RESIDENTIAL INTERNET PRICE POINTS

The quantitative survey evaluated household purchase intent taking into consideration a range of strategy options:

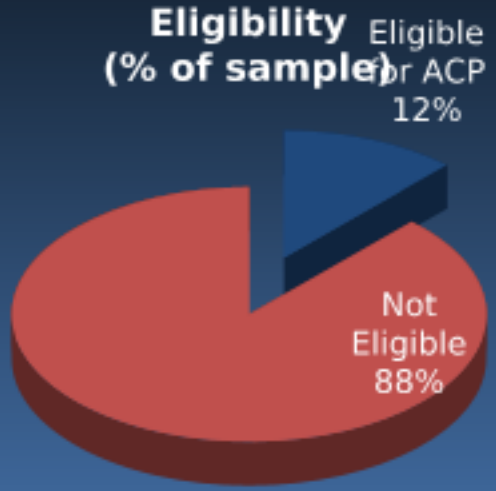
- Price elasticity of demand for 1G Internet tested at $60 and $70/month using a cell design so each participant was presented with one (Cell A = 370 sample and Cell B = 385 sample)
- ACP-eligible households were presented with 1G Internet including the $30 ACP discount (still using the Cell A and B design)
- Multi-Gig tier options were presented to participants that stated they would 'definitely' or 'probably' subscribe to the 1G tier

Internet Tier Download / Upload	Monthly Price: Standard	Monthly Price: ACP Eligible
1G / 1G	Cell A: $60 Cell B: $70	Cell A: $30 Cell B: $40
2G / 2G	$100	$60
4G / 4G	$150	$120

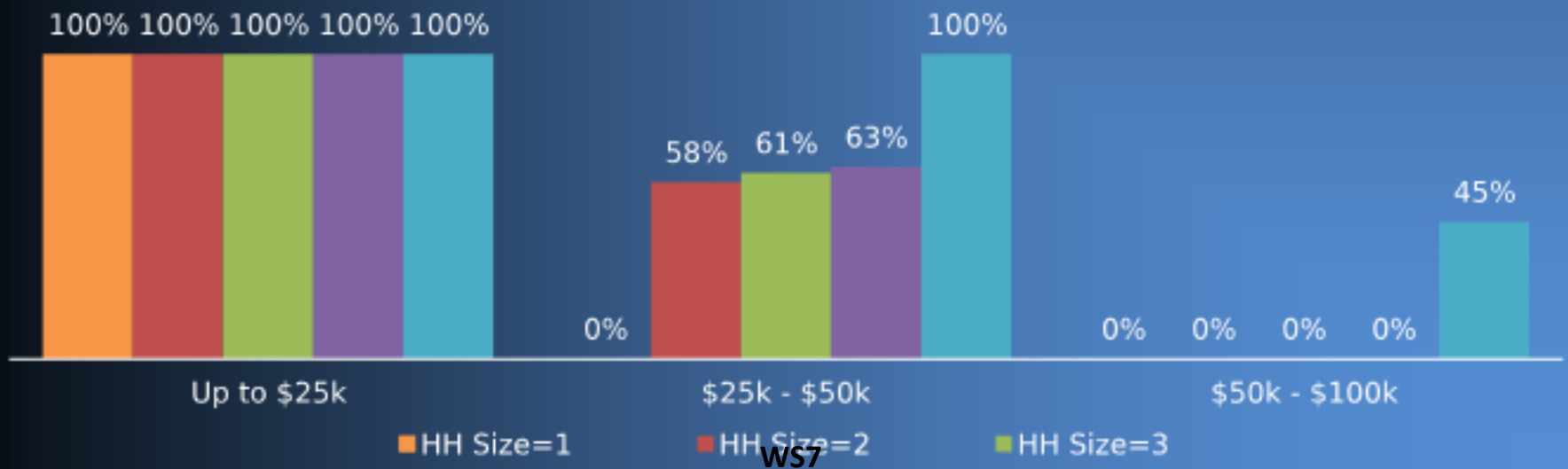
WS6

ACP ELIGIBILITY

- Eligibility set at 50% of Area Median Income currently used for Utility Assistance:
  - HH of 1: Income up to $33,850
  - HH of 2: Income up to $38,700
  - HH of 3: Income up to $43,550
  - HH of 4: Income up to $48,350
  - HH of 5+: Income up to $52,250



Household (HH) Eligibility by Income Bracket and Size
(as a % of survey sample)

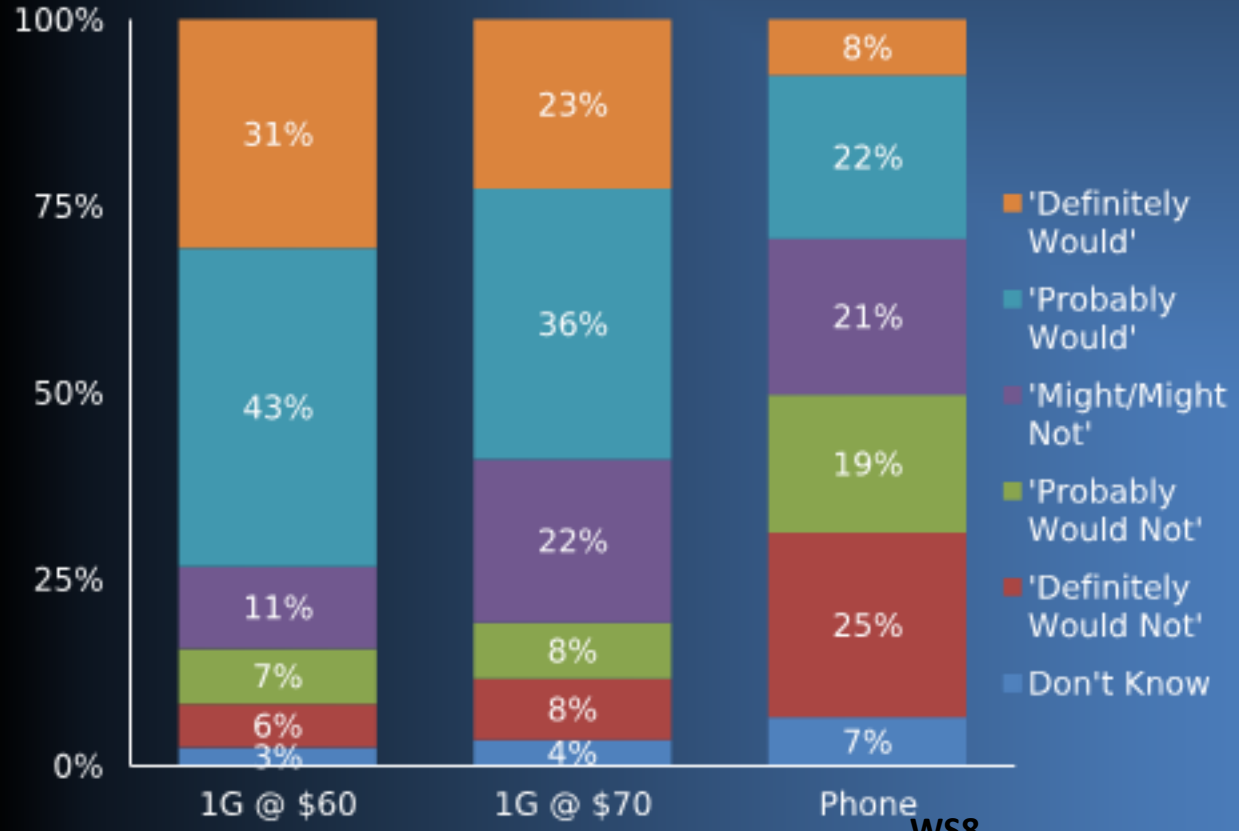


PURCHASE INTENT: ENTIRE SAMPLE

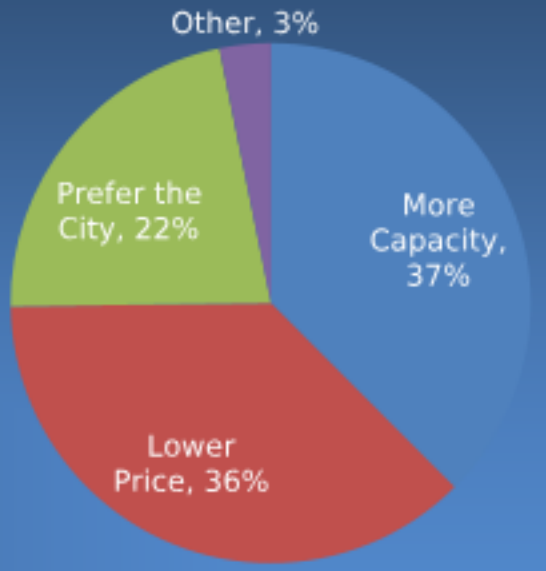
At a $60 price for 1G, 74% of respondents indicated they would definitely or probably switch their Internet service to a fiber system installed by the City. This metric drops to 59% at the $70 price point...

Q26/Q27: *Stated purchase intent for:*

- *Internet at $60/mo. for 1Gbps*
- *Internet at $70/mo. for 1Gbps*
- *Voice at $35/mo.*



Primary Reason to Switch
(Definitely or Probably Response)

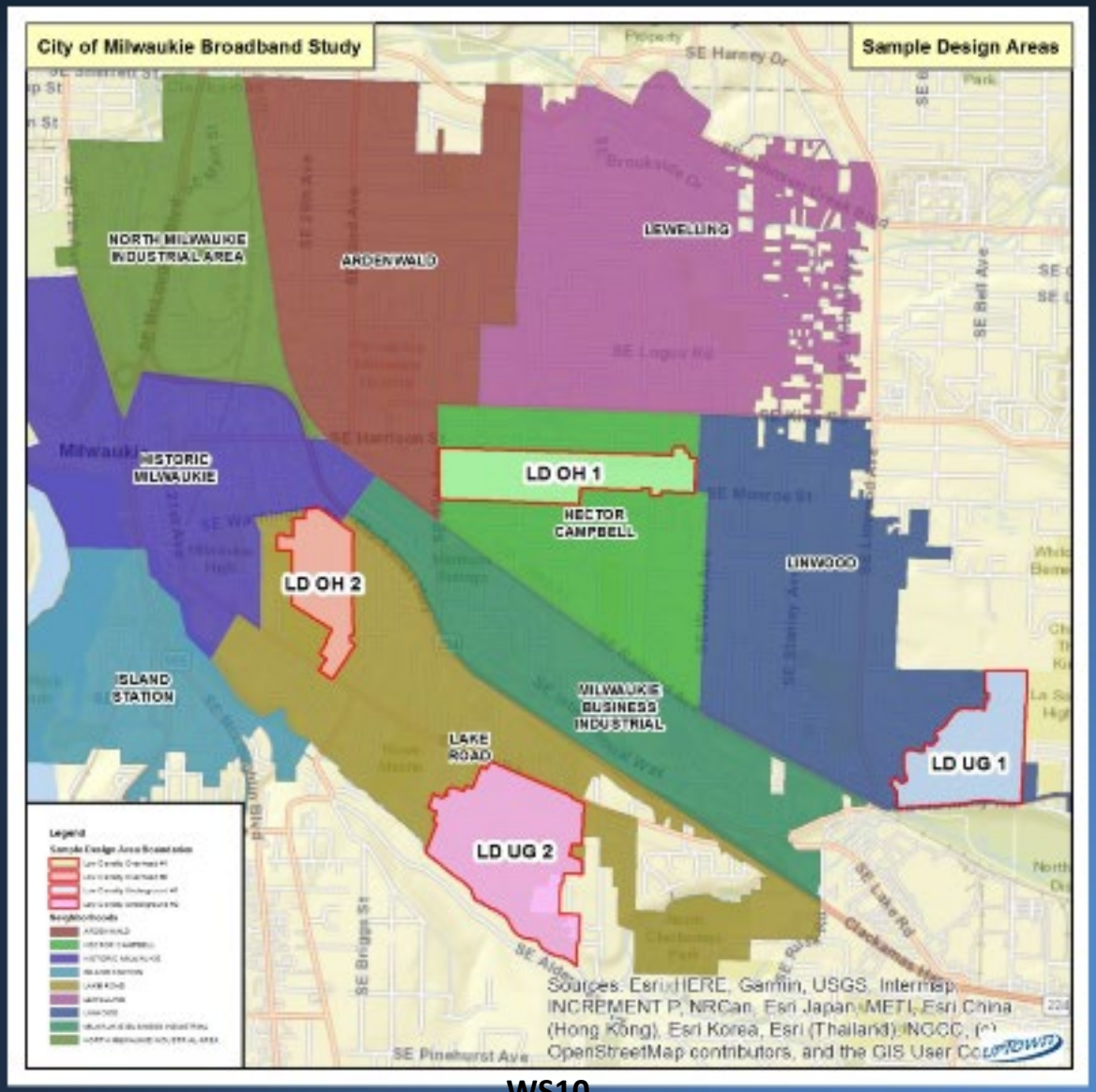


WS8

SUMMARY OF RESIDENTIAL RESEARCH FINDINGS

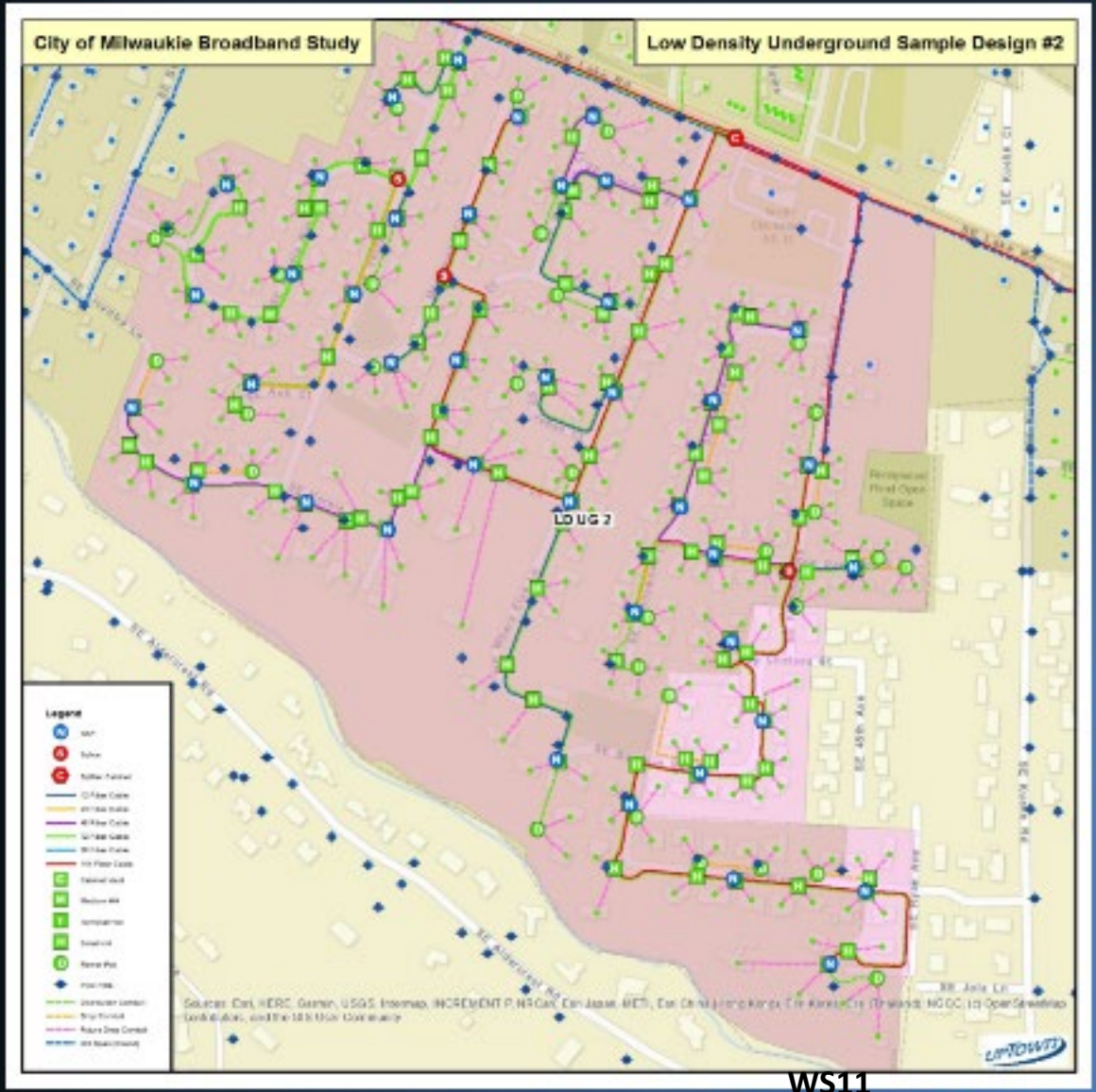
- Overall, 93% of households use Internet at home with 84% using a wired connection. Comcast is the dominant provider
- Household income below $25k reduces incidence of a wired Internet connection. For lower income households that do have Internet, subscribed speeds are significantly lower then higher income homes
- Internet and phone service satisfaction levels benchmark at average levels
- Improved Internet speed and lower prices are the predominant need for improvement with current Internet service
- 36% of households state their ideal Internet speed would be 1G or higher. This increases to 51% among those who would definitely subscribe.
- 50-55% of working-age households are working at home (WAH) at least part time, with expectations this will continue
- 12% of Milwaukie households would be eligible for the ACP program. These households currently are under-utilizing Internet capacity due to affordability issues but have higher incidence of WAH and online schooling than non-eligible households.
- Significant price elasticity with a forecasted take rate increase from 29% to 36% by lowering the 1G price from $70 to $60/month
- Strong interest in multi-Gig tiers at higher price points resulting in ARPU of >$80
- The City is the preferred provider with the Comcast a close second

SAMPLE DESIGN AREA OVERVIEW



WS10

LOW DENSITY UNDERGROUND #2 SAMPLE DESIGN



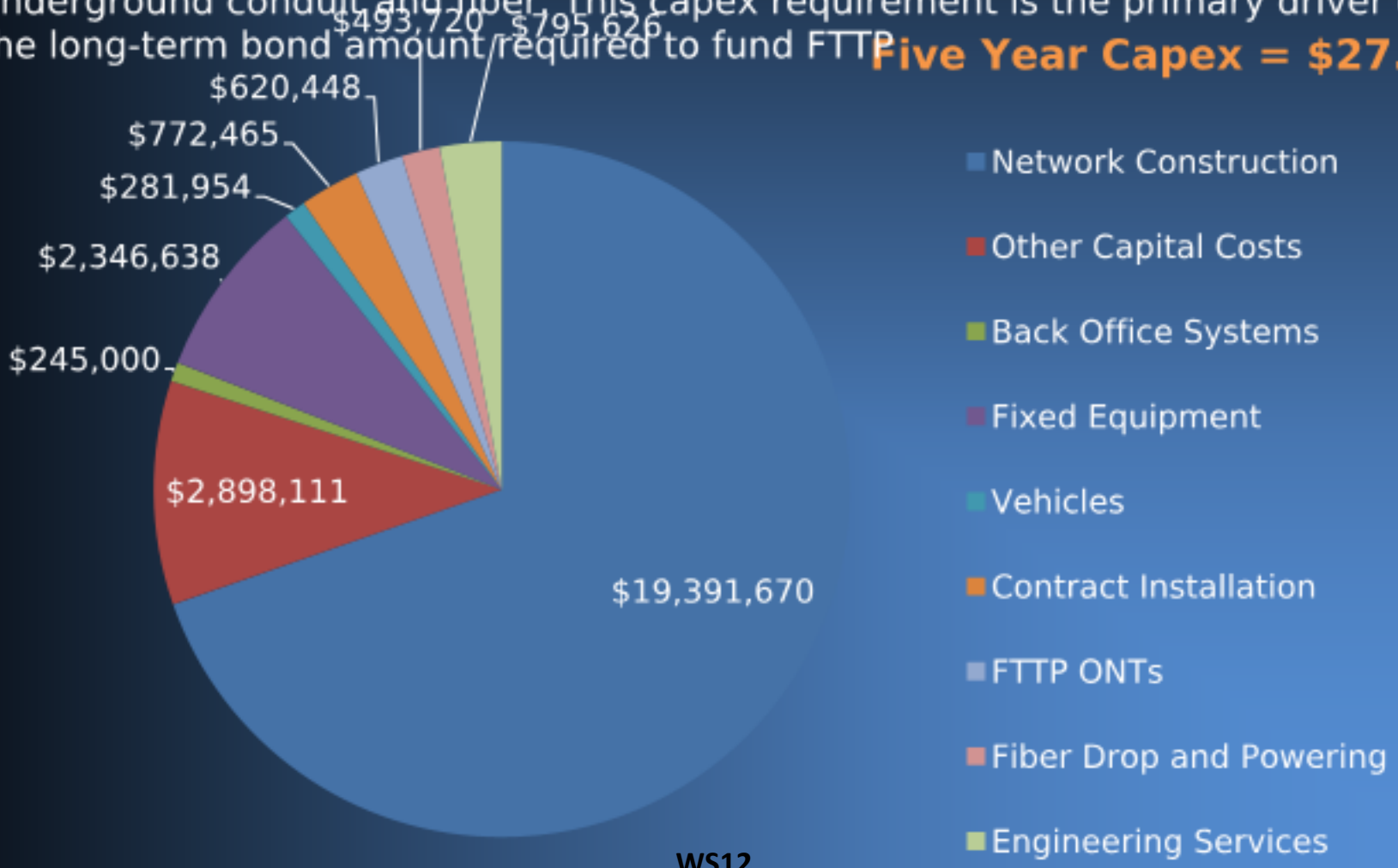
Design Metric	Value
New Aerial Plant Miles	0.0
New Underground Plant Miles	3.7
% Aerial	0%
% UG	100%
Passings	267
Passings per Mile of Plant	72.0
Materials Cost per Passing	$568
Labor Cost per Passing	$4,035
Total Cost per Passing	**$4,602**
Total Materials (no drops)	$151,569
Total Labor (no drops)	$1,077,222
Total Cost	**$1,228,791**

* - Does not include engineering, fixed equipment, subscriber capital and installation costs.

CAPEX BY TYPE: YEARS 1-5

Fully two-thirds of the 5 year capex requirement is due to outside plant construction, primarily composed of the labor cost to install aerial and underground conduit and fiber. This capex requirement is the primary driver of the long-term bond amount required to fund FTTP.

Five Year Capex = $27.8M



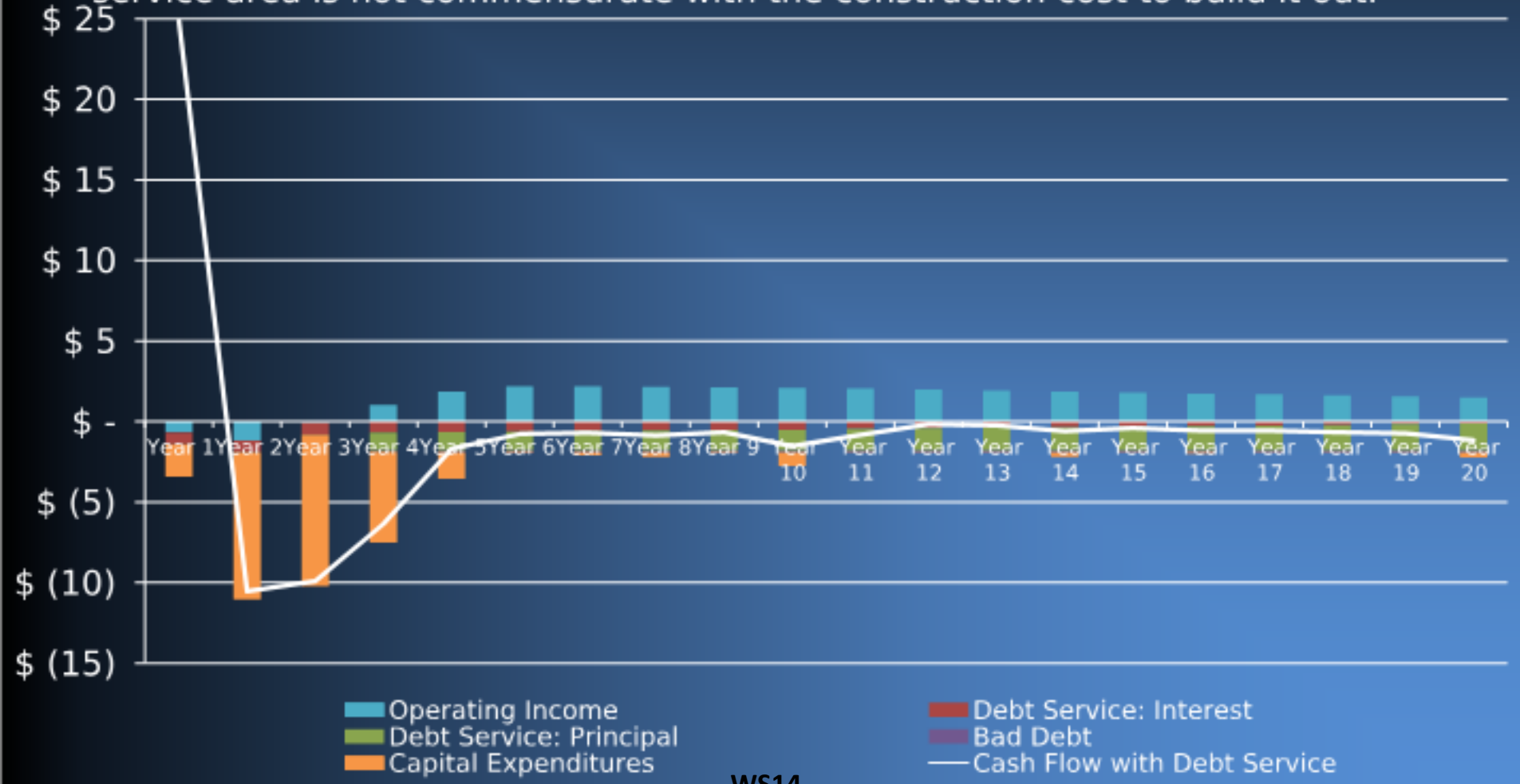
RANGE OF BUSINESS MODELS

	WHOLESALE		RETAIL	
	Status Quo Dark Fiber	Public-Public or Public-Private Partnership*	Own & Operate with Operating Partner	Own & Operate
Ownership Role of City	City owns fiber backbone and funds fiber laterals via one-time connection fees	City funds capex for fiber build (FTTC) and owns backbone & distribution fiber	City funds capex for fiber build (FTTP), working capital, and some operating expenses	City funds capex for fiber build (FTTP), working capital, and all operating expenses
Operating Role of City	City constructs & maintains fiber plant (excluding electronics)	Partner is the service provider. City only co-brands & maintains fiber plant (excluding electronics)	City is service provider. Partner provides customer care, help desk, fiber maintenance/outage response, and network management/administration	City is service provider and provides all operating roles (excluding providing voice service)
Services Offered	Dark fiber transport to CAIs, dark fiber transport to commercial accounts, and local loop ISP wholesale	Standard Internet and voice package offerings to the residential and commercial segments.		
Revenue	All revenue retained by City	All revenue retained by the Partner. City compensated with	All revenue retained by City. Partner compensated with	All revenue retained by City

*Commonly abbreviated as PPP or 3P

CASH FLOW AFTER DEBT SERVICE ($M)

Over the 20 year forecast, operating income is not sufficient to service annual debt service, meaning that the revenue opportunity within the proposed service area is not commensurate with the construction cost to build it out.

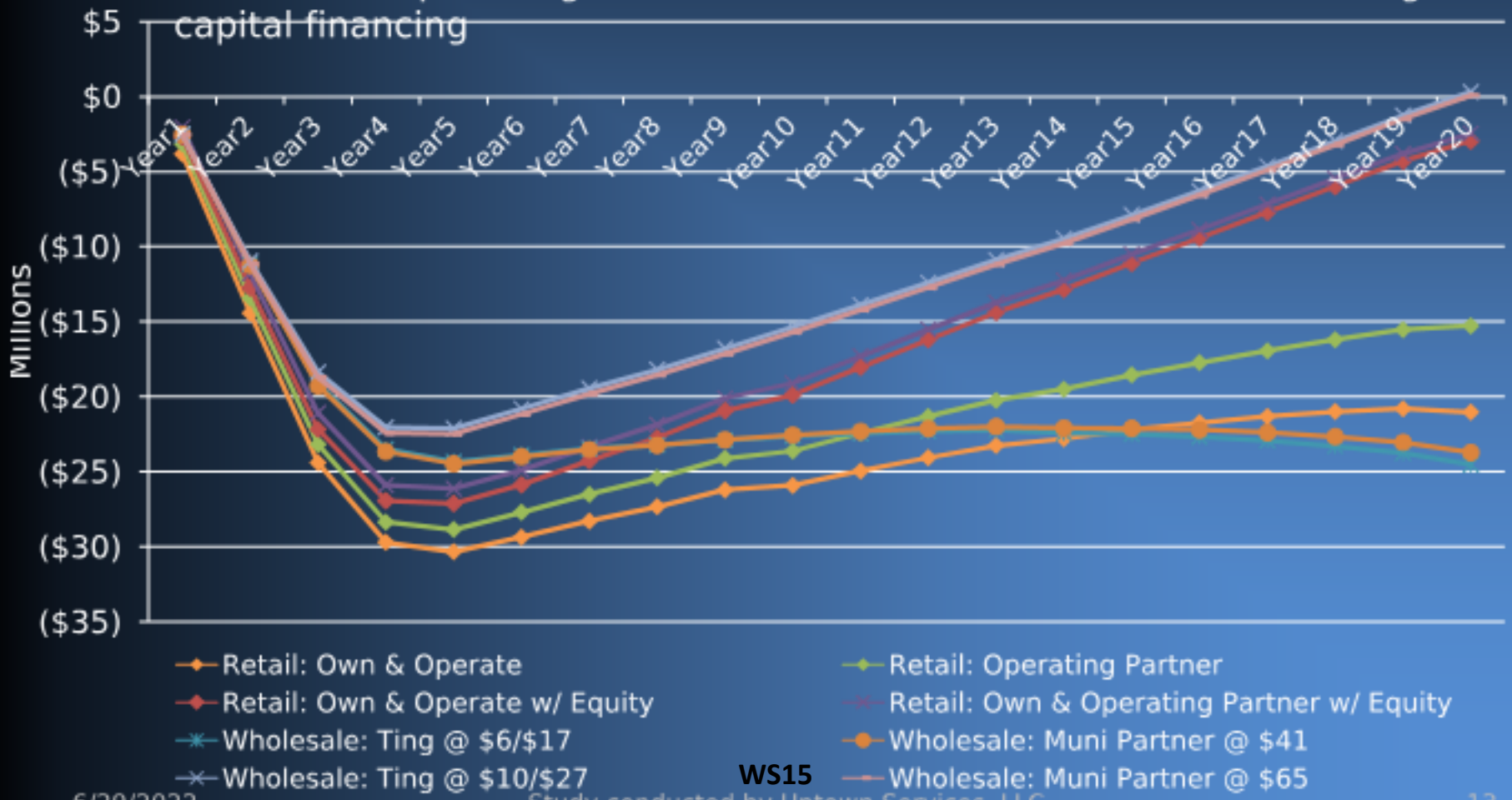


WS14

NET CASH: ALL MODELS

Due to a very high capes requirement, both business retail and wholesale business models require extraordinary funding measures to attain viability:

- Retail requires equity investment to reduced debt service costs
- Wholesale requires higher wholesale fees to avoid short term working capital financing



WS15

STUDY CONCLUSIONS

1. A last-mile build out of the proposed service area requires significant capital expense due to high cost-per-passing of ≈$1,800. This is required across all business models.
2. A range of funding options were evaluated including contributed equity, long term debt (e.g. a 20 year bond), short term working capital loan, and wholesale fees. We note that federal infrastructure grant dollars, while significant and timely, are not likely to be obtained due to a lack of eligibility based on incumbent service offerings
3. Under both retail and wholesale business models, typical financing and partnership terms are insufficient to generate the cash flow to cover debt service and achieve financial self-sufficiency
4. To improve financial outcomes and reach feasibility, enhanced funding was evaluated to understand both the retail and wholesale terms revisions necessary:
   - Retail Model: Equity funding of $18.5M is required
   - Wholesale Model: "Above-market" wholesale fees are required
5. Additionally, in an effort to understand the sensitivity of financial feasibility to key performance metrics, Uptown identified the feasibility threshold of the following variables:
   - Services Pricing: Residential 1G would need to be increased from $60 to $90/month
   - Construction Cost: The outside plant construction cost per passing would need to drop from $1,800 to $780
   - Take Rate: The residential take rate would need to increase from 35.6% to 46.0%

WS16

POTENTIAL NEXT STEPS & STUDY REFRESH TIMING

Potential next steps:

- Monitor state broadband office guidelines for BEAD grant eligibility
- Monitor construction cost changes potentially driven by macroeconomic factors and grant funding winddown in 2026 and beyond
- Explore operating partnership interest via RFI or direct negotiations
- Explore wholesale partnership interest via RFI or direct negotiations

Study Validity and Refresh Timeframes:

- Market Research: Estimated at 2 years, or through 2023 as a common 'shelf-life' timeframe for mass market research
- Supplier Side Factors: Estimated at 4 years, as that is the timeframe for grant-funded projects to complete construction, at which time the activity level would be expected to drop, and likely improve construction costs compared to today's environment

Broadband Feasibility Study

for

The City of Milwaukie, Oregon

March 2022

DRAFT – Not for Disclosure Prior to Client Approval

Uptown Services, LLC

Dave Stockton & Neil Shaw, Principals

STUDY OBJECTIVE & SCOPE

OBJECTIVE: *Identify and evaluate the financial feasibility of a range of options for the City to enhance the availability, affordability, reliability, and capacity of broadband infrastructure for residents and businesses…*

SCOPE:

1. Evaluate Current Infrastructure
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8. Network Conceptual Design and Capital Budget
9. Pro Forma Financial Analysis
10. Financing and Funding Availability

Residential Quantitative Survey

RESEARCH TEAM

- The quantitative research process utilized both subject matter and functional expertise across multiple contractors by specialty:
  - **Uptown Services**: Subject expertise and study data needs
  - **SDR Consulting (Rick Hunter)**: Research expert overseeing design and execution (23 years experience with 200k completed research projects)
  - **American Directions Research Group**: Survey fielding and data collection (7 US-based call centers with capacity to complete 85k person-hours of call interviews per month)
  - **Prairie Research Group (James Wolken)**: Online survey programming, crosstab analysis and production of output banners (25 years experience)

WS21

DESIGN FRAMEWORK

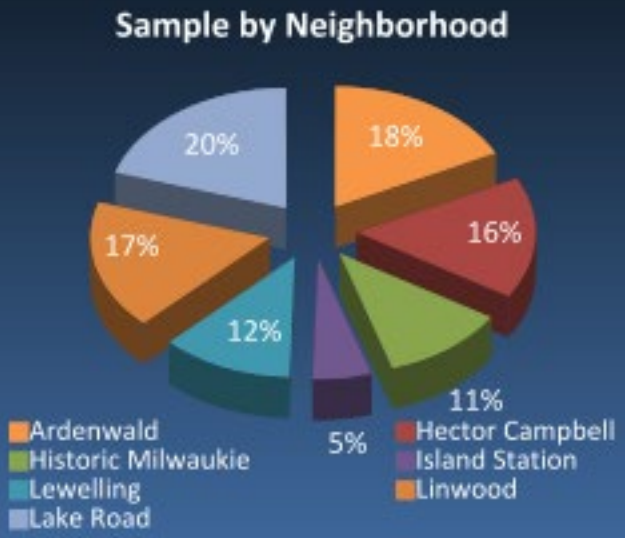
- Phone and online surveys
  - Total sample of 755 respondents of universe of ≈7,000 households
    - 400 via phone survey (list included wireline and wireless numbers)
    - 200 via online email invitation (email addresses purchased via 3rd party data source)
    - 155 via survey link published by the City
  - ± 3.4% sample error at 95% confidence interval
  - List included wireline and wireless numbers
- Age quotas used to ensure robust sample across all age groups. Results weighted to reflect actual age distribution from 2019 American Community Survey (US Census Bureau) data
- Respondents screened to ensure
  - Decision-maker for telecommunications and entertainment services in the home
  - Reside within city limits
  - Respondents with immediate family members employed by any of the following were excluded:
    - The City of Milwaukie
    - Comcast
    - CenturyLink

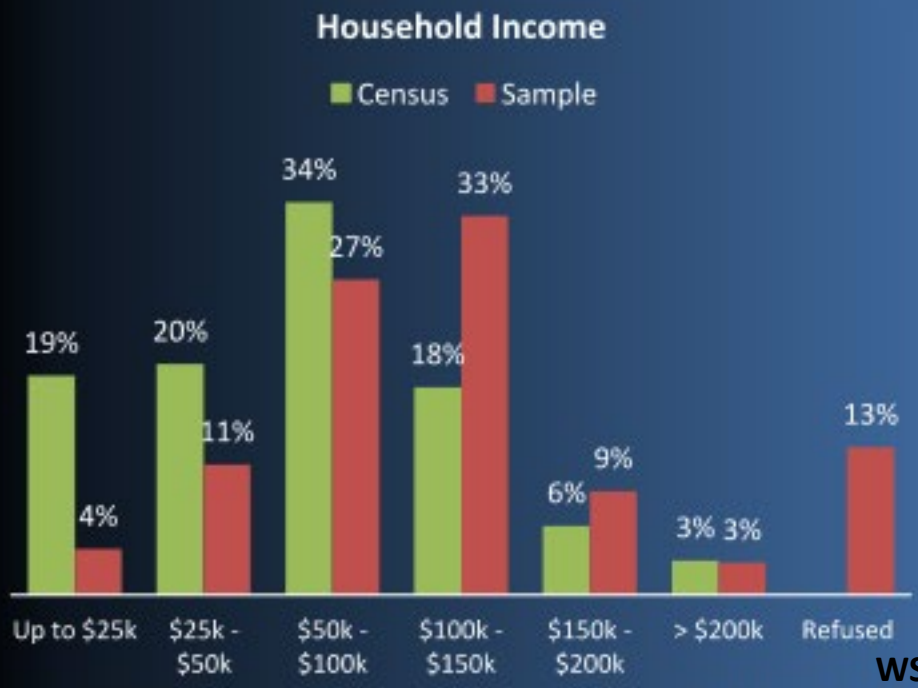
WS22

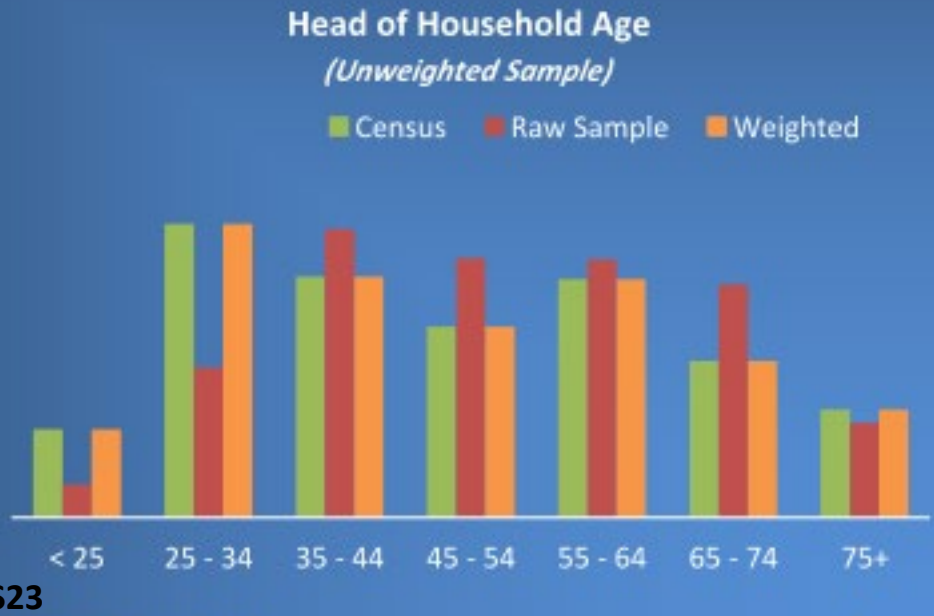
UPTOWN SERVICES, LLC

SAMPLE DEMOGRAPHICS

- Survey results are weighted to reflect the actual age distribution (by age decile) per the 2019 census update.
- All seven neighborhoods have representation within the survey
- The income profile of the sample is not dissimilar to the universe of residents, but skews slightly to higher income







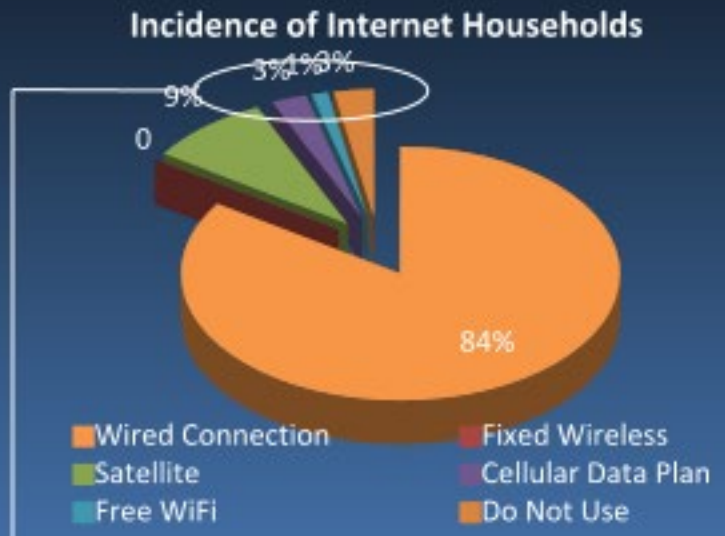
WS23

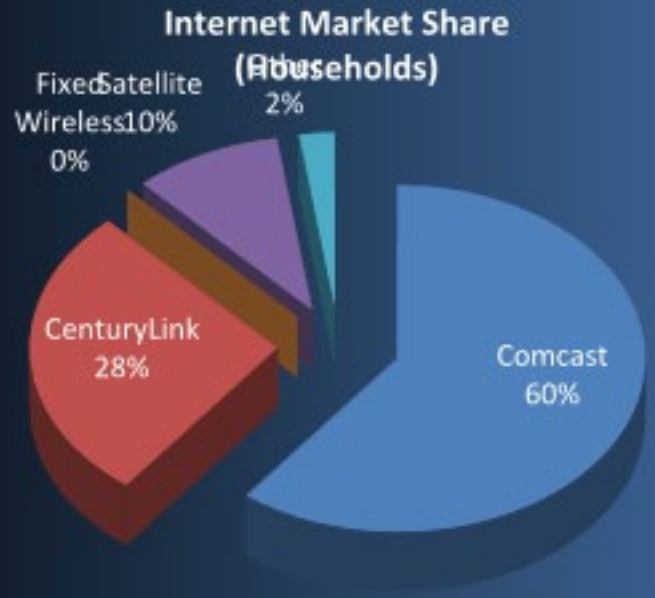
FTTP Residential Quantitative Survey

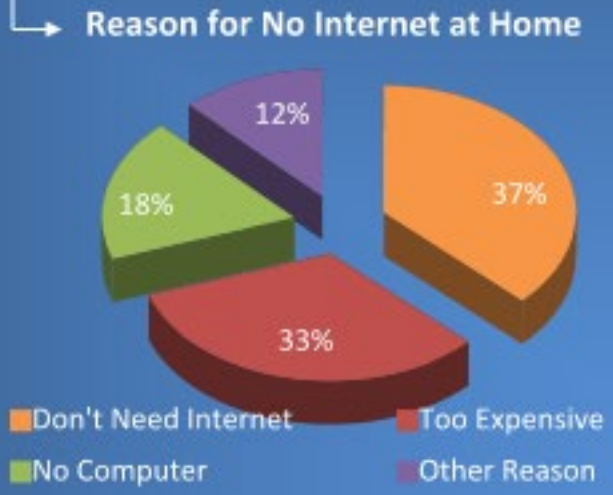
Current Broadband Services Usage

INTERNET SERVICE PURCHASING BEHAVIOR

- 93% of Milwaukie households subscribe to Internet service at home, with 84% via a wired connection
- Comcast has 60% market share of the residential broadband market
- Lack of need and affordability are the primary reasons for lack of an Internet subscription



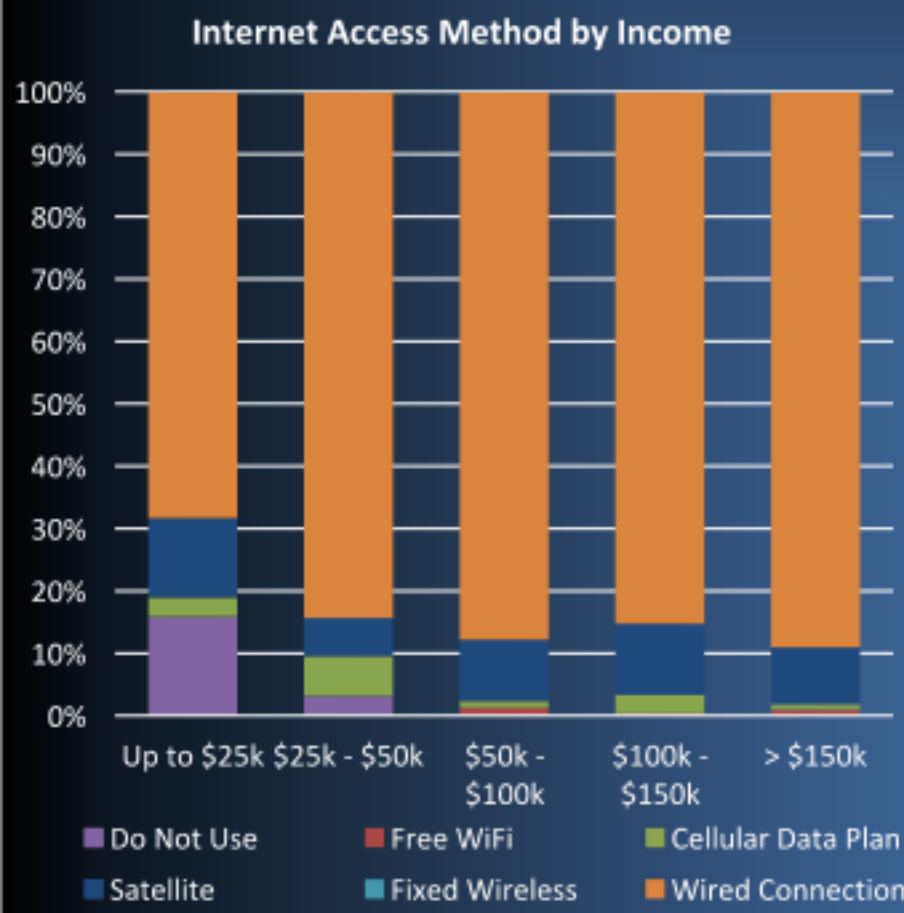


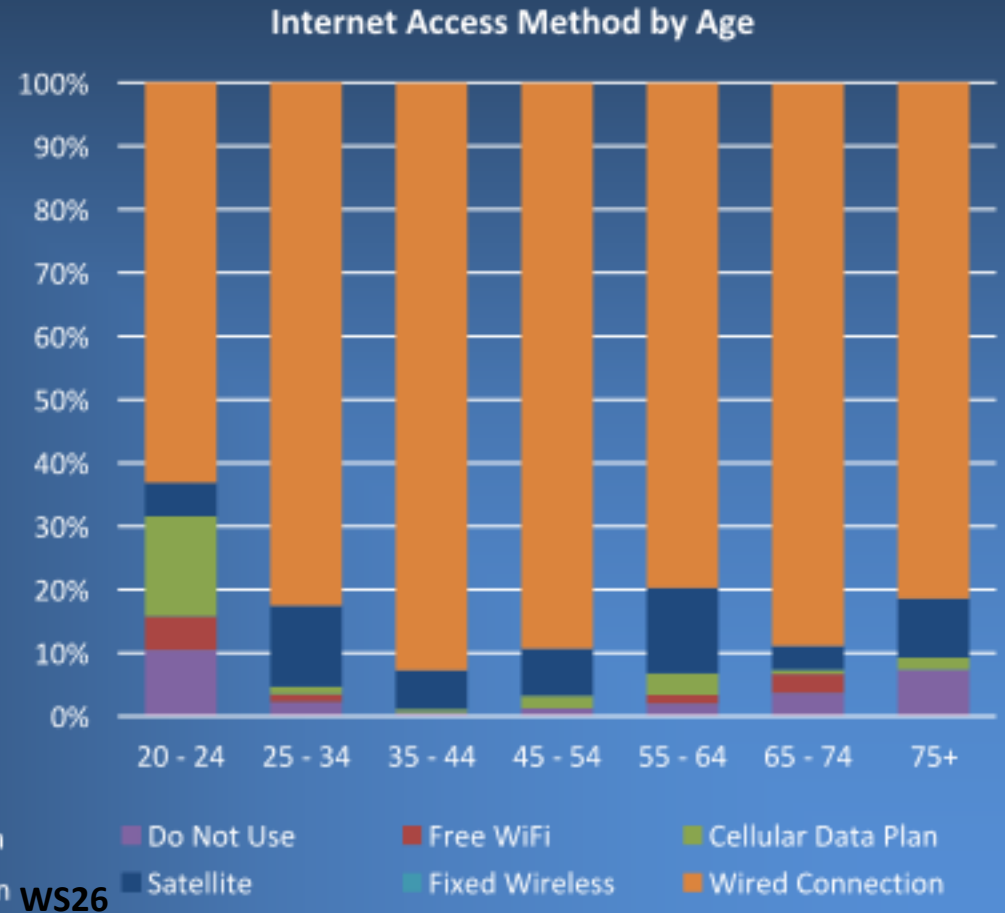


WS25

INTERNET ACCESS METHOD DEMOGRAPHICS

- Household income below $25k reduces incidence of a wired Internet connection
- The youngest and oldest households are less likely to have a wireline connection
  - 32% 0f 20-24 use their cellular data plan, free WiFi, or do not access the Internet
  - 9% of 75+ use their cellular data plan or do not access the Internet

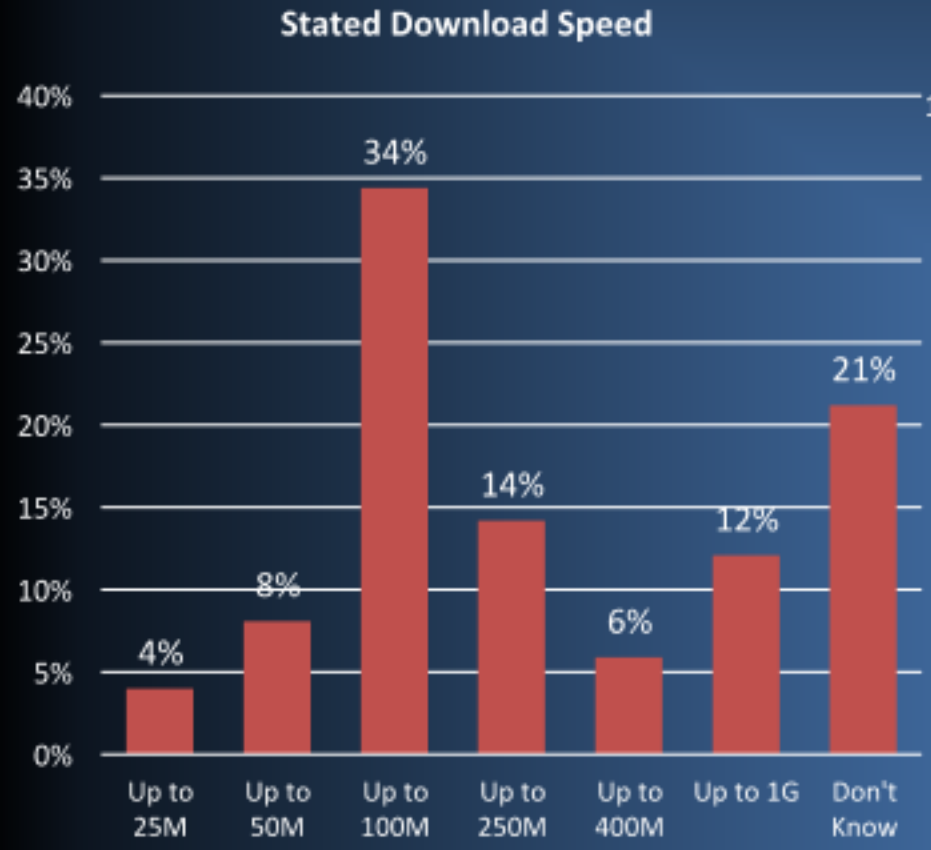


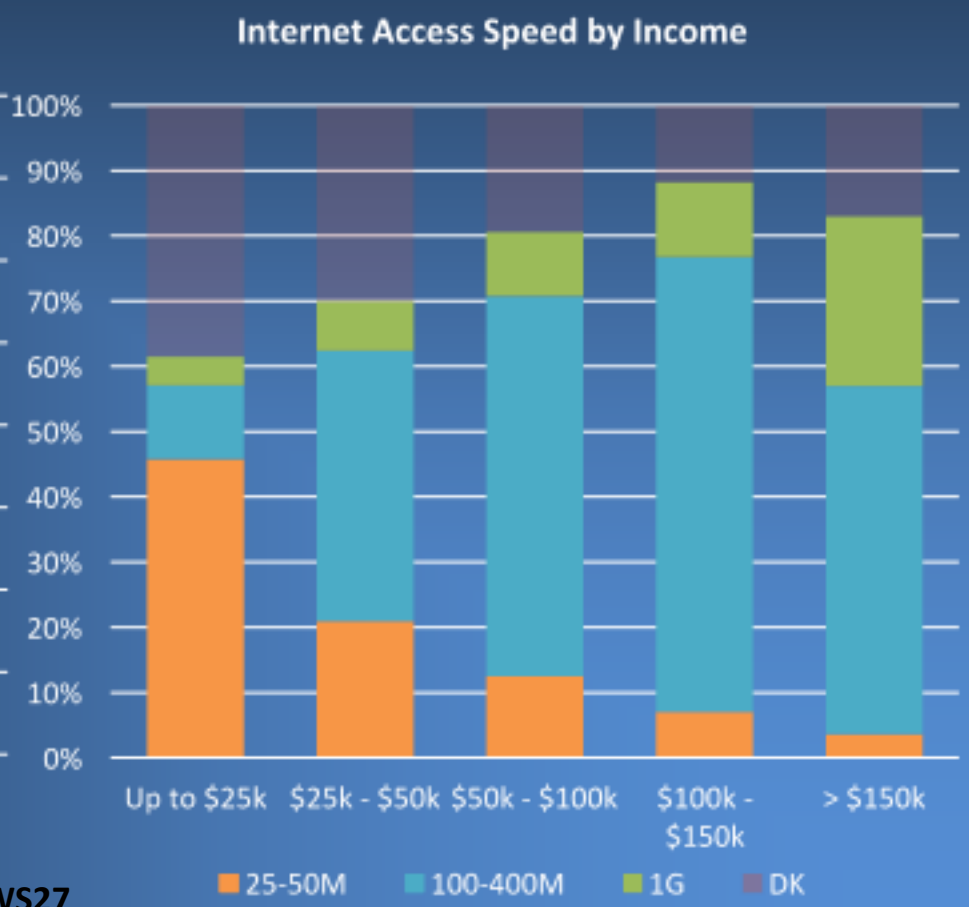


WS26

STATED DOWNLOAD SPEED

- 21% of households do not know what speed they subscribe to
- 33% of households *state* they subscribe to > 100M
- Lower income households are more likely to subscribe to lower capacity Internet tiers

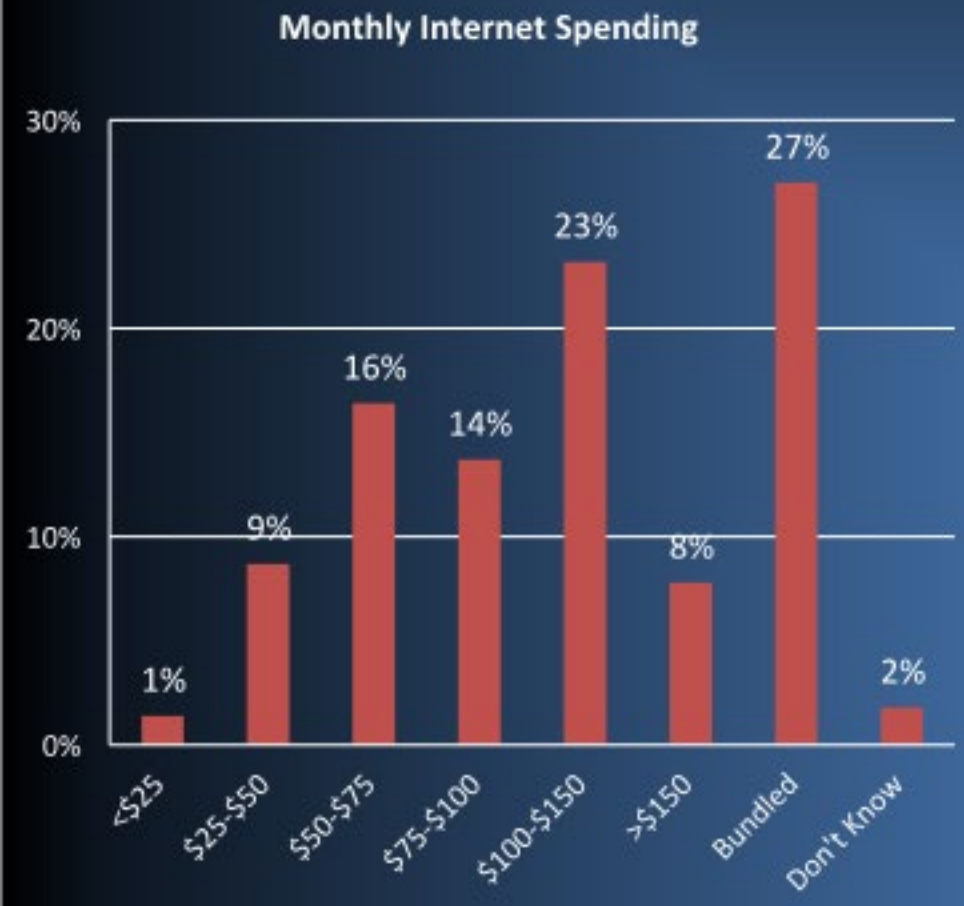


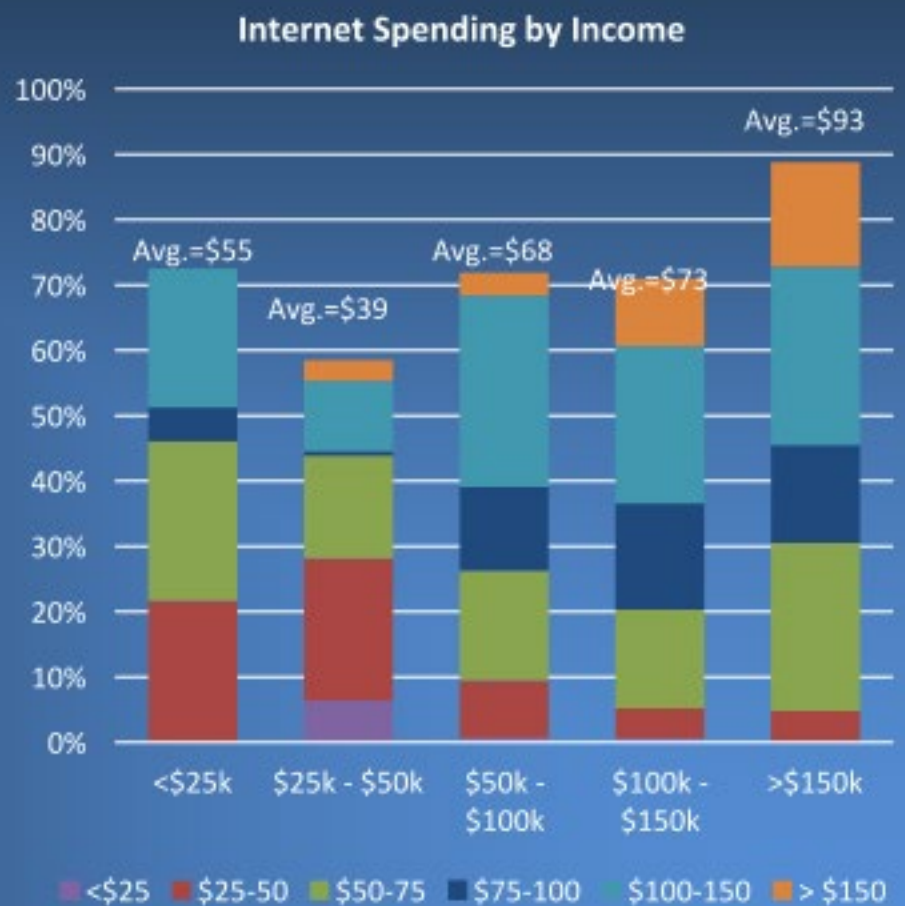


WS27

STATED INTERNET SPENDING

- Monthly spending averages $68 across all households
- In general, average spending generally increases with greater household income

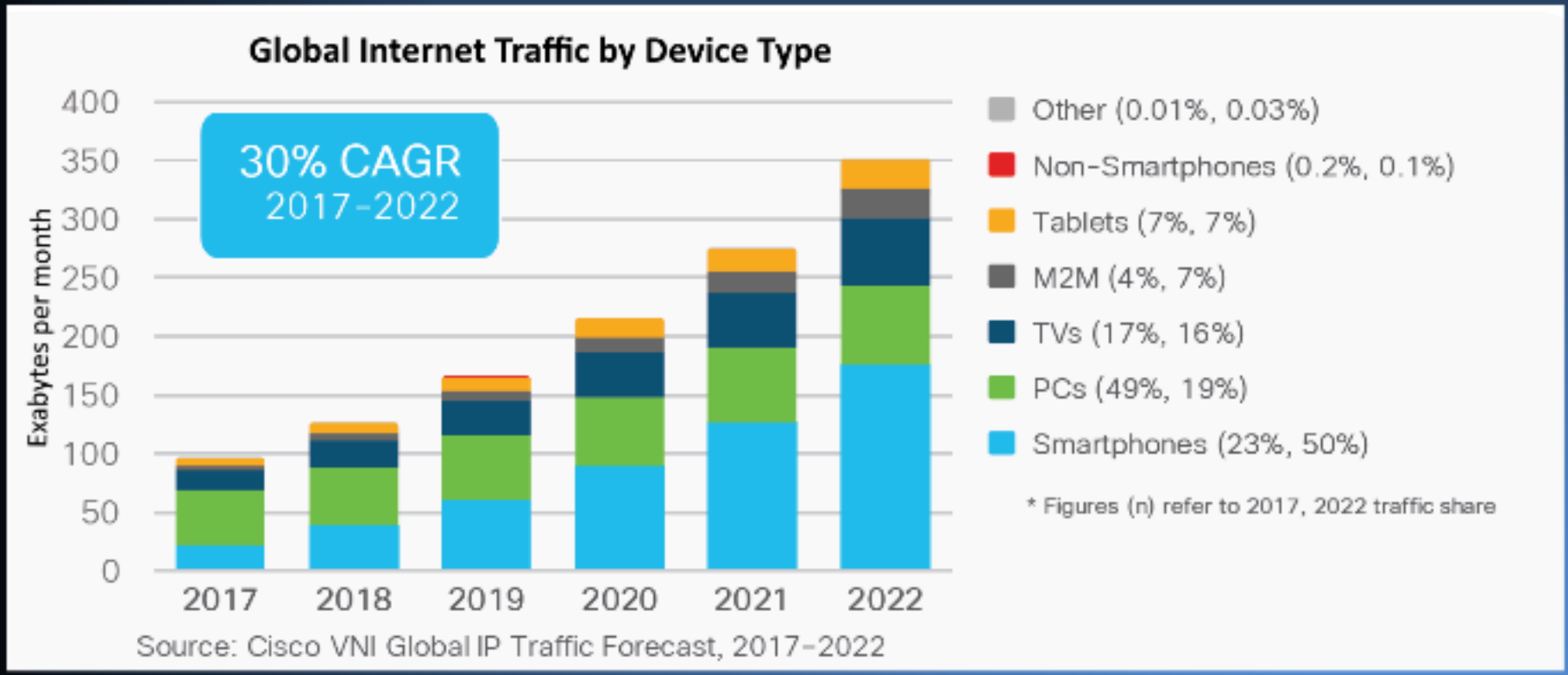




WS28

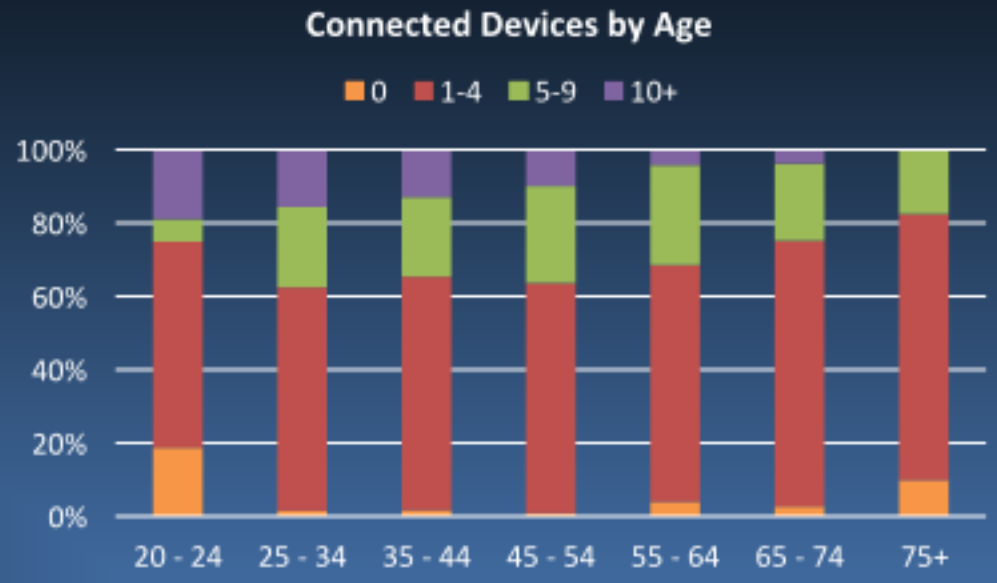
CONNECTED DEVICES NATIONAL GROWTH TREND

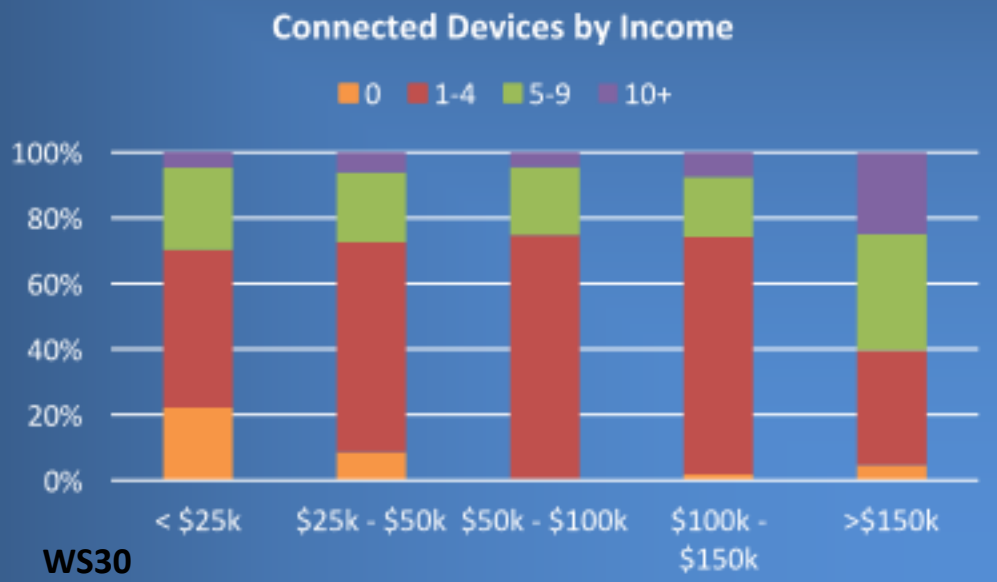
U.S. households are seeing both a significant increase in the number of Internet connected devices as well as significant growth in total IP traffic across these devices…



CONNECTED DEVICES BY AGE & INCOME

- Across all Milwaukie households, the number of connected devices is distributed as:
  - 0 devices: 4%
  - 1-4 devices: 64%
  - 5-9 devices: 22%
  - 10+ devices: 10%
- The number of connected devices increases with household income
- Younger and middle-age households (20-54) have more connected devices, likely due to the presence of children



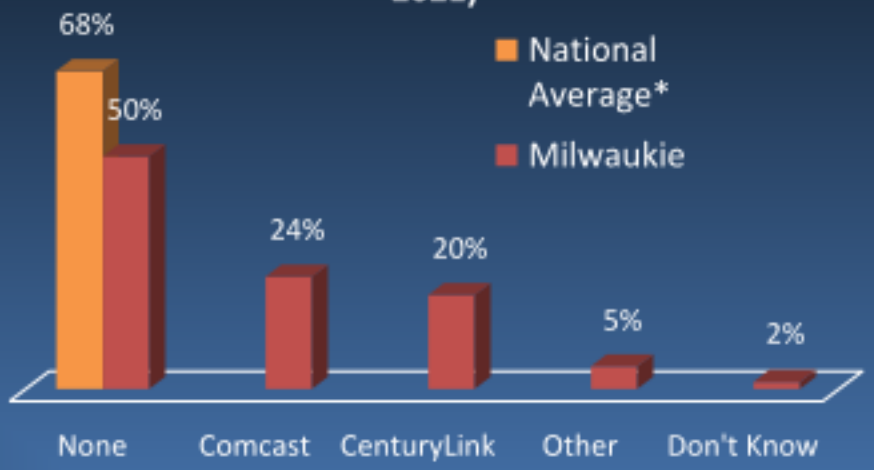


WS30

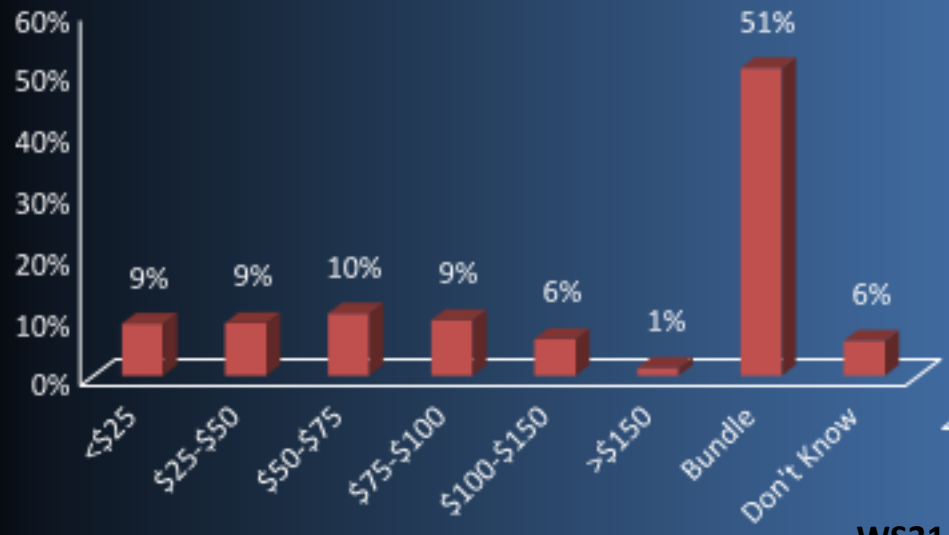
WIRELINE VOICE SERVICE

- Wireless substitution of 50% is significantly lower than the national average at 68% of HHs.
- Monthly spending averages $29 for those households with a wireline phone

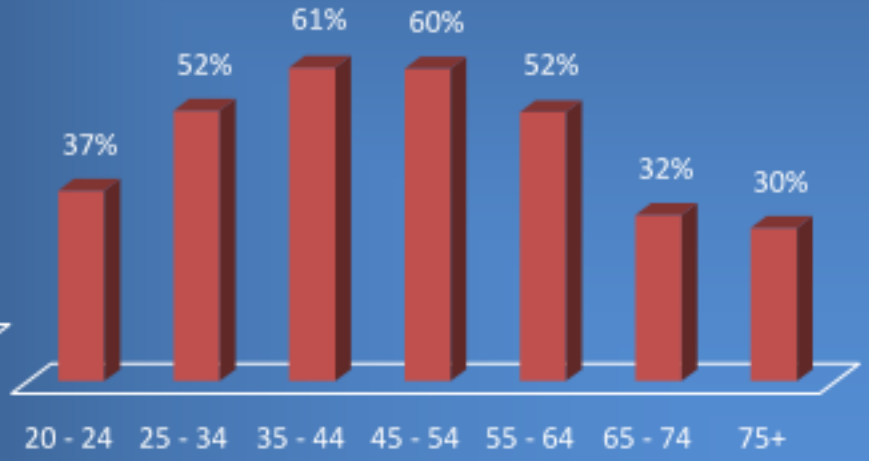
Home Phone Provider
(*source: National Health Interview Survey, 2021)



Monthly Voice Spending



Households Without Wireline Phone by Age



WS31

FTTP Residential Quantitative Survey

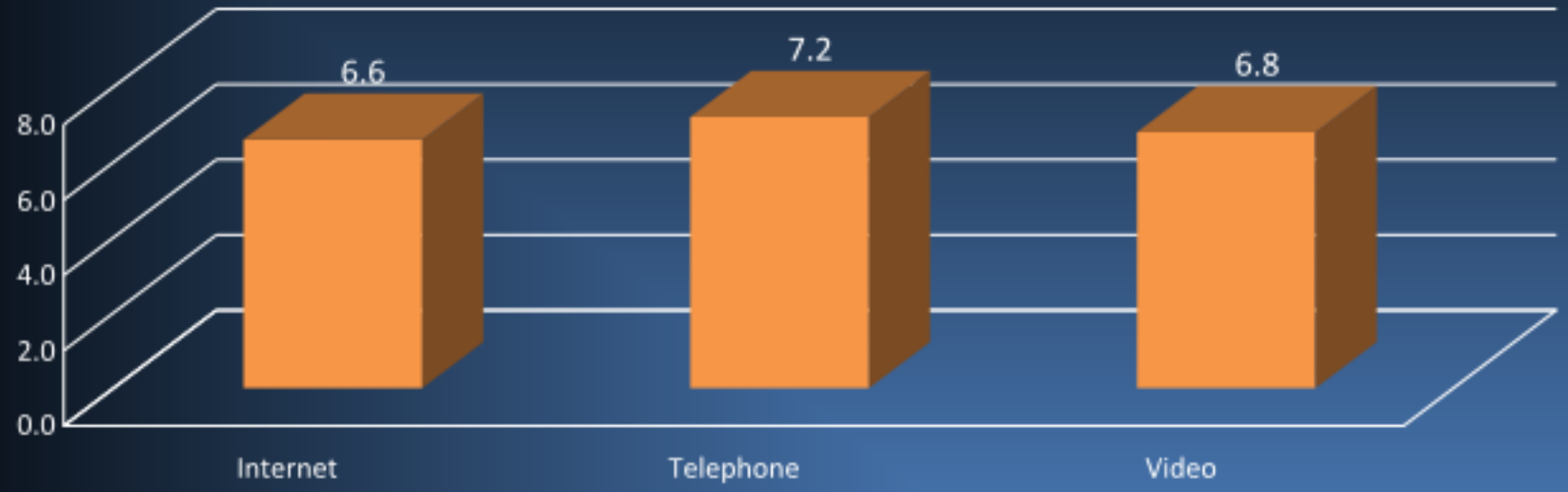
Satisfaction & Attribute Importance

WS32

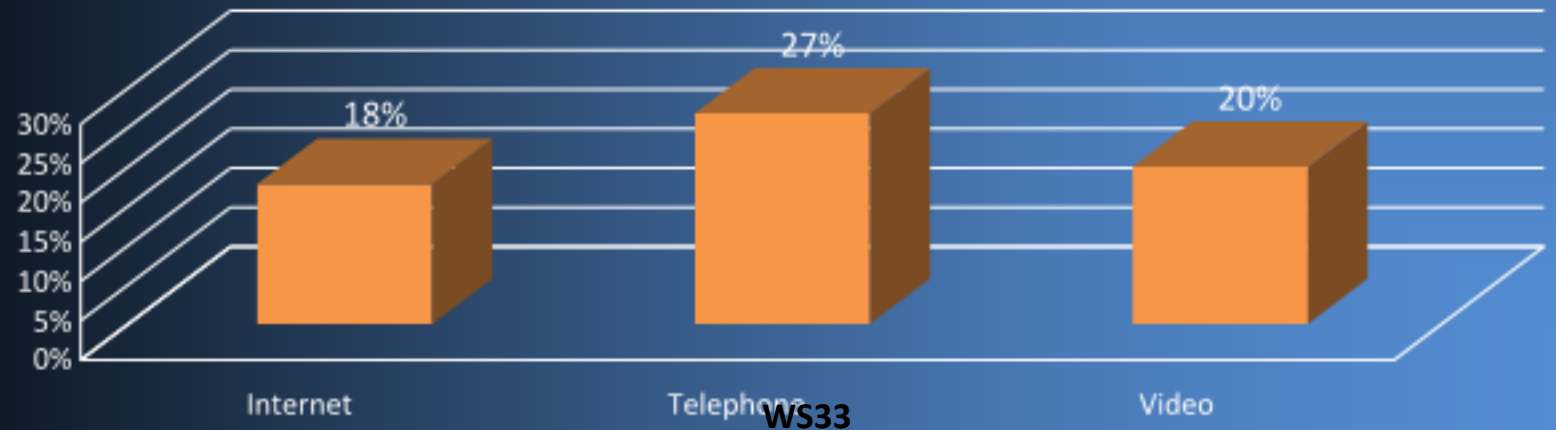
UPTOWN SERVICES, LLC

SATISFACTION RATINGS

Satisfaction Rating by Service/Service Provider (Mean Rating on a 1-10 Scale)



Satisfaction Rating by Service/Service Provider (Percent Rating a '9' or '10')



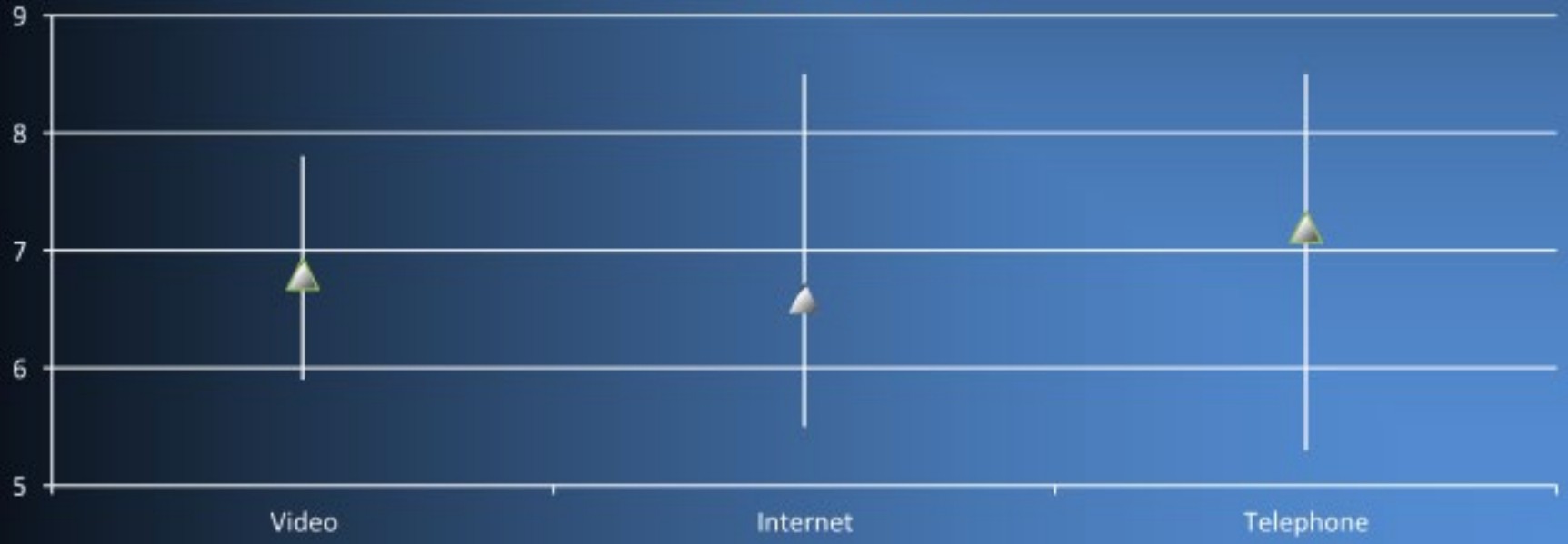
SATISFACTION RATING BENCHMARKS

The chart below compares the results of this study with over 30 other markets where Uptown has completed similar quantitative research:

Ohio (3)	*Washington*	*North Carolina*	*Oregon (2)*
Iowa	*Wisconsin*	*Kansas (2)*	*Alabama*
Georgia	*Oklahoma (2)*	*New York*	*Arkansas*
Tennessee (4)	*Michigan*	*Kentucky*	*Colorado (8)*
Utah (2)	*Maine*		

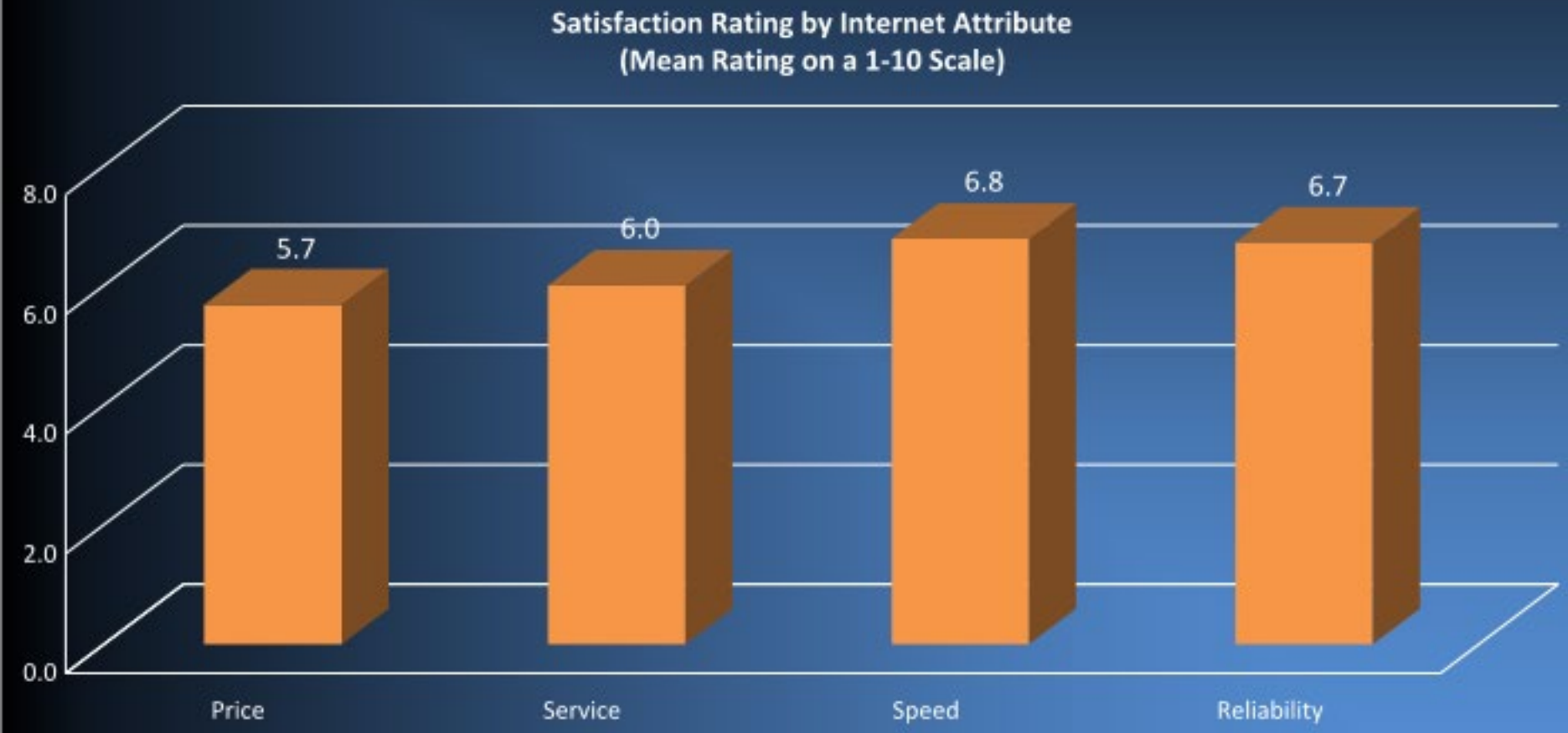
Satisfaction Rating by Service/Service Provider

(Mean Rating on a 1 to 10 Scale)



WS34

SATISFACTION WITH SPECIFIC INTERNET ATTRIBUTES

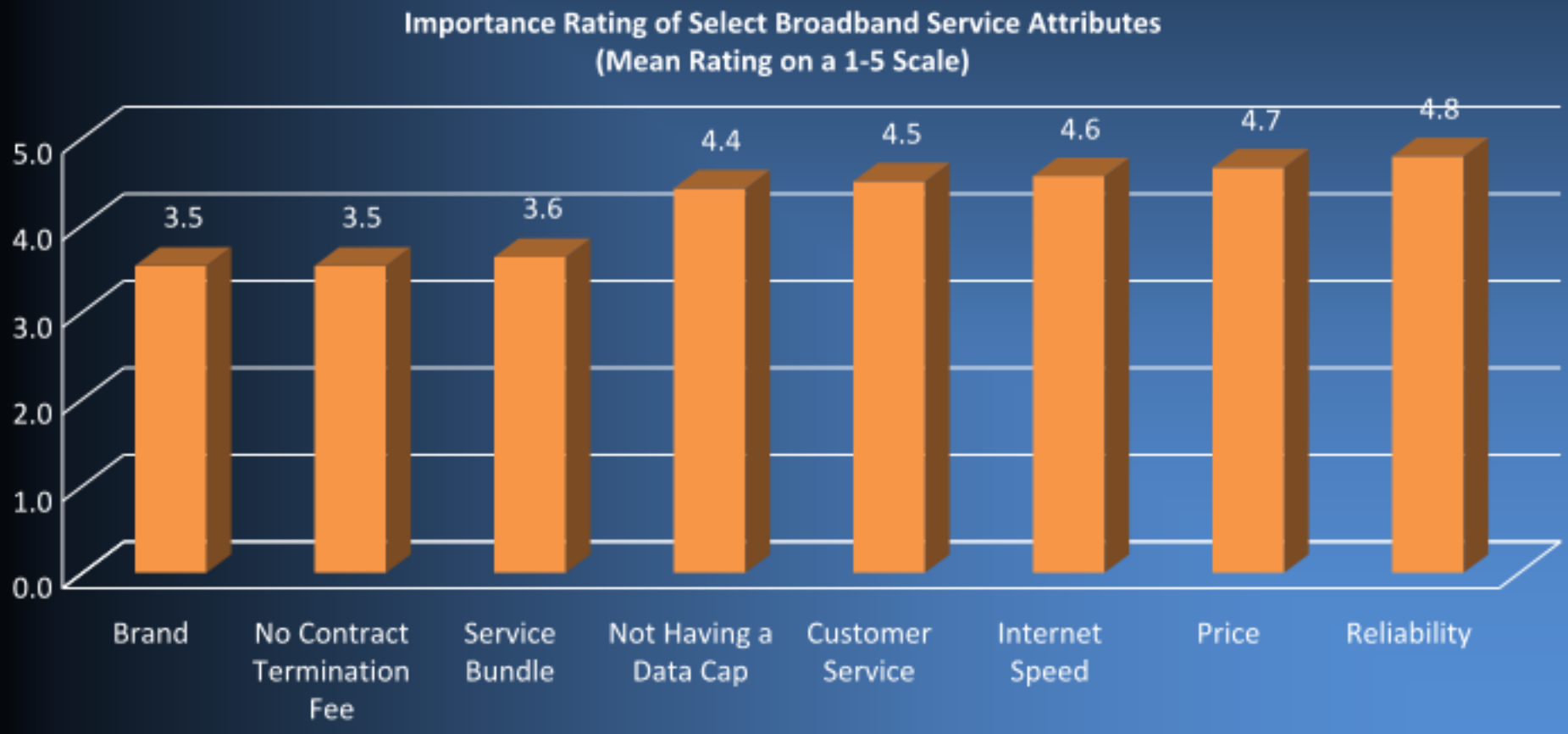


WS35

UPTOWN SERVICES, LLC

ATTRIBUTE IMPORTANCE

Reliability and price are the most important attributes, with Internet speed and avoiding data caps very close in importance as well…

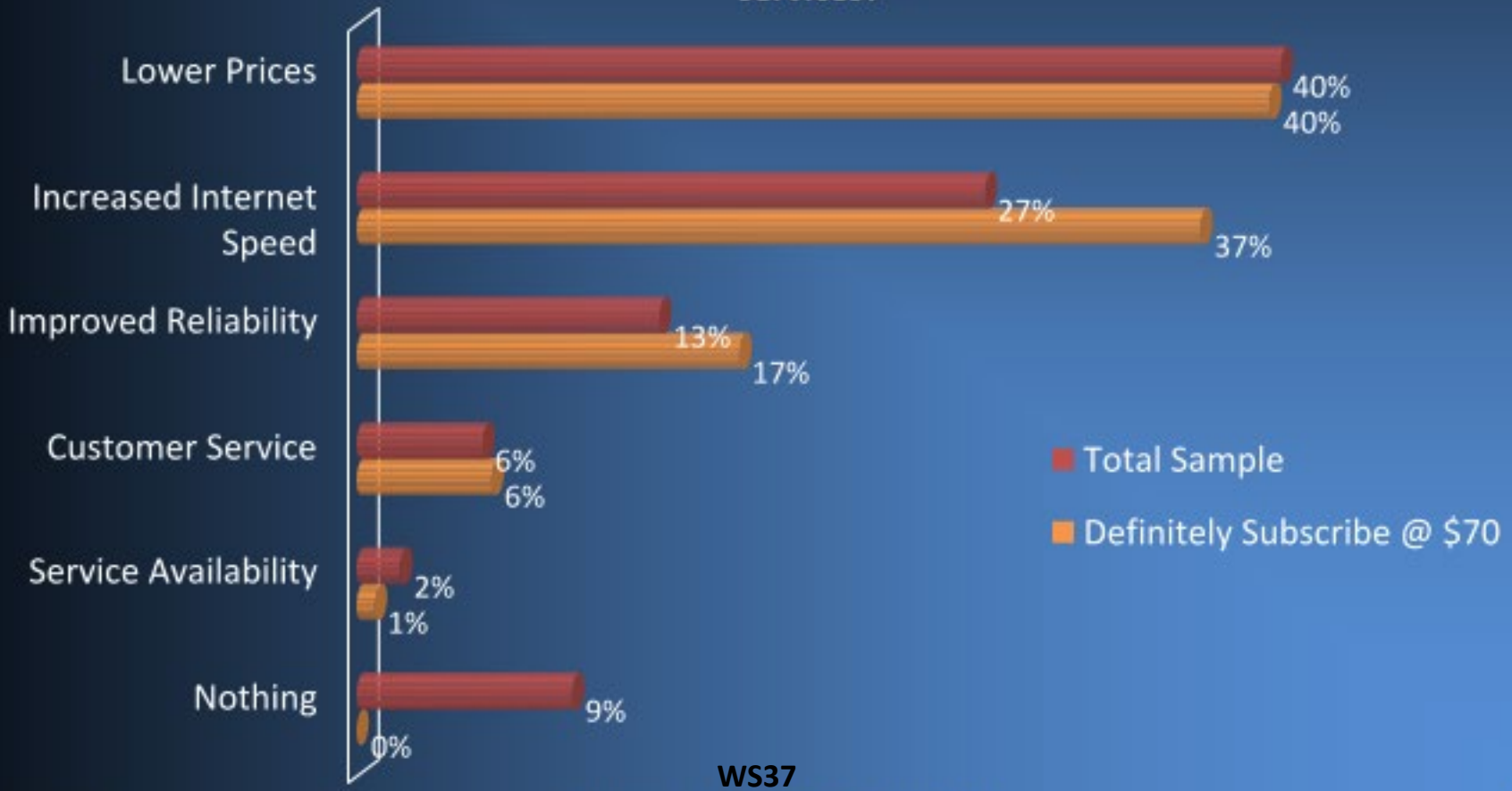


WS36

BROADBAND AREAS FOR IMPROVEMENT

Milwaukie residents see increased Internet speed and lower prices as the most important dimension for improving their broadband…

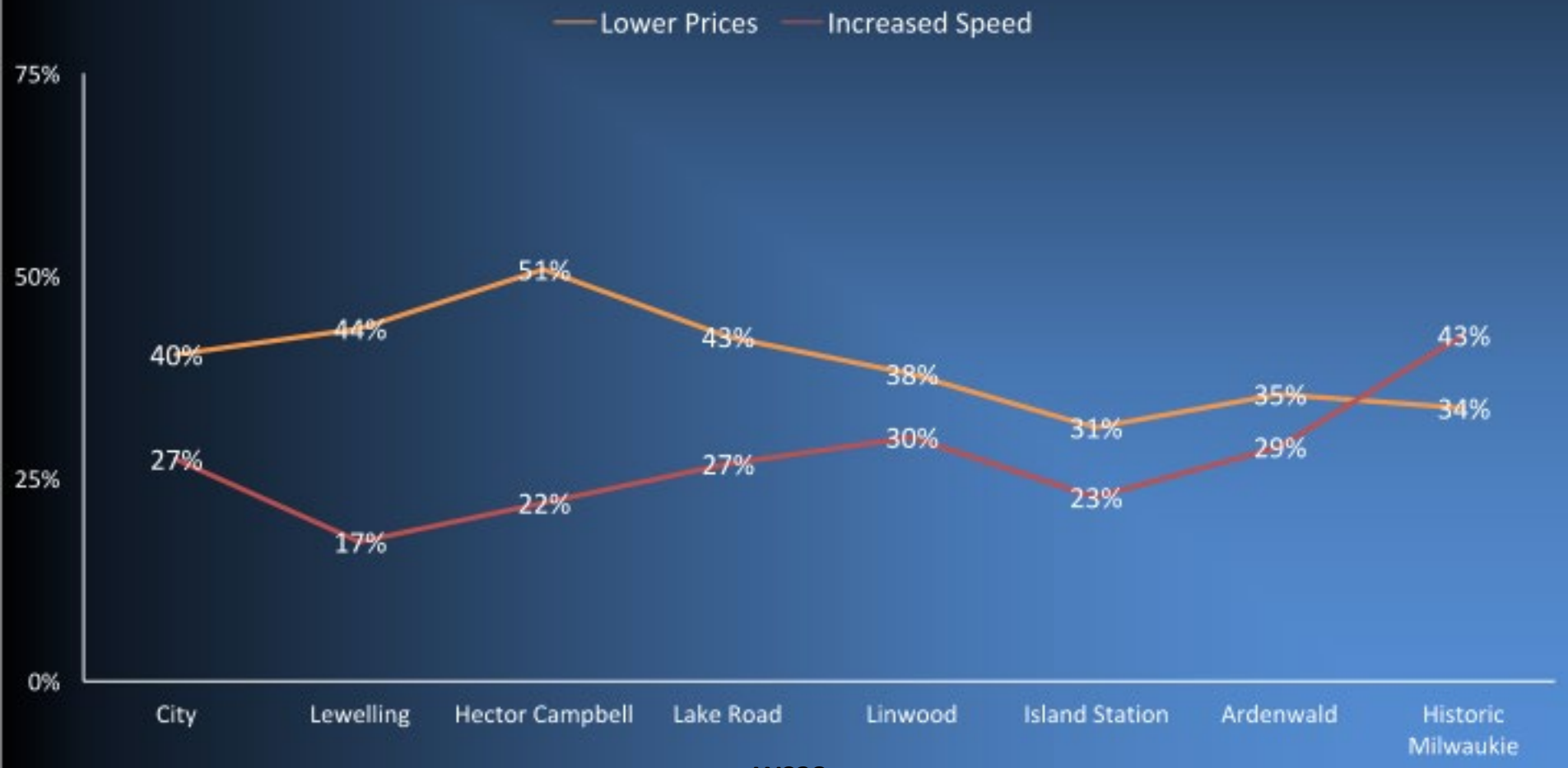
Q33: "What would you like to see most improved from your current broadband services?"



WS37

AREAS FOR IMPROVEMENT BY NEIGHBORHOOD

For 6 of the 7 neighborhoods, lower Internet price is the area for greatest improvement…



Residential Quantitative Survey

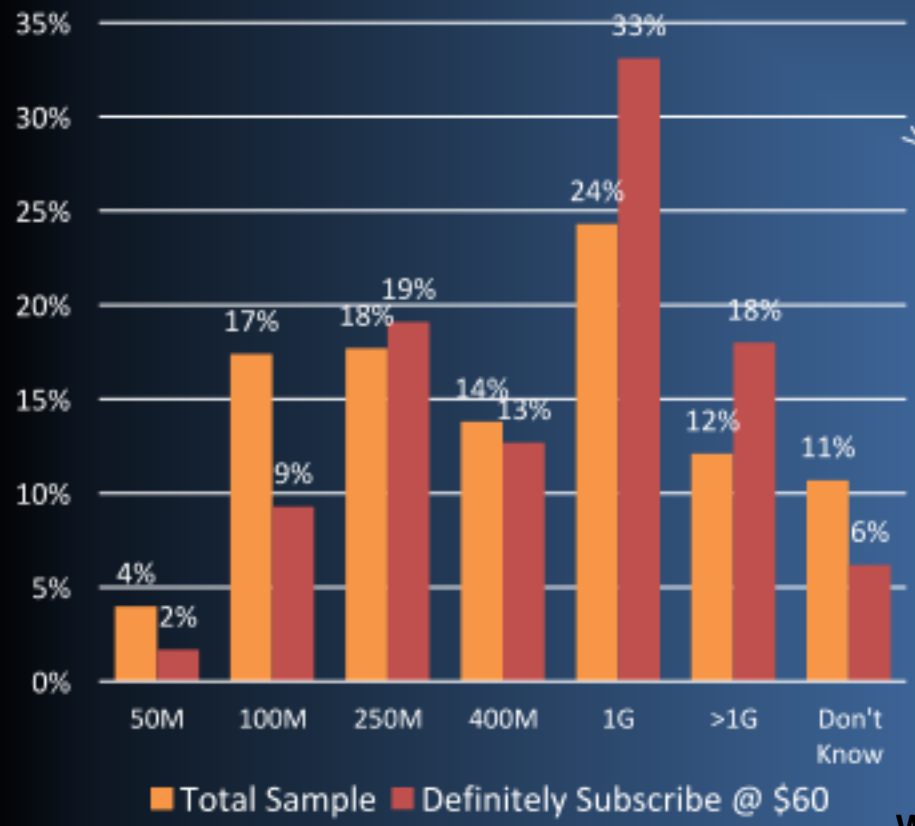
Digital Aptitude & Remote Working and Learning

WS39

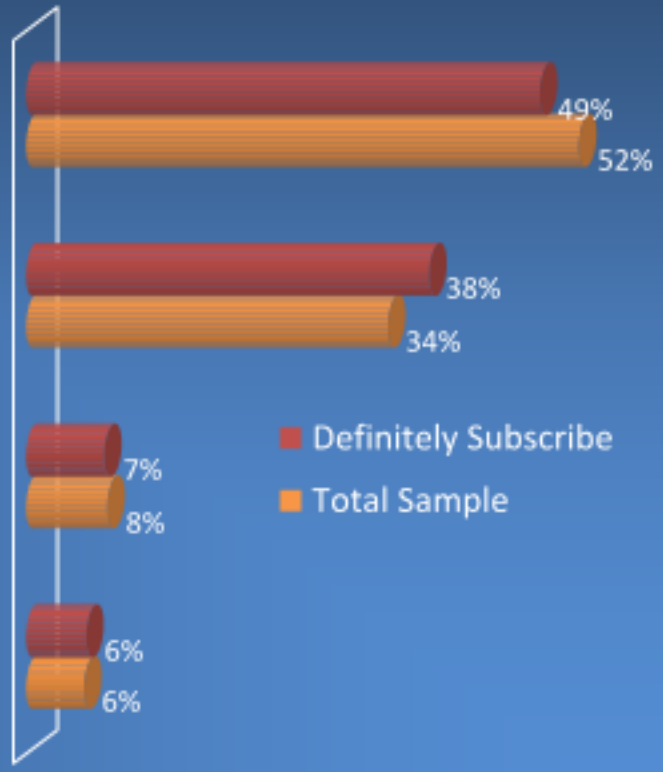
PERCEPTIONS OF INTERNET SPEED

- 36% of households state their ideal Internet speed would be 1G or higher. This increases to 51% among those who would definitely subscribe at $60/month for 1G.
- One in two households perceive the upload speed as very important.

Q10: Ideal Download Speed



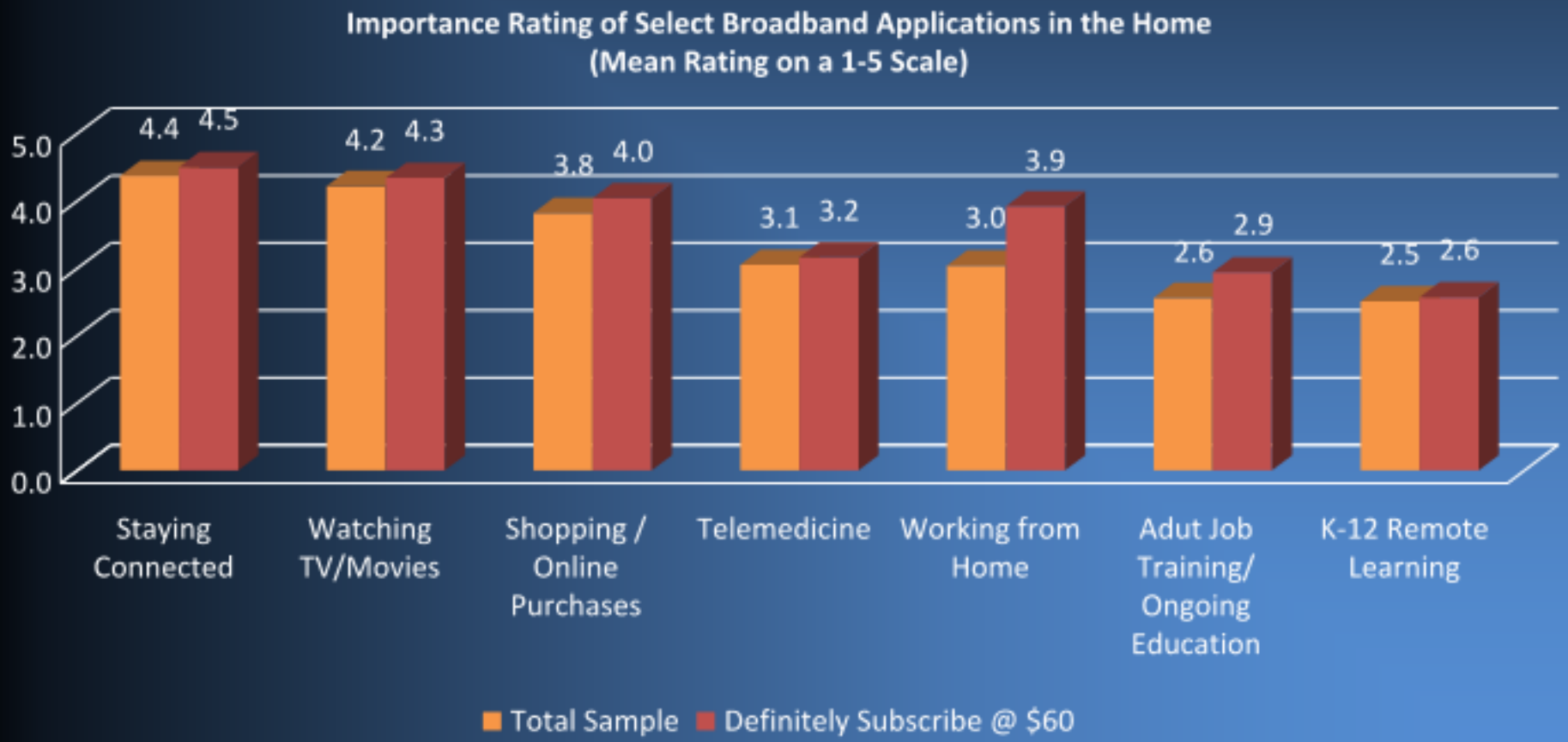
Q11: "How important is the upload speed on your home Internet connection?"



WS40

IMPORTANCE OF DIGITAL APPLICATIONS

Social connection and entertainment rate higher in importance than work-at-home and online learning applications despite the impacts of COVID-19…



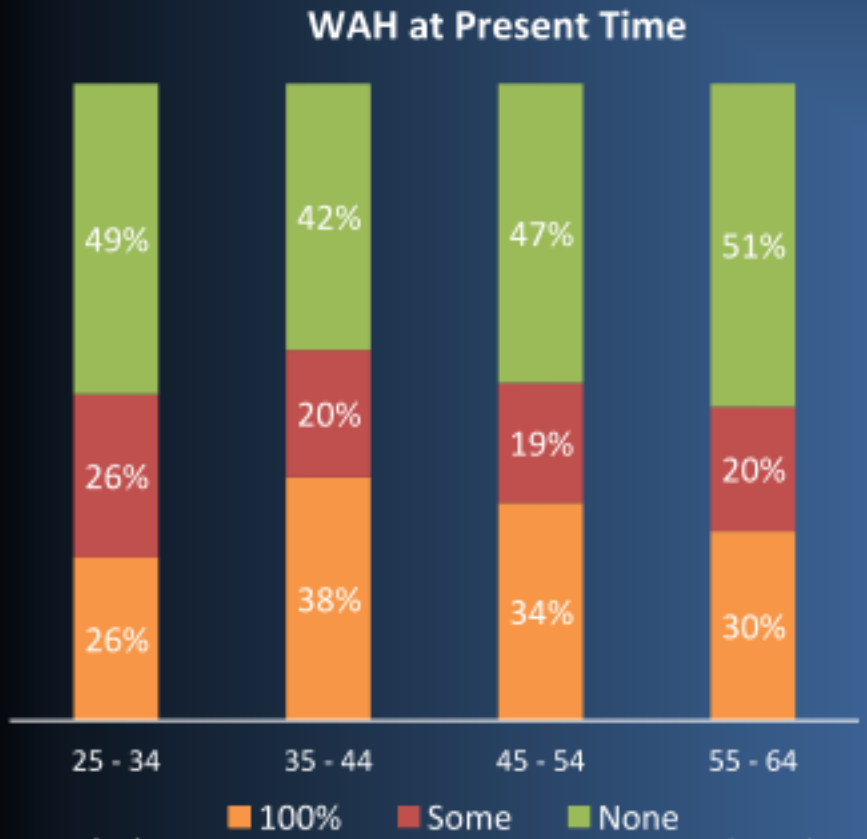
WS41

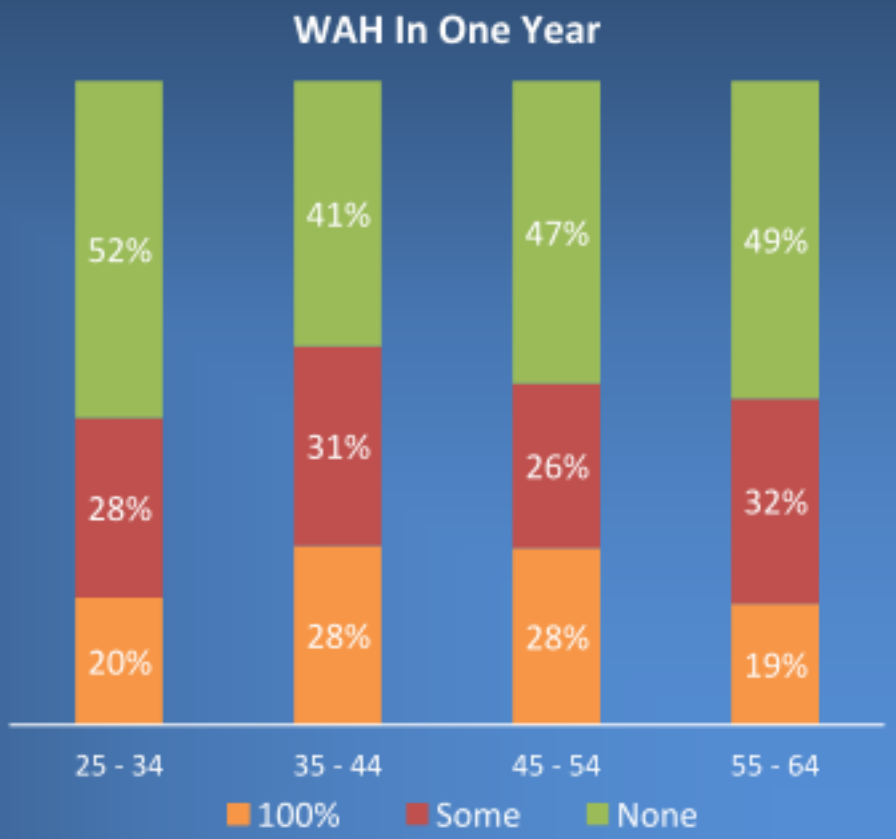
WORKING FROM HOME

While varying slightly by age, 50-55% of working-age households are working at home (WAH) at least part time. Households expect this trend to continue, with a slight shift from full-time WAH to part time WAH over the next 12 months. It appears that WAH will be an ongoing labor trend across all households…

Q13: "Are you currently using your Internet connection to perform your job/work tasks from home?"

Q14: "In a year from now and assuming it is safe to return to the workplace, will you continue using your Internet connection to work from home?"



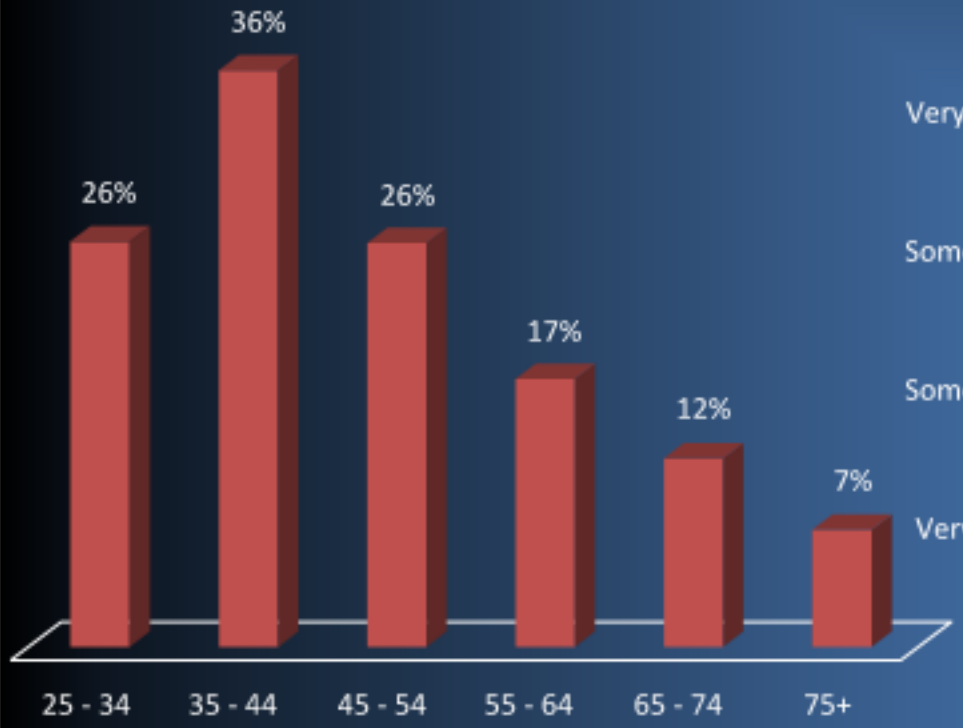


WS42

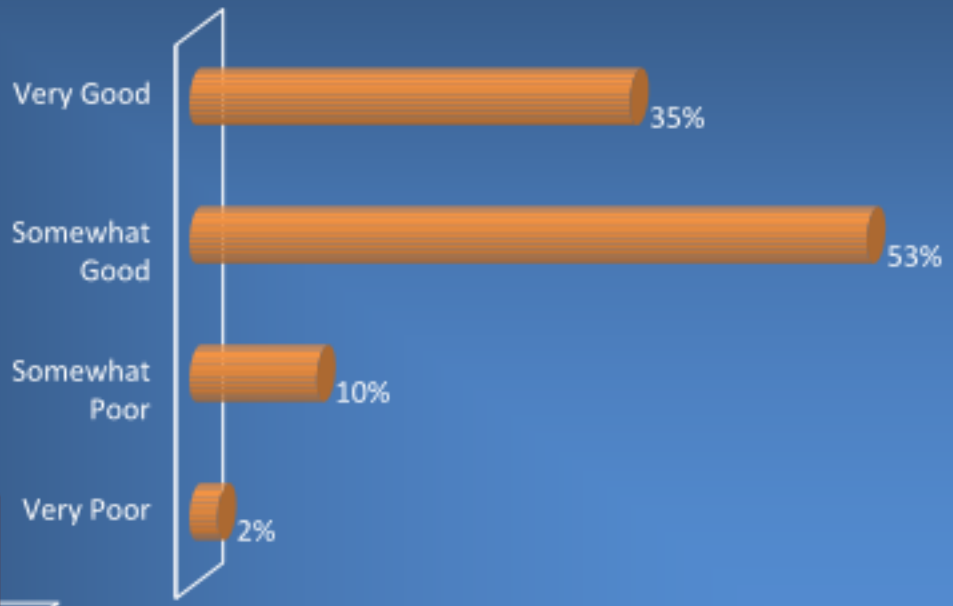
ONLINE SCHOOLING K-12

Within the age decile of 35-44, one in three households have children taking K-12 classes online. Among all households in Milwaukie the percentage taking online is 24%. The vast majority (88%) of these households rate the performance of their Internet connection as somewhat or very good in supporting online learning....

Q15: "Do you have school-aged children at home that are taking classes online from your home?" (% responding positively)



Q16: "How would you rate the speed and performance of your home Internet connection is supporting these online classes?"



WS43

FTTP Residential Quantitative Survey

Affordable Connectivity

WS44

AFFORDABLE CONNECTIVITY PROGRAM

The Affordable Connectivity Program (ACP) is a newly funded federal program to subsidize Internet service among low-income households to narrow the digital divide…

Program Overview	• $14.2B in total funding • Qualifying households receive a $30 monthly benefit towards Internet service • Connected device reimbursement of $100 if provider charges between $10-$50 for the device • No set end date • Participation qualifies the service provider to receive BEAD grant funding
Household Participation Requirements	• Household income at or below 200% of federal poverty limit (e.g. household size of 3 earning $44k or less) • Participation in national school lunch program • Participate in the FCC Lifeline program
Service Provider Participation Requirements	• Eligible Telecommunications Carriers (ETCs) offering residential Internet service • Requires FCC approval and USAC election notification • The $30 discount must be available on all Internet tiers offered by the provider • No credit check and no disconnects for non-pay until 90 days past due

TESTED RESIDENTIAL INTERNET PRICE POINTS

The quantitative survey evaluated household purchase intent taking into consideration a range of strategy options:

- Price elasticity of demand for 1G Internet tested at $60 and $70/month using a cell design so each participant was presented with one (Cell A = 370 sample and Cell B = 385 sample)
- ACP-eligible households were presented with 1G Internet including the $30 ACP discount (still using the Cell A and B design)
- Multi-Gig tier options were presented to participants that stated they would 'definitely' or 'probably' subscribe to the 1G tier

Internet Tier Download / Upload	Monthly Price: Standard	Monthly Price: ACP Eligible
1G / 1G	Cell A: $60 Cell B: $70	Cell A: $30 Cell B: $40
2G / 2G	$100	$60
4G / 4G	$150	$120

WS46

UPTOWN SERVICES, LLC

ACP ELIGIBILITY

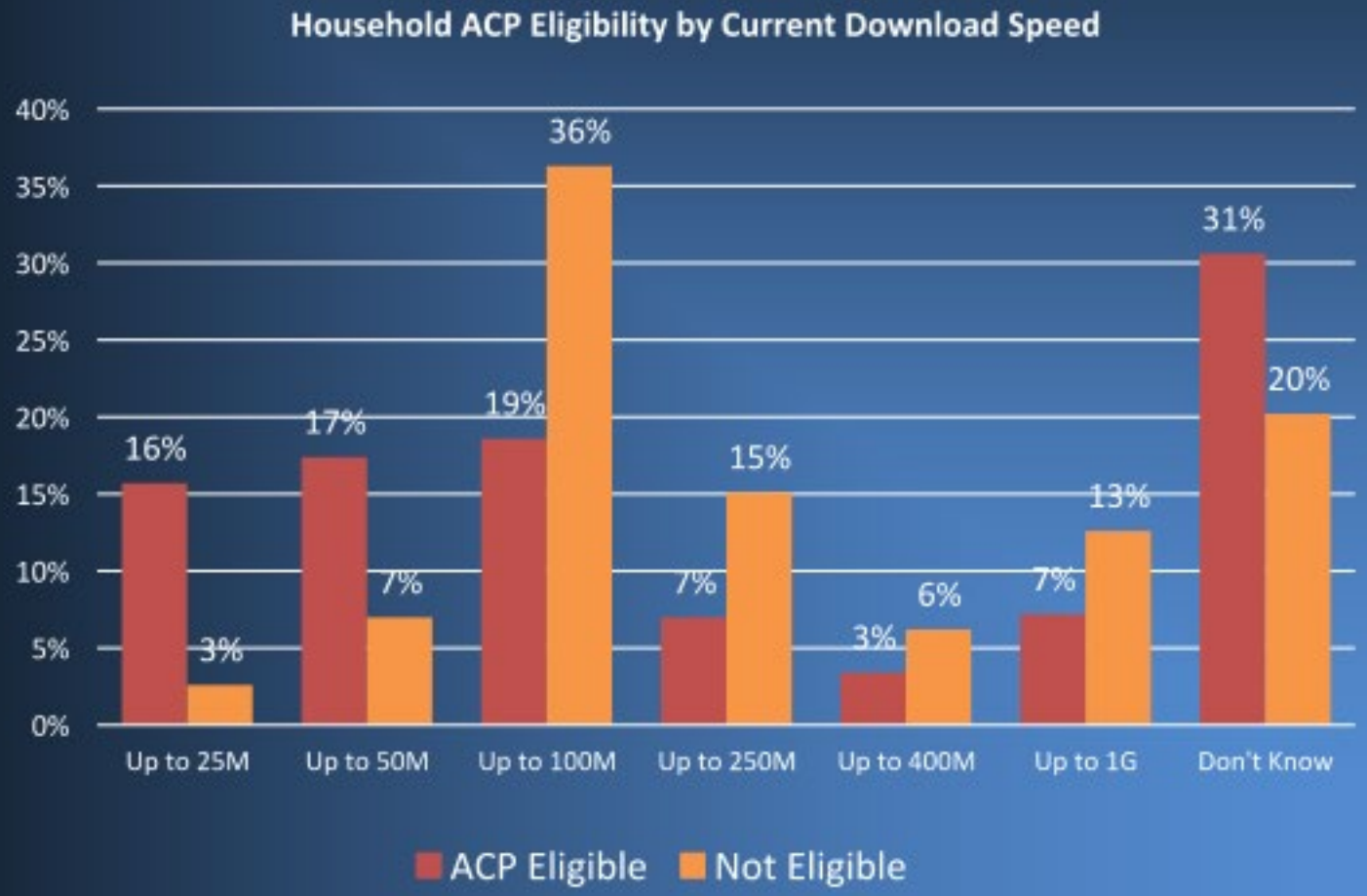
- Eligibility set at 50% of Area Median Income currently used for Utility Assistance:
  - HH of 1: Income up to $33,850
  - HH of 2: Income up to $38,700
  - HH of 3: Income up to $43,550
  - HH of 4: Income up to $48,350
  - HH of 5+: Income up to $52,250

Household (HH) Eligibility by Income Bracket and Size

(as a % of survey sample)

ACP TARGETS UNDERSERVED HOUSEHOLDS

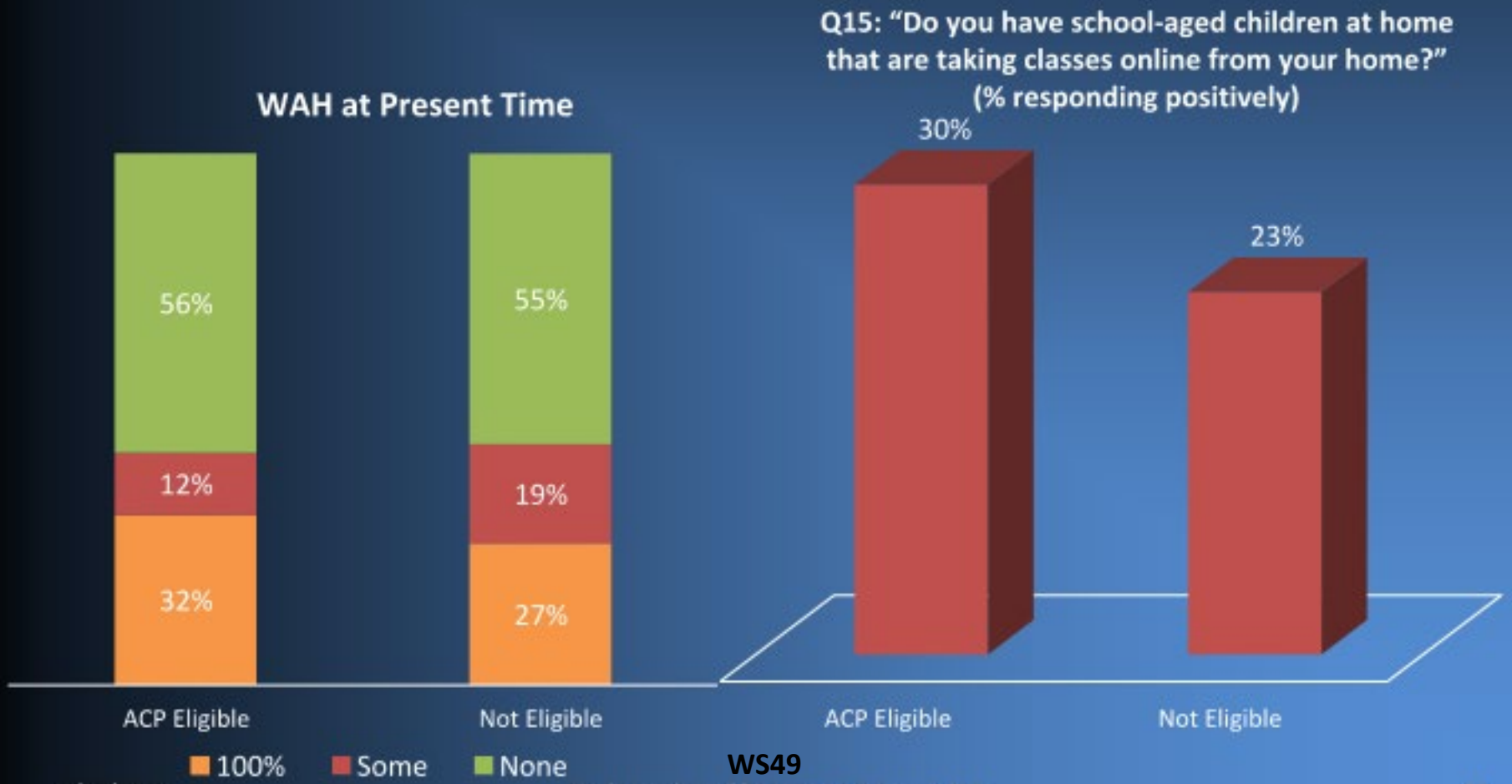
- Survey participants that are eligible for ACP discounted pricing are currently under-subscribing to higher Internet capacity tiers of 100M or higher – presumably to avoid higher priced tiers…



WS48

ACP TARGETS WAH & ONLINE SCHOOLING HOUSEHOLDS

- Survey participants that are eligible for ACP-discounted pricing have a higher incidence of both working at home and schooling at home via online classes…



WS49

FTTP Residential Quantitative Survey

Fiber Broadband Market Potential

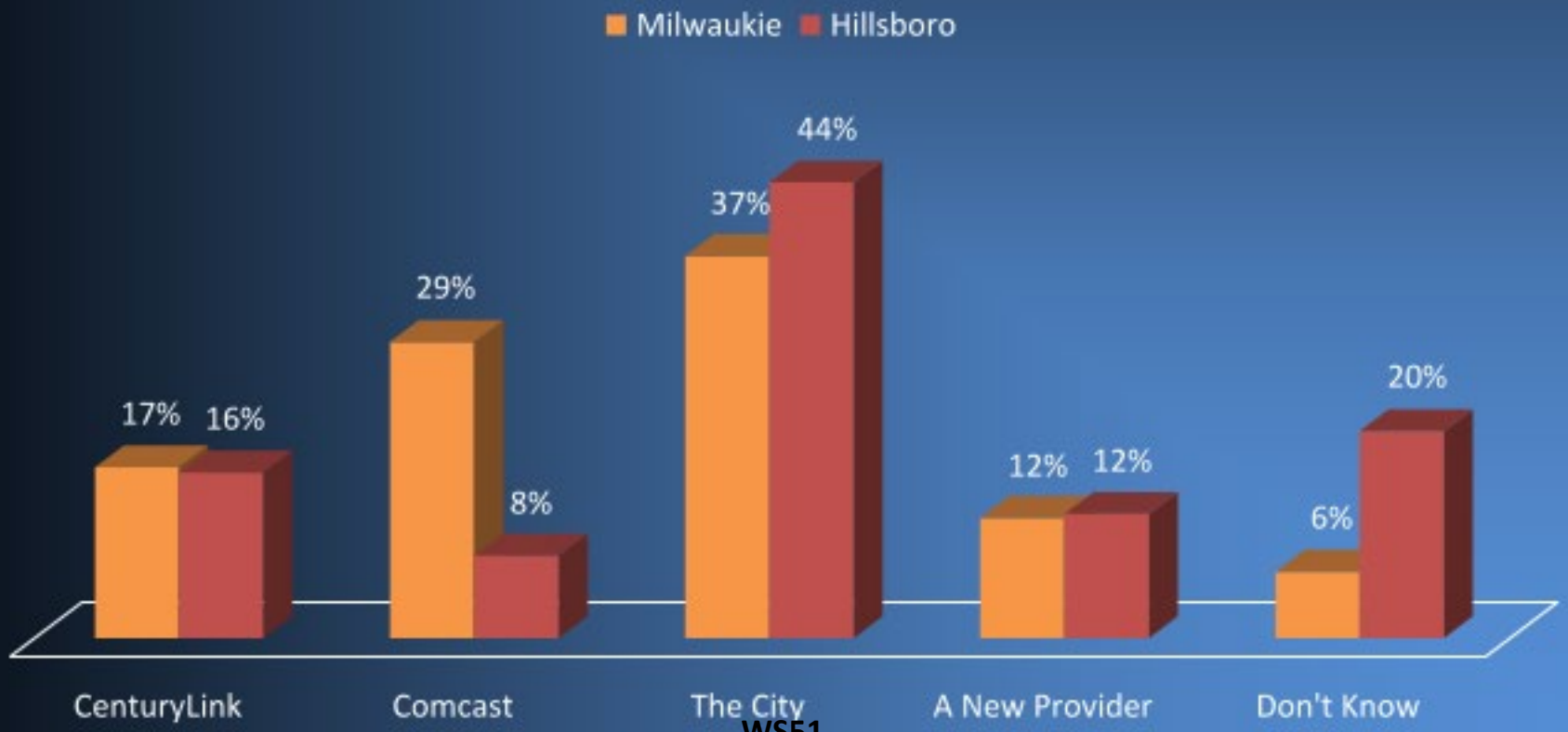
WS50

UPTOWN SERVICES, LLC

PROVIDER PREFERENCE

- 37% of respondents, when given the choice, would prefer to receive high speed Internet from the City, while 29% of respondents prefer Comcast…

Q32: "Among the following list of potential providers, who would you prefer to receive high-speed Internet service from?"



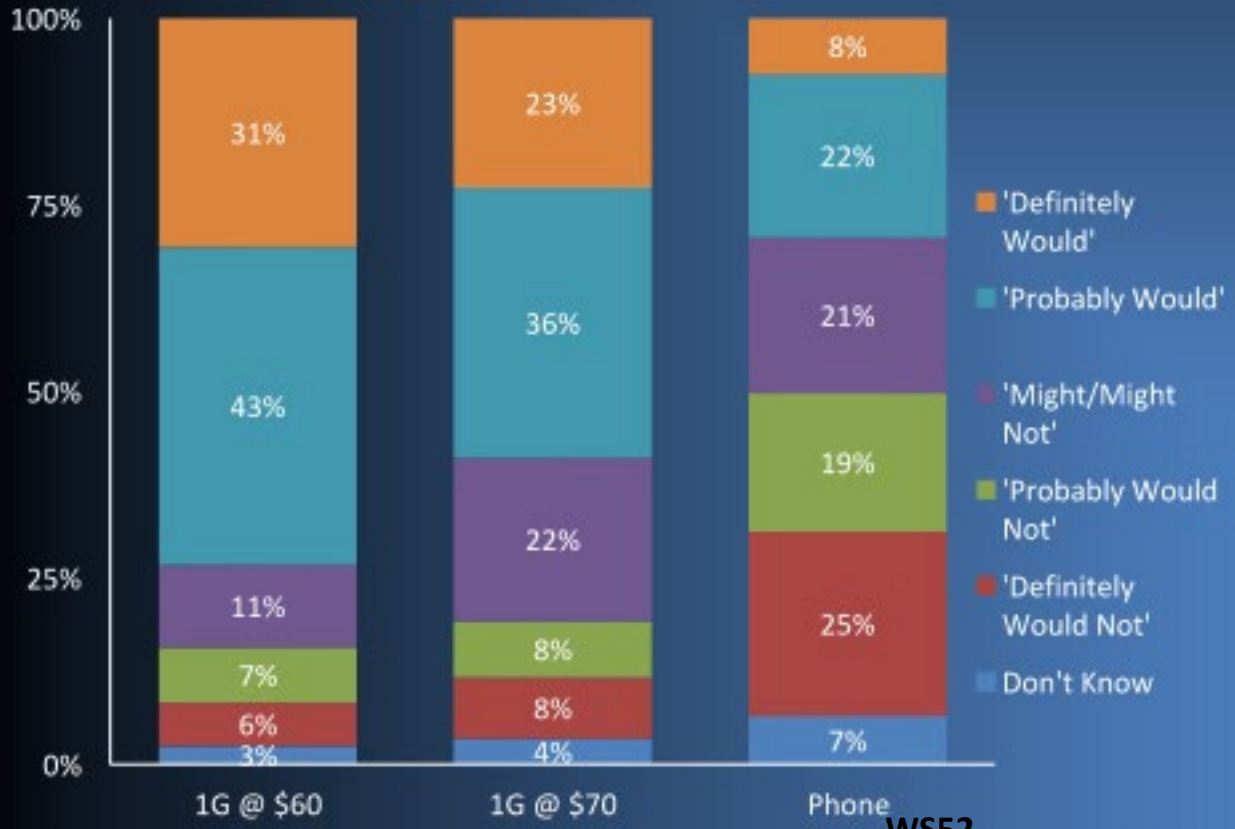
WS51

PURCHASE INTENT: ENTIRE SAMPLE

At a $60 price for 1G, 74% of respondents indicated they would definitely or probably switch their Internet service to a fiber system installed by the City. This metric drops to 59% at the $70 price point…

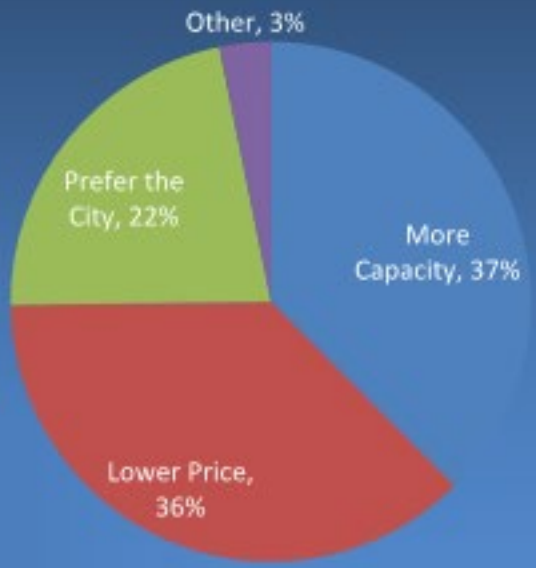
Q26/Q27: ***Stated purchase intent for:***

- *Internet at $60/mo. for 1Gbps*
- *Internet at $70/mo. for 1Gbps*
- *Voice at $35/mo.*



Primary Reason to Switch

(Definitely or Probably Response)



WS52

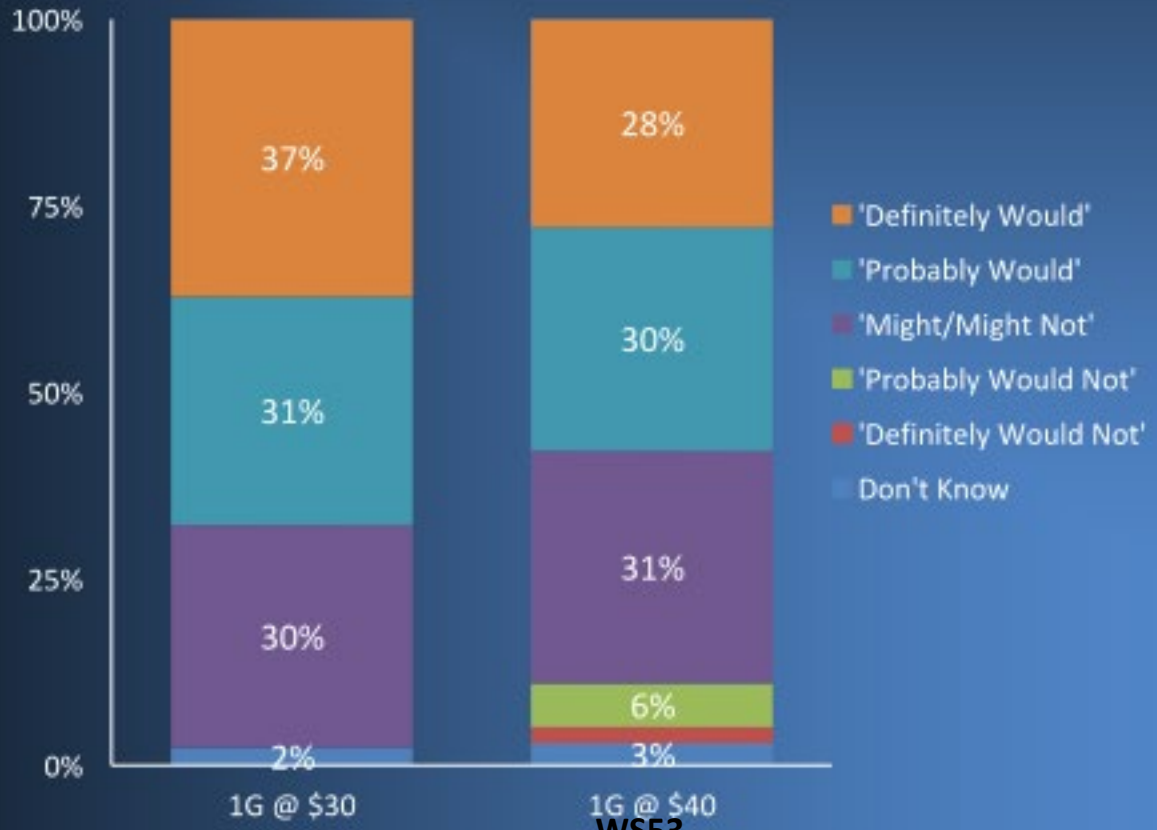
PURCHASE INTENT: ACP ELIGIBLE

58-68% of respondents eligible to participate in the Affordable Connectivity Program indicated they would definitely or probably subscribe at reduced pricing of $40 and $30 respectively…

Q41/Q42: ***Stated purchase intent for:***

- ACP Eligible Internet at $30/mo. for 1Gbps

- ACP Eligible Internet at $40/mo. for 1Gbps



WS53

PENETRATION CALCULATIONS

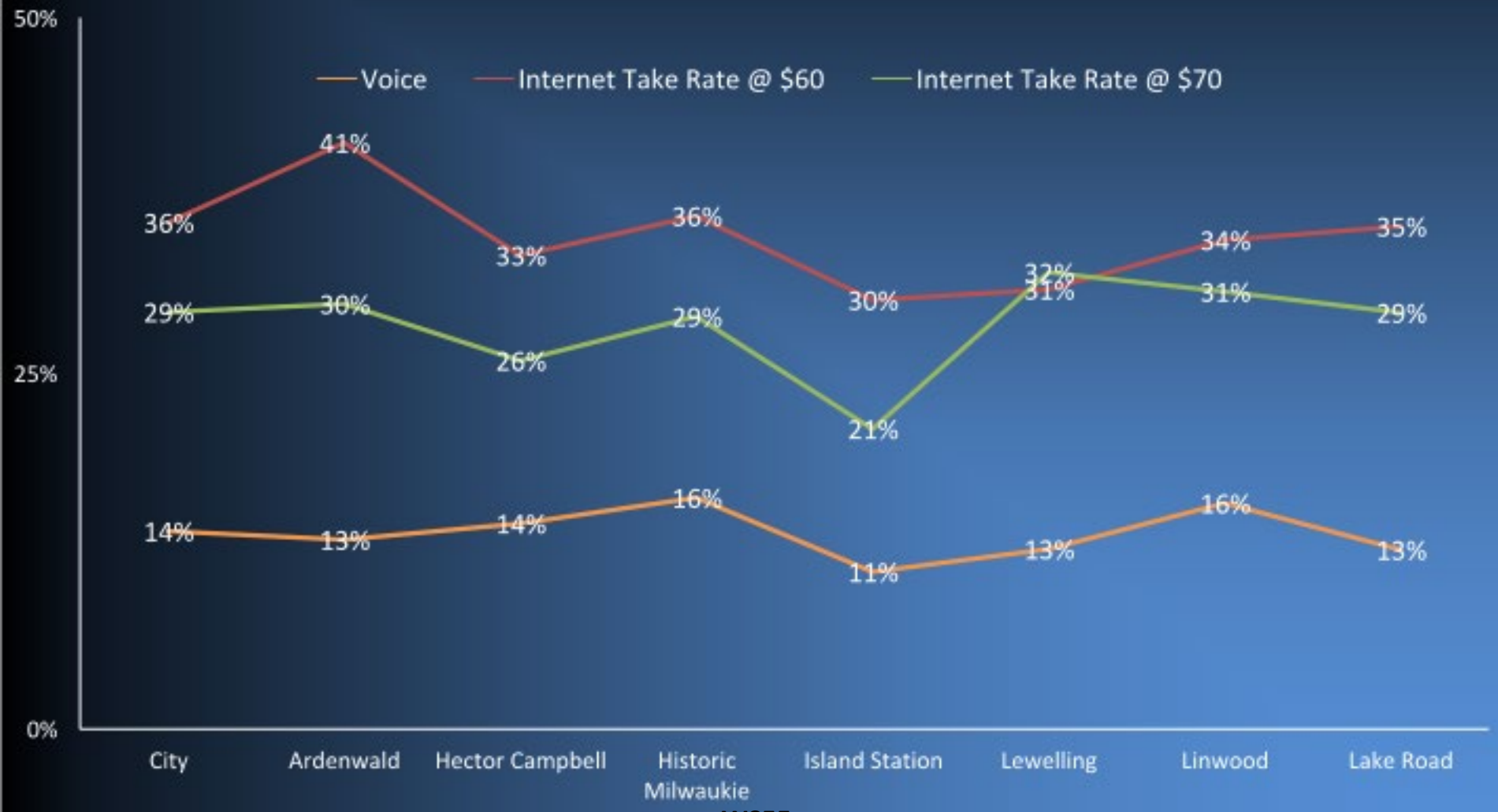
- Uptown uses a 'Likert Scale' with Overstatement Adjustment
  - Conservative research techniques from the Packaged Goods sector
  - Clearly specify purchase intent vs. "interest" and removes overstatement bias
- Example: "How likely would you be to subscribe?"
  - Definitely Would 21.5% x 70% = 15.0%
  - Probably Would 35.6% x 30% = 10.7%
  - Might/Might Not 20.0% x 10% = 2.0%

27.7% = Penetration Estimate

Survey Cell	Broadband Service	ACP Eligible Take Rate	Non ACP Eligible Take Rate	All Households Take Rate
A	1G Internet @ $30 (ACP Eligible) 1G Internet @ $60 (Not ACP Eligible)	38.1%	35.3%	**35.6%**
B	1G Internet @ $40 (ACP Eligible) 1G Internet @ $70 (Not ACP Eligible)	31.6%	28.9%	**29.3%**
A&B	Telephone	**Now: 13.9%** **Year 5: 11.1%**		

WS54

TAKE RATE BY NEIGHBORHOOD

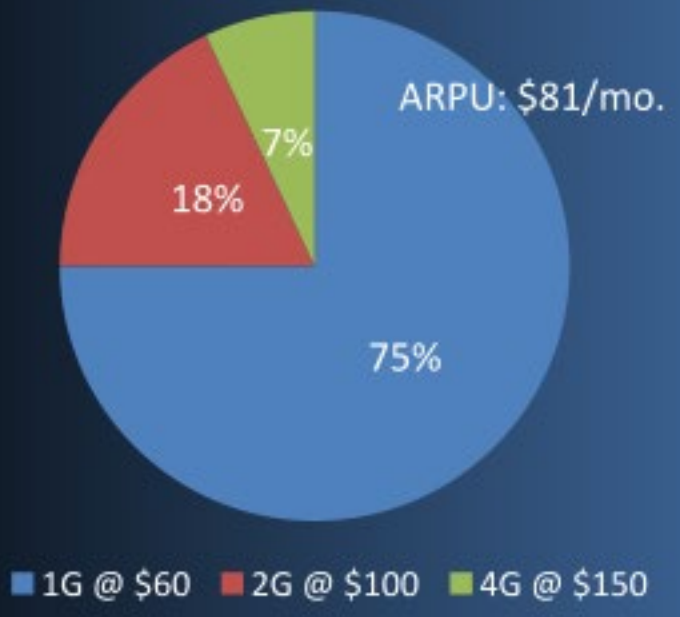


INTERNET DISPERSION & ARPU

About 1 in 4 households that would definitely or probably subscribe would opt for a multi-gig tier at the tested price points. The resulting Average Revenue Per User (ARPU) is $81-$83 per month depending upon the buy-up amount from the 1G tier…

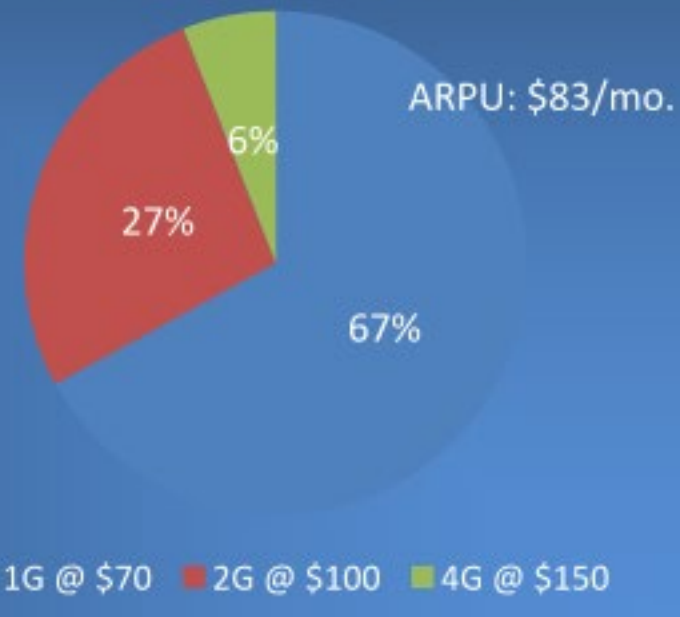
Most Likely Subscribed Tier at Stated Price Points

(If 1G Tier Priced at $60/mo.)



Most Likely Subscribed Tier at Stated Price Points

(If 1G Tier Priced at $70/mo.)



WS56

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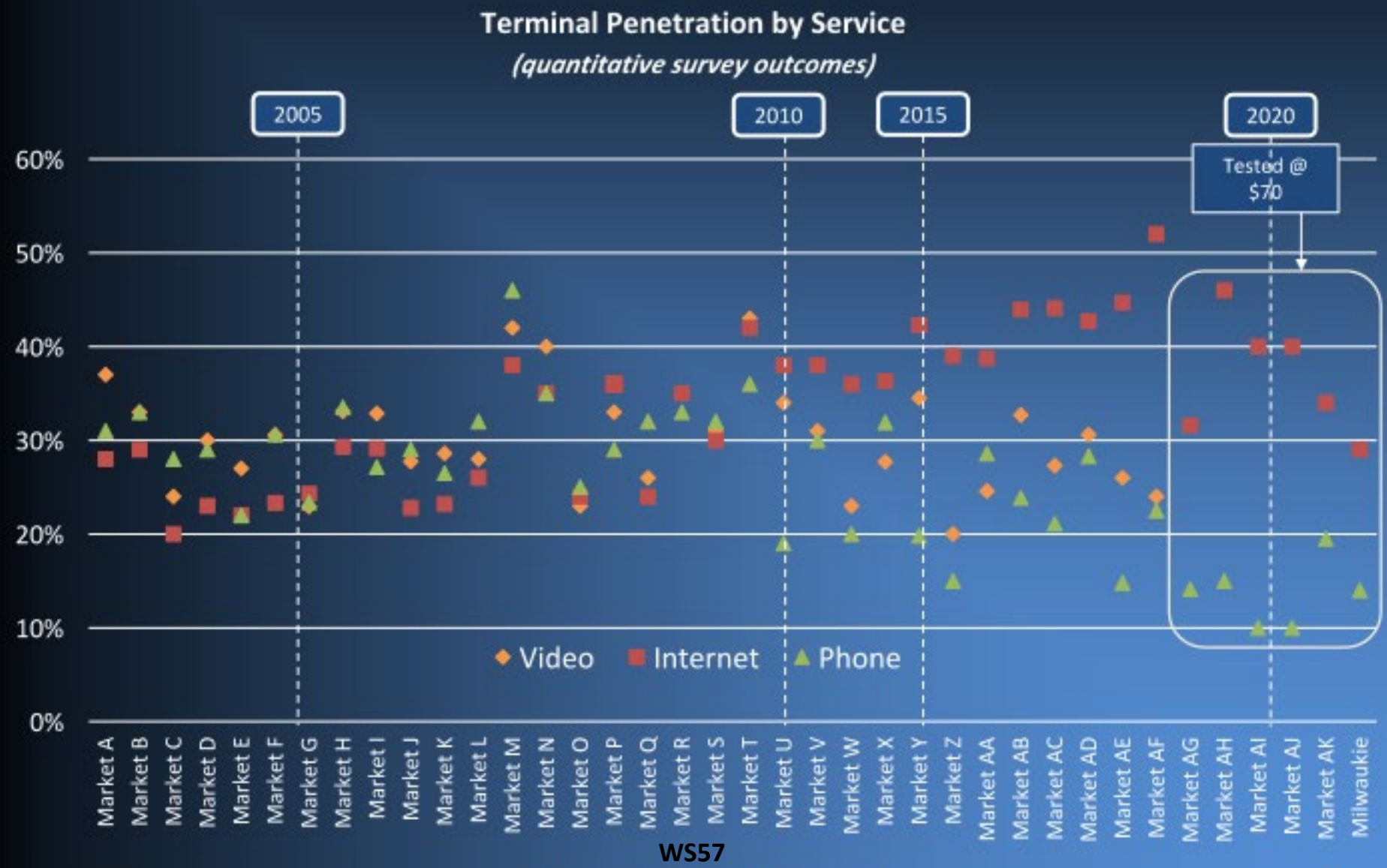
PURCHASE INTENT BENCHMARKING



WS57

SUMMARY OF RESIDENTIAL RESEARCH FINDINGS

- Overall, 93% of households use Internet at home with 84% using a wired connection. Comcast is the dominant provider
- Household income below $25k reduces incidence of a wired Internet connection. For lower income households that do have Internet, subscribed speeds are significantly lower then higher income homes
- Internet and phone service satisfaction levels benchmark at average levels
- Improved Internet speed and lower prices are the predominant need for improvement with current Internet service
- 36% of households state their ideal Internet speed would be 1G or higher. This increases to 51% among those who would definitely subscribe.
- 50-55% of working-age households are working at home (WAH) at least part time, with expectations this will continue
- 12% of Milwaukie households would be eligible for the ACP program. These households currently are under-utilizing Internet capacity due to affordability issues but have higher incidence of WAH and online schooling than non-eligible households.
- Significant price elasticity with a forecasted take rate increase from 29% to 36% by lowering the 1G price from $70 to $60/month
- Strong interest in multi-Gig tiers at higher price points resulting in ARPU of >$80
- The City is the preferred provider with the Comcast a close second

WS58

Technology Analysis
Asset Inventory, Reference Architecture, Sample Designs and Capital Budgeting

TASK 1 – CURRENT INFRASTRUCTURE LANDSCAPE

- City Owned Infrastructure
  - City of Milwaukie leases dark fiber for MAN network
  - Dark fiber connections to key City locations
  - Internet connection from Clackamas ESD
  - City runs on Cisco 10GB optical network
- PGE Infrastructure
  - Portland General Electric (PGE) serves the City
  - 66% aerial
  - 34% underground
  - (155) transmission poles
  - (1,237) distribution poles
- Private Sector Infrastructure
  - Private sector providers attach to PGE poles
  - Information not available for private fiber networks
  - Four cell towers > 100 feet within City limits
- Public Sector Infrastructure
  - Clackamas County has built significant fiber network
  - CBX ring passes through Milwaukie (288 fibers)
  - Smaller count laterals connect City and County locations

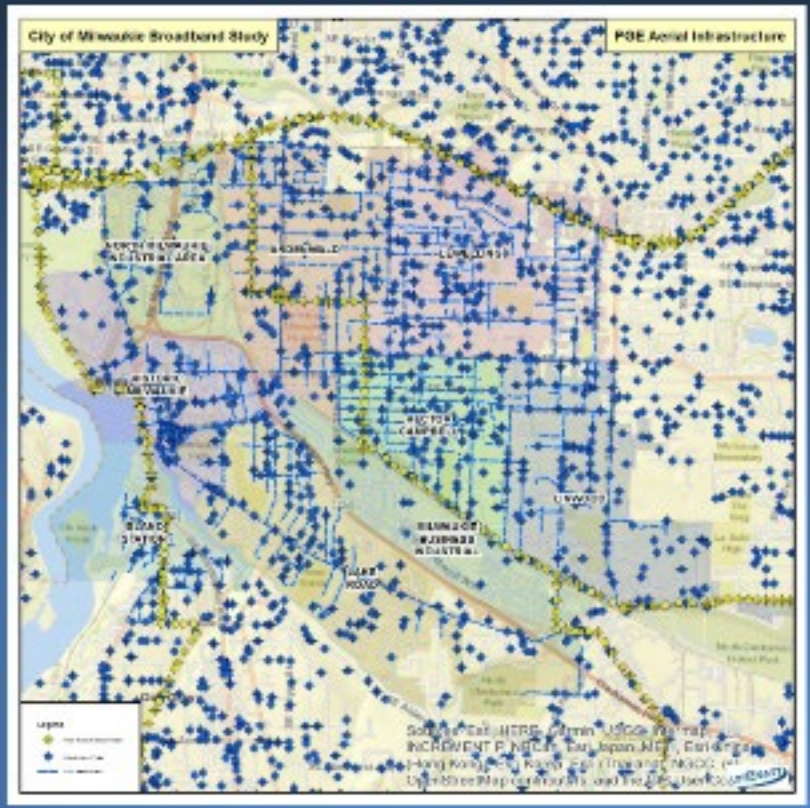
WS60

IMPLICATIONS OF EXISTING FIBER NETWORK

- Physical Infrastructure (Layer 1)
  - CBX fiber network is robust
  - CBX fiber crosses several hard to build rail lines and highways
  - CBX fiber capacity could serve as feeder network for FTTP
  - CBX fiber capacity could also serve as middle mile backbone
- Switching and Routing (Layer 2 and Layer 3) Infrastructure
  - City Cisco network sized for the City's needs
  - New broadband operation would require carrier grade switching and routing capabilities
- Conclusion
  - CBX dark fiber system will be very efficacious for middle and last mile
  - City network equipment should not be used for broadband
  - Capital budget will reflect all new network equipment for broadband

PGE INFRASTRUCTURE ASSESSMENT

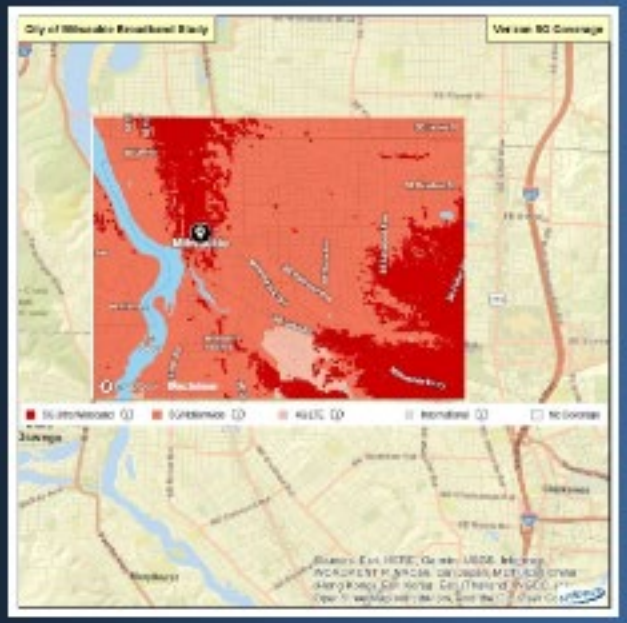
- Pole Attachment Process
  - Survey poles and specify attachment height (City)
  - Submit permit request - $39 per pole processing fee
  - PGE engineering evaluation – $33.25 per pole fee
  - PGE make ready ≈ $1,750 per pole
  - System construction (City)
  - Post construction inspection - $29.00 fee
- PGE Make Ready
  - Move streetlight ≈ $1,200
  - Raise drip loops ≈ $1,000
  - Raise mid-span wires ≈ $2,300
  - Move cable/phone attachment ≈ $500
  - Replace pole ≈ $15,000
- Timeline implications
  - Permit review – up to 45 days
  - Pole replacement – up to six months
  - Other make ready work – less than six months
- Summary
  - Attaching to third party poles adds complexity, time and $$$
  - Some routes may be less per foot to place underground



WS62

WIRELESS SYSTEM COVERAGE

- System capabilities by carrier
  - Verizon – primarily 5G with limited "5G Ultra Wideband"
  - T-Mobile / Sprint – primarily "5G Ultra Capacity"
  - AT&T – primarily 5G
- Performance expectations
  - 5G – marginal improvement over 4G LTE (≈ 300Mbps)
  - 5G Ultra – up to 4Gbps, issues with line of site requirement
  - 5G Ultra being used for fixed residential services



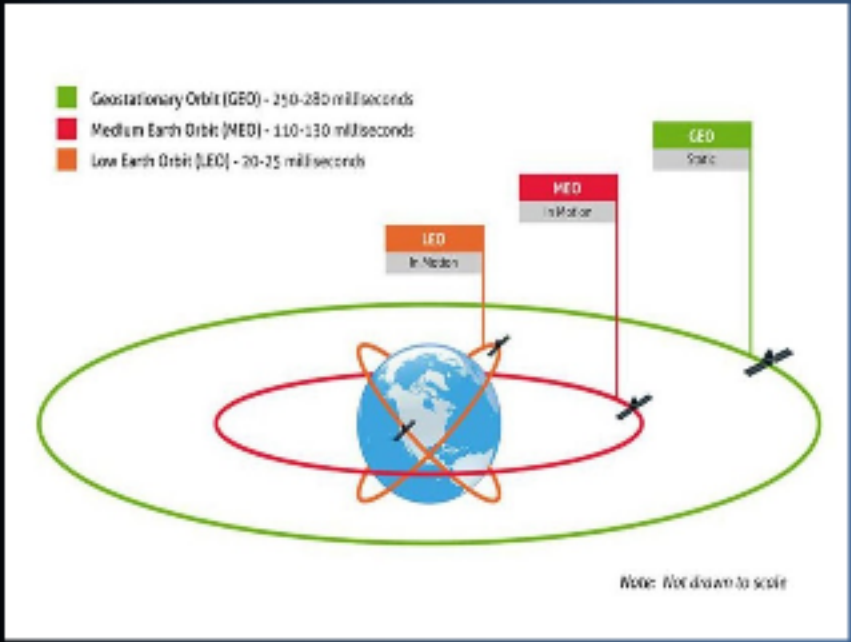
WS63

LEO Satellite Internet

EVOLUTION OF BROADBAND SATELLITE TECHNOLOGY

Satellite technology has evolved since the 1960s from broadcast television to GPS to near real time voice and data systems. Lowering the orbital altitude improves latency for voice and data, but doing so requires many more satellites for complete coverage.

Satellite Applications - Latency



Satellite Applications - Characteristics

Orbital Type	Altitude, Miles	Satellite Coverage*	Applications
Geosynchronous	22,000	3	Weather
Geostationary	22,000	3	Broadcast and Data
Medium Earth	3,100 – 7,500	20	Global Positioning System
Low Earth	210 – 1,000	1,440 – 7,500	Voice and Data

* - Number of satellites required for 100% coverage along the orbital plane.

LOW EARTH ORBIT (LEO) CHARACTERISTICS

- Why LEO?
  - Requires minimal energy for satellite delivery - smaller satellite and shorter trip for the rocket
  - Lower altitude offers shorter round trip for time sensitive traffic – real time voice and data
  - Lower altitude reduces transmission power required – smaller satellite and smaller subscriber dish
- Drawbacks of LEO
  - Smaller footprint per satellite requires "constellations" of satellites for complete coverage
  - Starlink plans call for more than 12,000 satellites at full deployment
  - Satellites deployed at lower altitudes will experience "orbital decay" which will require re-boosting
  - Most satellites eventually burn up in the atmosphere and will require replacement
- LEO deployment examples (orbital altitude)
  - Iridium satellite phone services – 480 miles
  - International Space Station – 250 miles
  - Hubble Space Telescope – 340 miles
  - SpaceX Starlink – 210 to 690 miles

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STARLINK OVERVIEW

- What is Starlink?
  - A LEO satellite technology being deployed by SpaceX (Elon Musk)
  - 2,000 satellites in orbit as of March 2022
  - FCC has approved up to 30,000 satellites
- When and where will it be available?
  - Current geographic coverage is between 44 and 53 degrees latitude (northern US & Canada)
  - Some areas in the U.S. are "at capacity" so new services may not be delivered until 2023
  - 100,000 terminals shipped to customers in 14 countries
- What is the Internet service offering?
  - Customer Premises Equipment: $599
  - Internet Access: $110/month
  - The speed should increase as 'density' is improved with ongoing satellite launches
  - Starlink is taking $99 deposits now

WS67

CONCLUSIONS: LEO OPPORTUNITY/THREAT

The current value proposition of LEO, with higher upfront and recurring fees for a ≈ 100M service, will limit it to primarily rural applications where wireline Internet connectivity is limited in availability and/or performance.

- Starlink could be a successful national/global alternative as a 'provider–of-last–resort' to underserved and unserved rural areas
  - While expensive, speeds will be geometrically higher than incumbent offerings in these areas
  - Upon achieving needed satellite density, the offering will be ubiquitous with no need for franchise approval, local network build-out, or local-level investment
- In areas where cable modem and/or FTTP Internet is available, Starlink should not pose a threat to market share
- In the case of the underserved areas within Clackamas County, Uptown sees LEO as an potential solution for current connectivity issues. While providing less value than FTTP in speed and price, a Starlink offering could accomplish many of the same goals being sought by the County under a business model being driven solely by the private sector.

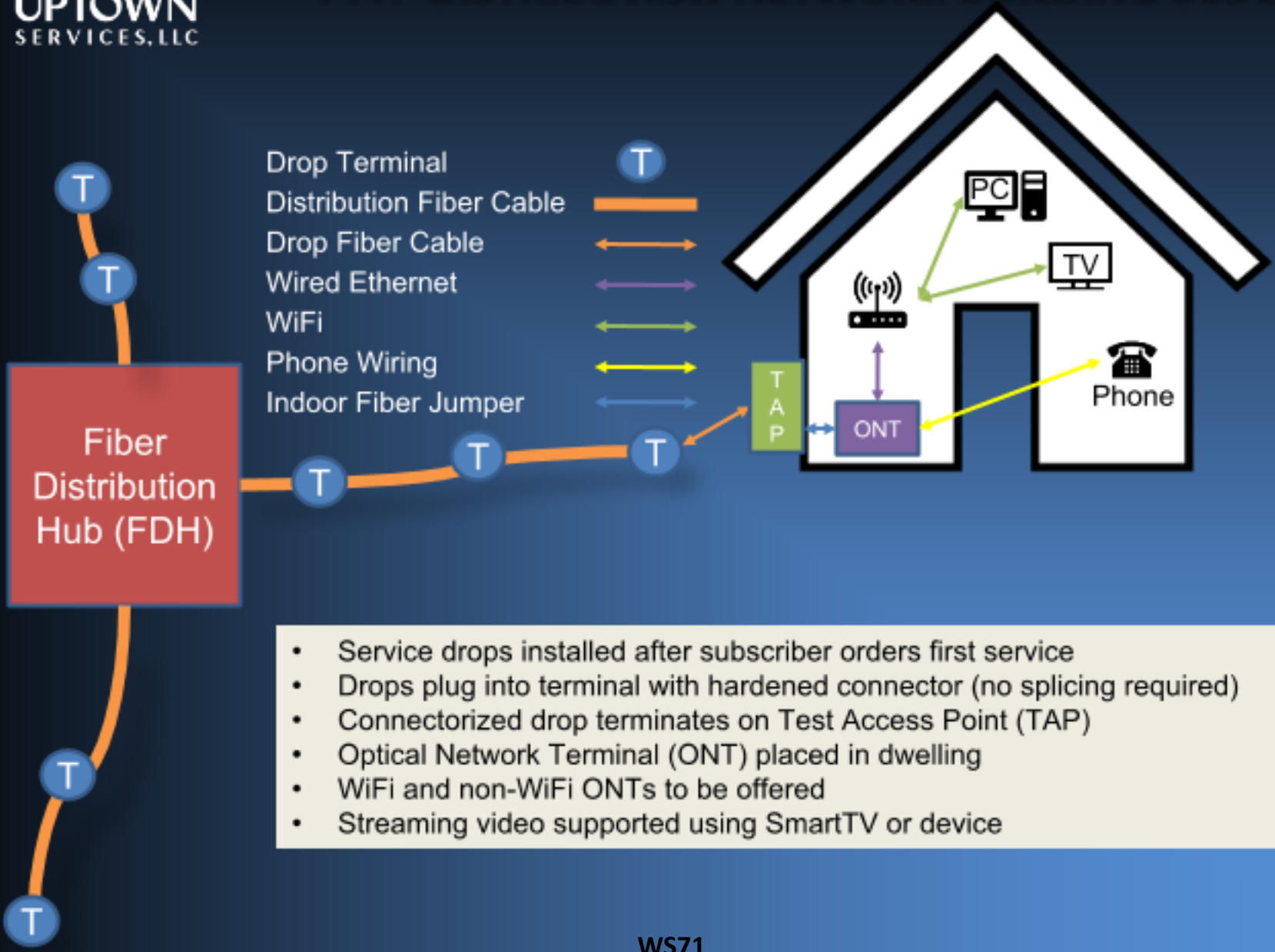
WS68

Technology Analysis
Reference Architecture – Building Blocks

SERVICE DROP AND DROP TERMINAL

- Drop Terminal
  - Drop terminals connect service drops to the distribution network
  - One terminal serves between two and twelve passings
  - Terminals allow for plug and play at the serving pedestal / pole
  - Terminals attach directly to distribution fiber cable
- Service Drop and Test Access Point
  - Drops only installed after subscriber orders service
  - One fiber drop cable installed from terminal to each premises
  - Fiber drop pushed or pulled in shallow drop conduit in underground
  - Aerial drops are flat self support cable
  - Drop fiber terminated in test access point (TAP) mounted on dwelling
  - TAP provides demarcation between outside and inside fiber (bulkhead)

FTTP DISTRIBUTION NETWORK BUILDING BLOCKS



- Service drops installed after subscriber orders first service
- Drops plug into terminal with hardened connector (no splicing required)
- Connectorized drop terminates on Test Access Point (TAP)
- Optical Network Terminal (ONT) placed in dwelling
- WiFi and non-WiFi ONTs to be offered
- Streaming video supported using SmartTV or device

LOCAL DISTRIBUTION NETWORK

- Distribution and feeder fiber
  - Distribution fiber connects network terminals to splitter cabinet (FDH)
  - Distribution cables can range in size from 12 to 144 fibers
  - FDH houses centralized splitters for each service area (≈ 250 homes)
  - Feeder network connects FDH(s) to network operations center (NOC)
- Centralized split approach
  - One fiber for each home in the service area terminated in the FDH
  - 1x32 splitters deployed in each FDH
  - Splitters are lit by feeder fibers
  - Splitter outputs are plugged into fibers designated for specific terminal
  - Approach allows for maximum flexibility as network capacity increases

OPTICAL LINE TERMINALS AND FEEDER

- Optical Line Terminals (OLTs)
  - An OLT combines all digital content onto PON ports
  - Typically requires environmentally controlled space
  - One Chassis can serve up to 1,024 connected ONTs
  - OLTs typically connect upstream via multiple 10G uplinks
  - New City Hall location would serve as primary OLT location
- Feeder Network
  - Feeder connects distribution network to serving OLTs
  - Typically one feeder fiber per 32 passings (PON port)
  - ≈ 312 feeder fibers would be required to service 10,000 passings
  - All feeder will route in and out of new City Hall

NETWORK BACKBONE AND CORE

- Core Network – Layer 3
  - Core network safely routes traffic to and from the outside world
  - Border Gateway Protocol (BGP) routers connect to the Internet
  - BGP routers deployed in pairs
  - Typically installed on backbone network in physically diverse locations
  - Each router connects to at least two Internet backbone providers
- Outside World – Content
  - Two physically diverse Internet backbone connections desired
  - Video content would come in over one or both Internet connections
  - Phone would also route over one or both Internet connections
- Business Model Implications
  - Layer 3 switching would be the responsibility of the retail ISP
  - Internet backbone connectivity also provided by retail ISP

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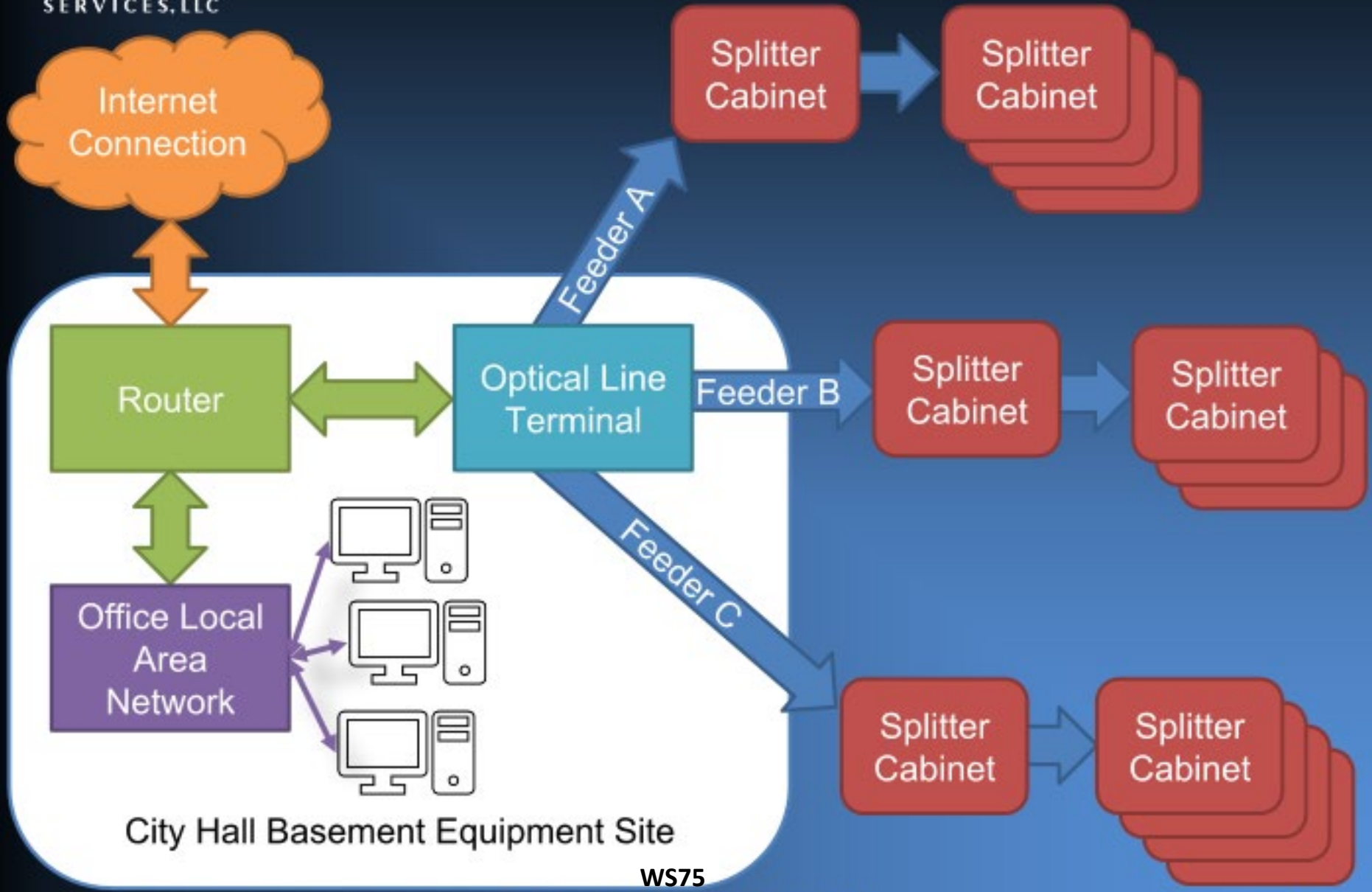
EQUIPMENT SITE COMPONENTS



WS75

Technology Analysis

Sample Designs

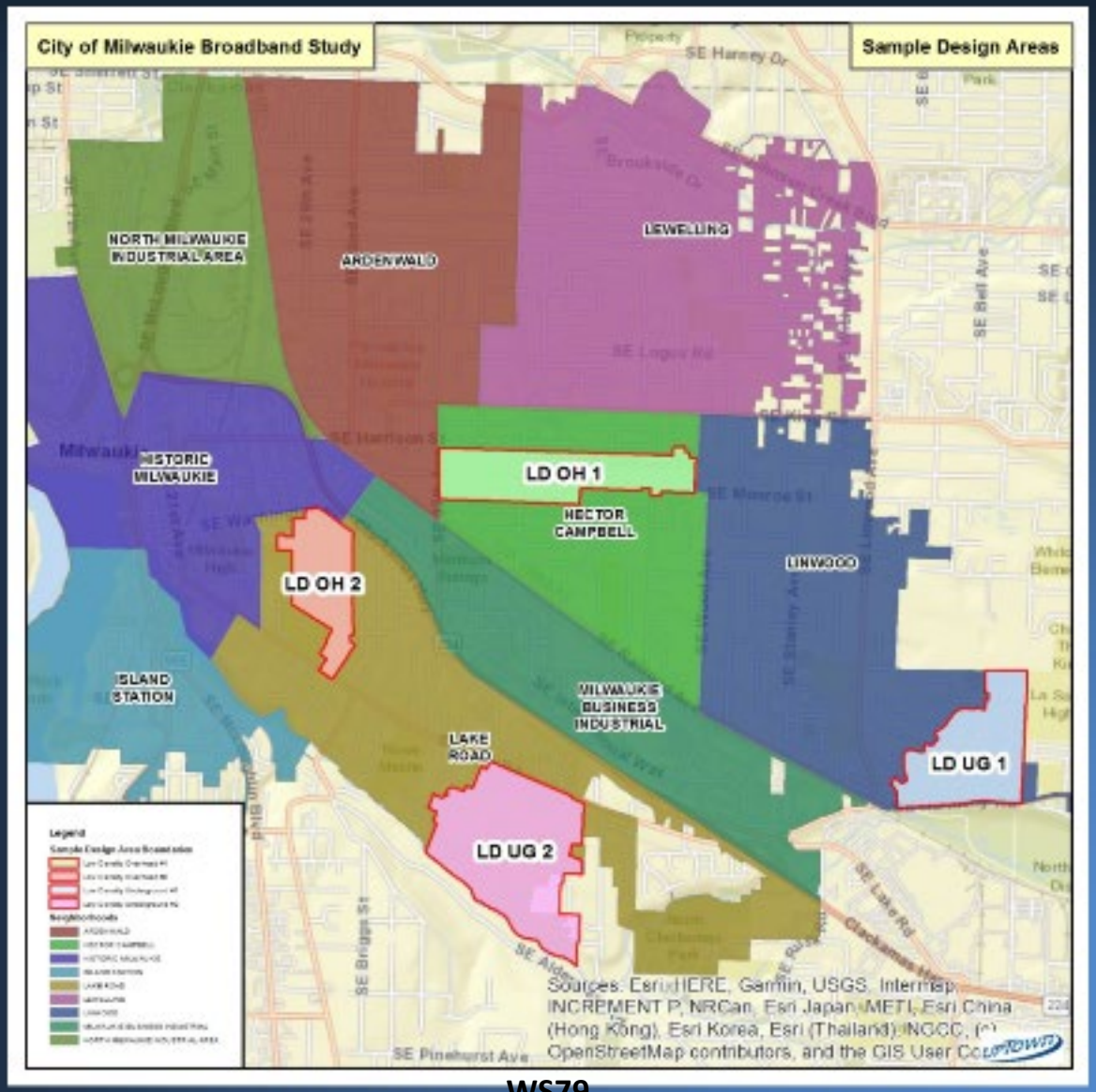
REFERENCE ARCHITECTURE

- 100% Passive Optical Network (PON) standards based
  - Relying on next generation standards to support future growth
  - Nx10G capabilities over time
- Centralized split architecture
  - Feeders serve splitter cabinets (one cabinet per 250 premises)
  - Distribution fiber connects drop terminals throughout cabinet area
  - Drop terminals connect subscriber drops to distribution network
  - Connectorized pigtail drops allow for plug and play at the terminal
  - Premises end of the drop is typically terminated in the field
- Design assumes the use of standard cable technology
  - Single jacket, single armor cable for aerial (com zone)
  - Single jacket all dielectric for underground

OUTSIDE PLANT COST ASSUMPTIONS

- New underground path creation
  - $40.00 per foot composite for conduit placement (100% boring)
  - $4.00 per foot for 2IN poly conduit in each pathway
  - Per structure adder for all vaults, pedestals and handholes
- Fiber placement
  - $4.00 per foot labor to install fiber cable in new conduit system
  - $1.00 per foot average fiber material cost
- Aerial construction costs
  - $3.90 per foot composite rate to install new messenger in com zone
  - $4.00 per foot to lash each cable to strand in com zone
- Technical services
  - $35 per fusion splice
  - $250 - $450 closure prep for terminals, splice points and feeder taps
- Material pricing assumptions
  - Fiber, terminal and structure pricing based on recent client bids
  - Labor estimates based on recent Portland area projects / bids

SAMPLE DESIGN AREA OVERVIEW



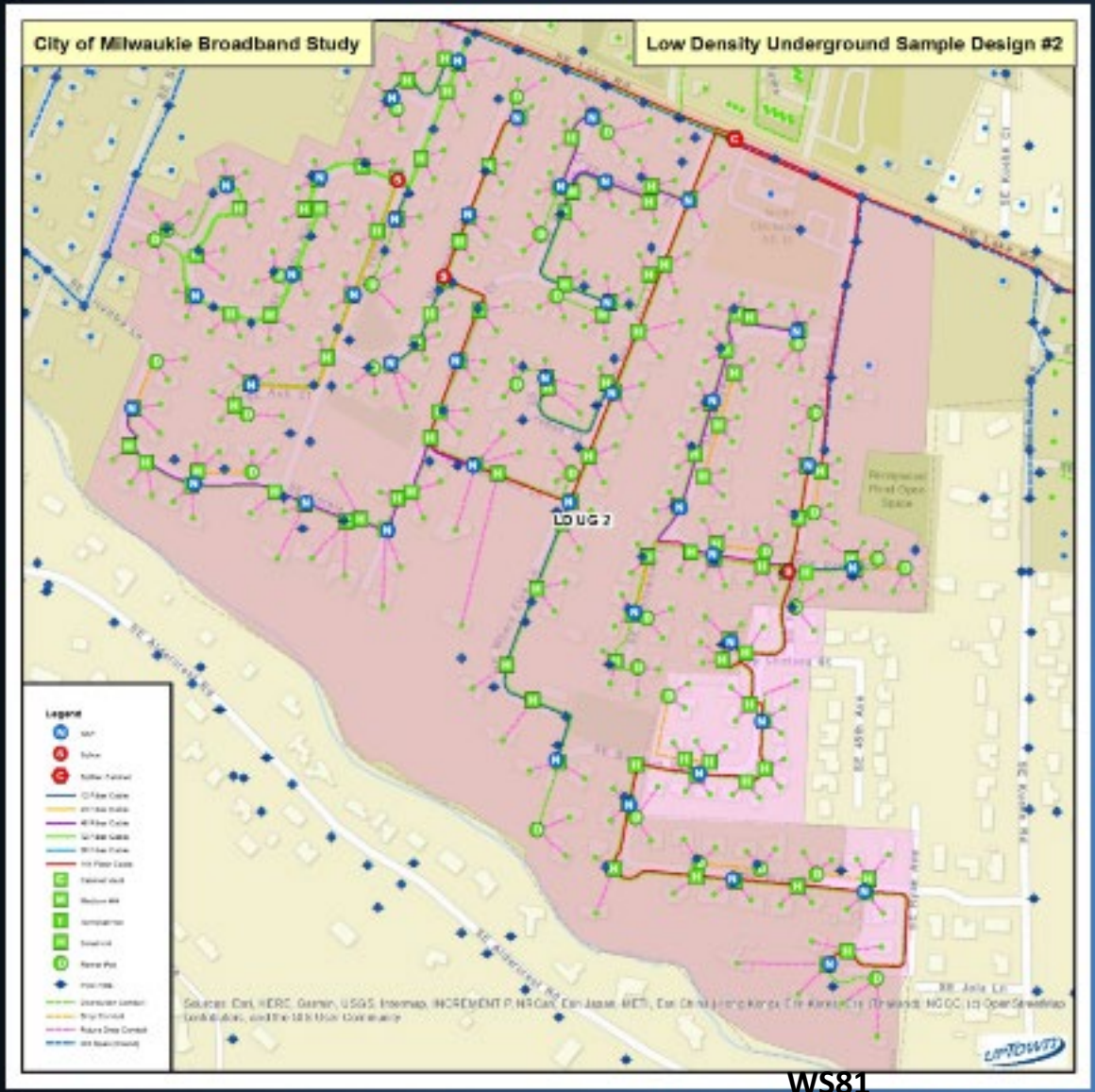
WS79

LOW DENSITY UNDERGROUND #1 SAMPLE DESIGN

Design Metric	Value
New Aerial Plant Miles	-
New Underground Plant Miles	3.1
% Aerial	0%
% UG	100%
Passings	254
Passings per Mile of Plant	81
Materials Cost per Passing	$486
Labor Cost per Passing	$3,529
Total Cost per Passing	**$4,015**
Total Materials (no drops)	$123,427
Total Labor (no drops)	$896,278
Total Cost	**$1,019,704**

* - Does not include engineering, fixed equipment, subscriber capital and installation costs.

LOW DENSITY UNDERGROUND #2 SAMPLE DESIGN



Design Metric	Value
New Aerial Plant Miles	0.0
New Underground Plant Miles	3.7
% Aerial	0%
% UG	100%
Passings	267
Passings per Mile of Plant	72.0
Materials Cost per Passing	$568
Labor Cost per Passing	$4,035
Total Cost per Passing	**$4,602**
Total Materials (no drops)	$151,569
Total Labor (no drops)	$1,077,222
Total Cost	**$1,228,791**

* - Does not include engineering, fixed equipment, subscriber capital and installation costs.

WS81

LOW DENSITY OVERHEAD #1 SAMPLE DESIGN

Design Metric	Value
New Aerial Plant Miles	2.8
New Underground Plant Miles	0.0
% Aerial	100%
% UG	0%
Passings	280
Passings per Mile of Plant	101
Materials Cost per Passing	$171
Labor Cost per Passing	$439
Total Cost per Passing	**$610**
Total Materials (no drops)	$47,995
Total Labor (no drops)	$122,792
Total Cost	**$170,787**

* - Does not include engineering, fixed equipment, subscriber capital and installation costs.

LOW DENSITY OVERHEAD #2 SAMPLE DESIGN

Design Metric	Value
New Aerial Plant Miles	1.6
New Underground Plant Miles	0.0
% Aerial	100%
% UG	0%
Passings	158
Passings per Mile of Plant	98
Materials Cost per Passing	$183
Labor Cost per Passing	$464
Total Cost per Passing	**$648**
Total Materials (no drops)	$28,957
Total Labor (no drops)	$73,368
Total Cost	**$102,325**

* - Does not include engineering, fixed equipment, subscriber capital and installation costs.

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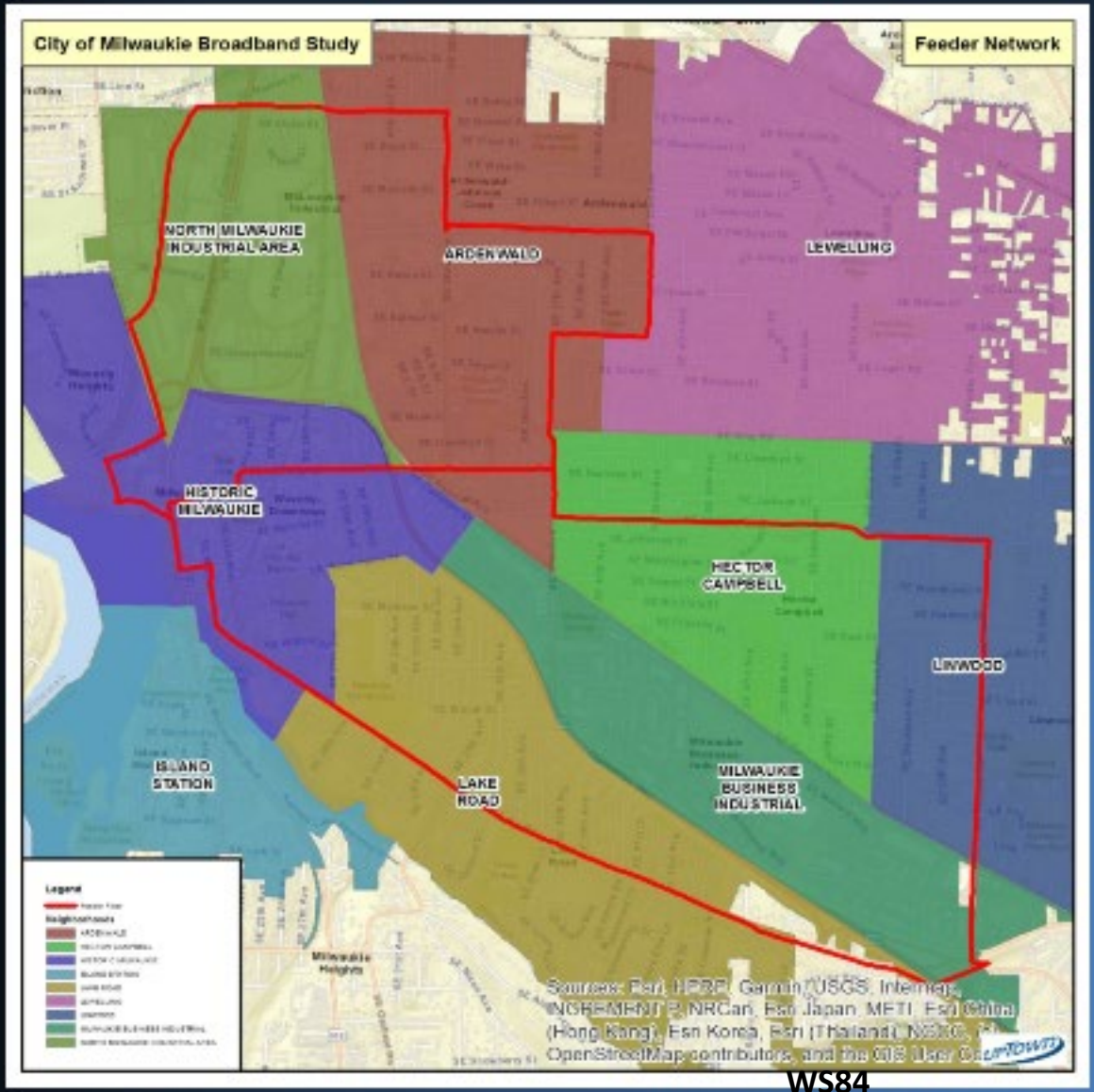
FEEDER NETWORK



WS84

Design Metric	Value
New Aerial Plant Miles	8.9
New Underground Plant Miles	0.9
% Aerial	91%
% UG	9%
Passings	9824
Passings per Mile of Plant	1003
Materials Cost per Passing	$18
Labor Cost per Passing	$65
Total Cost per Passing	**$83**
Total Materials (no drops)	$178,622
Total Labor (no drops)	$638,290
Total Cost	**$816,912**

* - Does not include engineering, fixed equipment, subscriber capital and installation costs.

SAMPLE DESIGN SUMMARY LOW DENSITY RESIDENTIAL

Sample Design Area	NewOH Miles	New UG Miles	Passings	Passings per New Mile of Plant	Weight	Materials per Passing	Labor per Passing	Total per Passing
Low Density OH #1	2.8	0.0	280	101	37.5%	$171	$439	$610
Low Density OH #2	1.6	0.0	158	98	37.5%	$183	$464	$648
Low Density UG #1	0.0	3.1	254	81	12.5%	$486	$3,529	$4,015
Low Density UG #2	0.0	3.7	267	72	12.5%	$568	$4,035	$4,602
Overall	**4.4**	**6.8**	**959**	**85**	**100%**	**$265**	**$1,284**	**$1,549**

- Overhead sample designs reflect 5,202 single family homes in the City
- Underground sample designs reflect 1,727 single family homes in the City

COMMERCIAL AND MDU CAPITAL COST ESTIMATION

Building Type	SFU Outside Plant (OSP) Cost per Building	SFU Multiplier	OSP per Building	Structured Wiring Cost per Dwelling	Average Total Cost per Dwelling	Buildings	Dwellings
Commercial	$1,549	3.9x	$5,693	$0	$5,693	434	434
Multi Dwelling Unit	$1,549	3.9x	$5,693	$400	$1,832	294	2,448

- Commercial, industrial and multi-family buildings will cost more to serve
- More difficult construction environment (e.g. asphalt and concrete)
- Much lower density in industrial areas
- Most MDU costs are related to new structured wiring
- Existing wiring will not support advanced broadband services
- New fiber cabling will be required in all MDU complexes
- Structured wiring costs estimated from other Uptown projects ($400 per unit)

OUTSIDE PLANT CAPITAL BUDGET SUMMARY

Building Type	Total Units	Cost per Unit	Total Cost
Residential	6,929	$1,549	$10,711,570
Commercial	434	$5,693	$2,470,636
Multi-Family	2,448	$1,833	$4,486,036
Feeder System	9,811	$83	$816,911
Total	9,811	$1,881	$18,485,154

- Pace of multi-Family construction will be driven by MDU right of entry agreements
- Feeder system will be built to support each FTTP service area
- Costs are modeled in proforma analysis

Incumbent and Proposed FTTP Service Offerings

Internet and Data Services

INCUMBENT RESIDENTIAL WIRELINE INTERNET

	Download	Upload	Price	Technology
CenturyLink	60M 100M	5M	$55.00 $65.00	DSL
CenturyLink	100M* 940M*	100M 940M	$50.00 $65.00	Fiber
Comcast	50M 100M 300M 600M 1.2G	2M 5M 25M 25M 35M	1st Year / Month-Month / No Data Cap $19.99 / $60.00 / $90.00 $54.99 / $70.00 / $100.00 $64.99 / $80.00 / $110.00 $74.99 / $90.00 / $120.00 $79.99 / $110.00 / $140.00	Cable Modem (DOCSIS 3.1)
Comcast	3G*	-	$299.95 (monthly only)	Fiber

CenturyLink pricing per centurylink.com as of March 2022. Comcast pricing from xfinity.com as of February 2022.

*Not available in all areas.

RESIDENTIAL INTERNET PRICING & TERMS

- The pricing to the resident is of greater value, through both lower ongoing monthly fees and no promotional gimmicks with significant price increases after 12 months.
- The City's Internet service would not have data caps, nor early termination fees and would embrace net neutrality. Comcast does not offer these important benefits.

Internet Tier Download / Upload	Monthly Price: ACP Eligible	Monthly Price: Standard	Proposed Service Terms	Comcast Service Terms
1G / 1G	$30	$60	Data Cap: No Term Agreement: No Termination Fee: No	Data Cap: Yes Term Agreement: Yes Termination Fee: Yes
2G / 2G	$60	$100		
4G / 4G	$120	$150		
Wireless Gateway Upgrade	Add $10			

WS90

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ONT MODELS BY TIER

Commonly referred to as ONTs, these are fiber modems that are installed at the customer premises…

Internet Tier	Wireless?	Voice?	ONT Model	Ports	Cost/ Unit*	Other CPE
Affordable Internet & 1G / 1G	No	Yes	GP1100X	1 RJ11 1 2.5 GigE Port	$130	W/O Voice: Power Cord ($12) W/ Voice: UPS ($50)
1G / 1G	Yes	Yes	GP1100X + GigaSpire U4	1 RJ11 2 GigE LAN Ports 802.11ax	$234	
2.5G / 2.5G	Yes	Yes	GP1100X + GigaSpire U6.2	2 RJ11 1 2.5 GigE Port 4 GigE LAN Ports 802.11ax	$310	
Multi- Tenant Commercial	No	Yes	716GE (outdoor)	2 RJ11 4 x 10/100/1000 GigE interface	$265	
	No	Yes	762GX (outdoor)	8 RJ11 8 x 10/100/1000 GigE interface	$1,180	
Wireless Extender	Yes		GigaSpire U4	802.11ax	$104	

WS91

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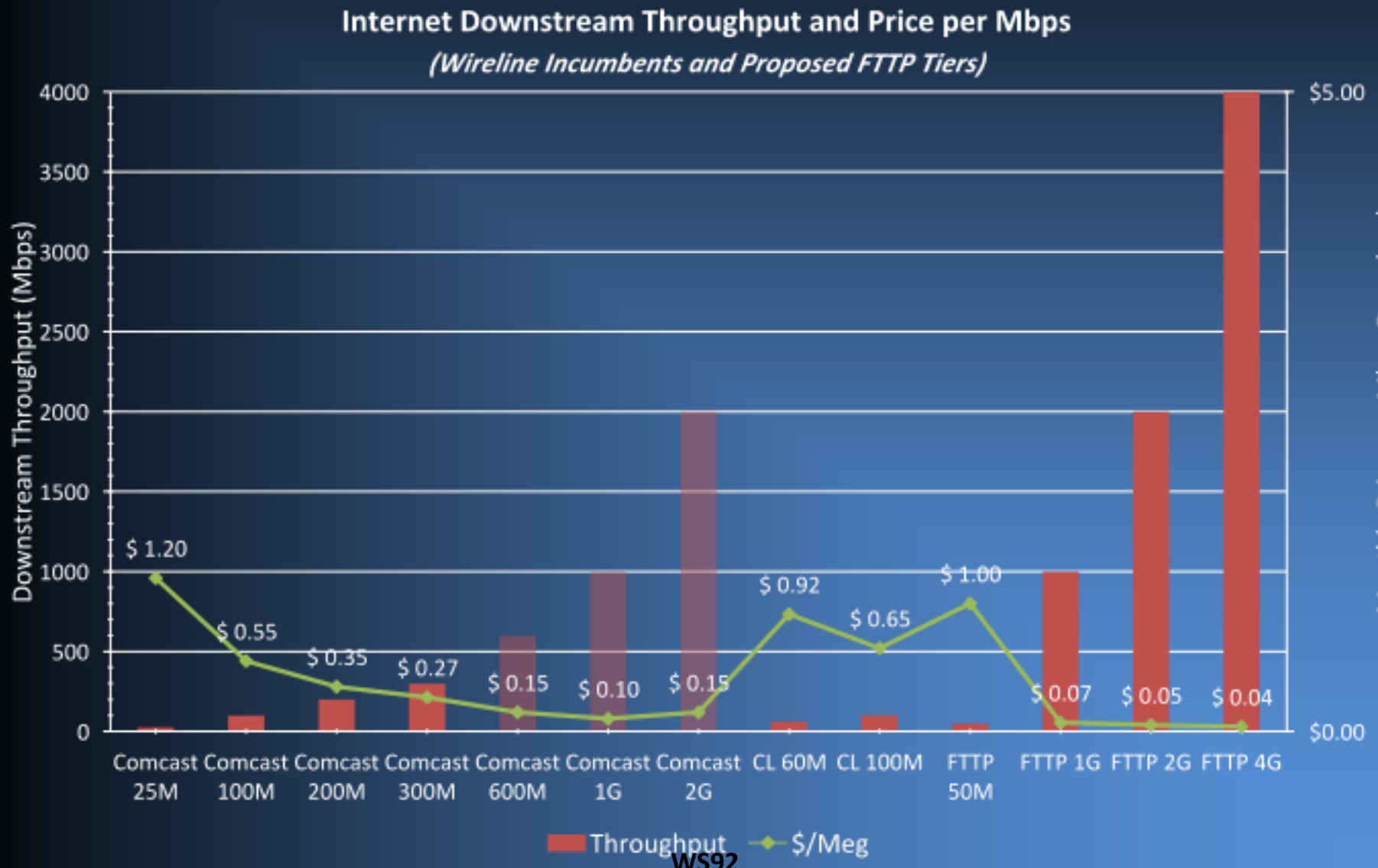
RESIDENTIAL INTERNET VALUE



WS92

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STANDARD COMMERCIAL INTERNET PRICING

Download / Upload	Monthly Price
50M / 5M *Add Symmetrical*	$70.00 *+ $10*
100M / 20M *Add Symmetrical*	$130.00 *+ $50*
250M / 50M *Add Symmetrical*	$250.00 *+ $100*
500M / 250M *Add Symmetrical*	$400.00 *+ $150*
1G / 500M *Add Symmetrical*	$600.00 *+ $200*
Wireless Gateway	$10.00
Static IP Address	$15.00 each

WS93

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VOICE PROVIDER ROLE

Function	Operational Responsibility	FTTP System	CLEC
Capital	Local Loop and Premises NIU	Π	
	Fiber MUX, Transport, and Switch		Π
Interconnect	LNP, Operator Services, PSAP, IC Agreements		Π
Marketing & Sales	Advertising, Sales	Π	
	Brand, Pricing	Π	Π
Provisioning	Work Order Creation	Π	
	Bell Processes		Π
	Switch Provisioning		Π
	Customer Install	Π	
Billing	Bill Fulfillment	Π	
	Call Detail Record (LD), Taxes & Fees		Π
Internet	Backbone Interconnection		Π

WS94

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VOICE SERVICES

With the below retail voice pricing, net revenue per line (retail less wholesale voice fees) will be the following at current CLEC wholesale market rates:

- Residential: $28 per month
- Commercial: $16 per month

Segment	Service	With Internet Rates	Without Internet Rates
Residential	Access Line, Features, & Unlimited LD	• Monthly: $35	Not Offered
Commercial	Access Line, Features, & Unlimited LD	• Monthly: $30 • 2 Year: $26 • 3 Year: $24	• Monthly: $40 • 2 Year: $36 • 3 Year: $34
	Digital SIP Trunk (per channel)	• 2 Year: $25 • 3 Year: $23	• 2 Year: $30 • 3 Year: $28
	Hosted PBX (per seat)	Requires Internet and minimum 3 year term: • 1-5 Seats: $25 • 6-24 Seats: $23 • 25-49 Seats: $22 • 50+ Seats: $21	

WS95

Potential Business Structures

Overview

BROADBAND INVESTMENT GOALS

We see a consistent pattern of community benefit objectives across broadband infrastructure projects. Ultimately, the value of the project to the community depends upon balancing the tradeoffs between the project costs/risks versus the specific improvements to broadband that can be realized…

1. Typical Community Benefits Being Sought
   - Introduce competition: Lower service prices and improved affordability
   - Deploy current technology: Access to robust broadband infrastructure for residents and business
   - Economic development: Recognition of broadband as a critical utility on par with electric or water
   - Other internal uses of fiber infrastructure (public safety, cost savings, SCADA/AMR, etc.)
2. Investment Objective
   - Maximize impact of the infrastructure investment while minimizing financial and operational risk
   - Value to the community becomes a function of:
     - Last-mile capacity deployed and available to each end user (e.g. 1G GPON versus 10G XGS-PON)
     - End user prices and savings compared to incumbents
     - Services terms compared to incumbents (e.g. data caps, contract termination fees, etc.)
     - Support of future uses/applications via IoT (e.g. CCTV video backhaul, etc.)
   - Minimizing risk becomes a function of the characteristics of the business model:
     - Total investment required and associated debt service levels over time
     - Differences in revenue versus operating expenses across business model option

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RANGE OF BUSINESS MODELS

	WHOLESALE		RETAIL	
	Status Quo Dark Fiber	Public-Public or Public-Private Partnership*	Own & Operate with Operating Partner	Own & Operate
Ownership Role of City	City owns fiber backbone and funds fiber laterals via one-time connection fees	City funds capex for fiber build (FTTC) and owns backbone & distribution fiber	City funds capex for fiber build (FTTP), working capital, and some operating expenses	City funds capex for fiber build (FTTP), working capital, and all operating expenses
Operating Role of City	City constructs & maintains fiber plant (excluding electronics)	Partner is the service provider. City only co-brands & maintains fiber plant (excluding electronics)	City is service provider. Partner provides customer care, help desk, fiber maintenance/outage response, and network management/administration	City is service provider and provides all operating roles (excluding providing voice service)
Services Offered	Dark fiber transport to CAIs, dark fiber transport to commercial accounts, and local loop ISP wholesale	Standard Internet and voice package offerings to the residential and commercial segments.		
Revenue	All revenue retained by City	All revenue retained by the Partner. City compensated with monthly fee per connected end-user.	All revenue retained by City. Partner compensated with monthly fee per connected end-user.	All revenue retained by City

*Commonly abbreviated as PPP or 3P.

EXAMPLE MUNICIPAL FTTP SYSTEMS MODELS

Uptown expanded the business models to be reviewed to include an operating partner model under the retail model

Business Model	Governmental Entity	Service Provider or Operating Partner
Dark Fiber	Clackamas County, OR Palo Alto, CA	Unaffiliated 3rd Party ISPs
Wholesale *(Public/Private or Public/Public)*	Westminster, MD Centennial, CO	Ting
	Huntsville, AL	Google Fiber
Retail (with Operating Partner)	Salem, UT Eagle, CO	Spanish Fork, UT Glenwood Springs, CO
Retail (Own and Operate)	Longmont, CO	Longmont, CO

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BUSINESS MODEL ROLES

Function	Operational Responsibility	Dark Fiber	Wholesale PPP	Retail (Operating Partner)	Retail (Own & Operate)
Private Partner		NA	ISP		NA
Network Services		NA	Data: RSP Video & Voice: RSP or 3rd Party	Data: County Voice: CLEC Video: Not Offered	
Network Assets	Backbone, Feeder, & Distribution Conduit/Fiber	County	County	County	County
	FTTP Electronics	ISPs	RSP		
	Fiber Drop		County		
	ONT and Inside Wiring		RSP		
Network Admin & Maintenance	Network Administration			ISP	
	Fiber & Conduit	County	County	County	
	Electronics	ISPs	RSP		
	Outage Response	County & RSP	County	ISP	
Bandwidth	Backbone Interconnection	ISPs	RSP		
Software	OSS/BSS			County	
	Fiber Management	County & RSP	County & RSP		
Marketing & Promotion	Advertising, Sales, Branding	ISPs	RSP or 3rd Party		
	Community Engagement	County & RSP	County & RSP		
	End User Pricing	ISPs	RSP		
Customer Operations	Help Desk, Service Calls, Billing		RSP or 3rd Party	ISP	
	Customer Installs and Disconnects		RSP	County	

WS100

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FINANCIAL TERMS

While financial terms vary, typical remuneration structures implemented for municipal broadband system partnerships reflect the following…

Business Model	Dark Fiber	Public-Private Partnership*	Own & Operate with Operating Partner	Own & Operate
Wholesale Fees *Paid by Service Provider*	MRC per fiber strand per mile. Rates are highly variable and reflect urban ($150-$300) vs. rural or long haul ($10-$50) Discounts typically apply for multiple strands or public use.	Two Models: A) Premise passed fee ($6/month) & connected premise fee ($17/month) - or - B) Connected premises fee only ($35-40/month) Fees apply whether business or residential connection	Not Applicable	
Outsourcing Fees *Paid by Network Owner*	Not Applicable		Monthly fee per connected premises ($10-$25 depending on term and operating scope)	Not Applicable

*MRC = Monthly Recurring Charge.

Funding Options

ARPA: STATE AND LOCAL FISCAL RECOVERY FUNDS

The American Rescue Plan Act of 2021 (ARPA) is a federal grant program that includes funds for the construction of broadband infrastructure, along with numerous other programs…

Program Overview	• Total program funds were allocated to various jurisdictions as follows:
	  • States: $195B
	  • Counties: $65B
	  • Cities: $45B
	• Funds investment in broadband infrastructure (build or upgrade)
	• Funding starts March 3, 2021. Funds must be "obligated" by December 31, 2024
	• Program rules issued by Department of the Treasury with Final Rule effective April 1, 2022

Eligible Use of Funds	• Necessary investment: Service area is eligible if identified need for additional broadband infrastructure investment (e.g. lack of reliable 100M symmetrical speed) using data methods from speed tests, federal or state maps, interviews and surveys. • Minimum level of service: Minimum speed of 100Mbps symmetrical • Labor standards: Local hiring, prevailing wages, and safety and training standards • Affordability: Service provider participation in qualifying affordability plan
Project Prioritization	• Priority given to projects that provide last mile connections using wireline technology • Construction contracts should reflect prevailing wages and robust labor standards • Project ownership, operation, or affiliation with local governments or cooperatives • Avoid service areas under existing funding commitments via federal or state grants

BROADBAND EQUITY, ACCESS & DEPLOYMENT PROGRAM

The Broadband Equity, Access, and Deployment Program (BEAD) is a federal grant program that includes funds broadband deployment, mapping, and adoption projects…

Program Overview	• $42.5B in total funding to be allocated at the state level • Planning and project prioritization through state broadband offices which are tasked with developing 5 year action plans • Program oversight at the state level with federal implementation and support via the National Telecommunication and Information Administration (NTIA)
Eligible Use of Funds	• The NTIA has 180 days to establish program rules and issue funding guidelines • The NTIA issued a notice for public comment on January 7th • Anticipated guidelines will be issued to state jurisdictions by May 2022 • State-level submission of proposals to state broadband offices expected in second half 2022
Likely Guidelines	• While up to each state, we expect alignment with ARPA rules for determining eligible service areas • Funding recipients will be required to collect and maintain data to help the NTIA assess the programs' impact, evaluate targets, promote accountability and coordinate with other federal and state programs • Criteria to assess grant recipients' plans to ensure that service providers maintain or exceed thresholds for reliability, quality of service, sustainability, upgradability and other required service characteristics • Criteria to ensure that funding is deployed in a way that maximizes the creation of "good paying jobs.

TYPICAL NON-GRANT FUNDING SOURCES

1. Long Term Bond
   - Single round of financing via 20-year tax exempt revenue or GO bond
   - 3-4 years interest of capitalized interest
   - 1.5% issuance cost
2. Working Capital Loan
   - 10 year term
   - Interest accumulates over first 5 years with Year 6 balloon payment
   - Level payments begin in Year 6 and complete in Year 10
3. Wholesale fees paid by the ISP under wholesale partnership models
   - Monthly fee per connected end user, or
   - Monthly fee per connection and per serviceable premises
4. Equity
   - Either upfront or ongoing annual general fund contributions
5. Local Improvement District
   - Monthly fee assessed to all residential premises as they become serviceable
   - Assessed for full 20 years

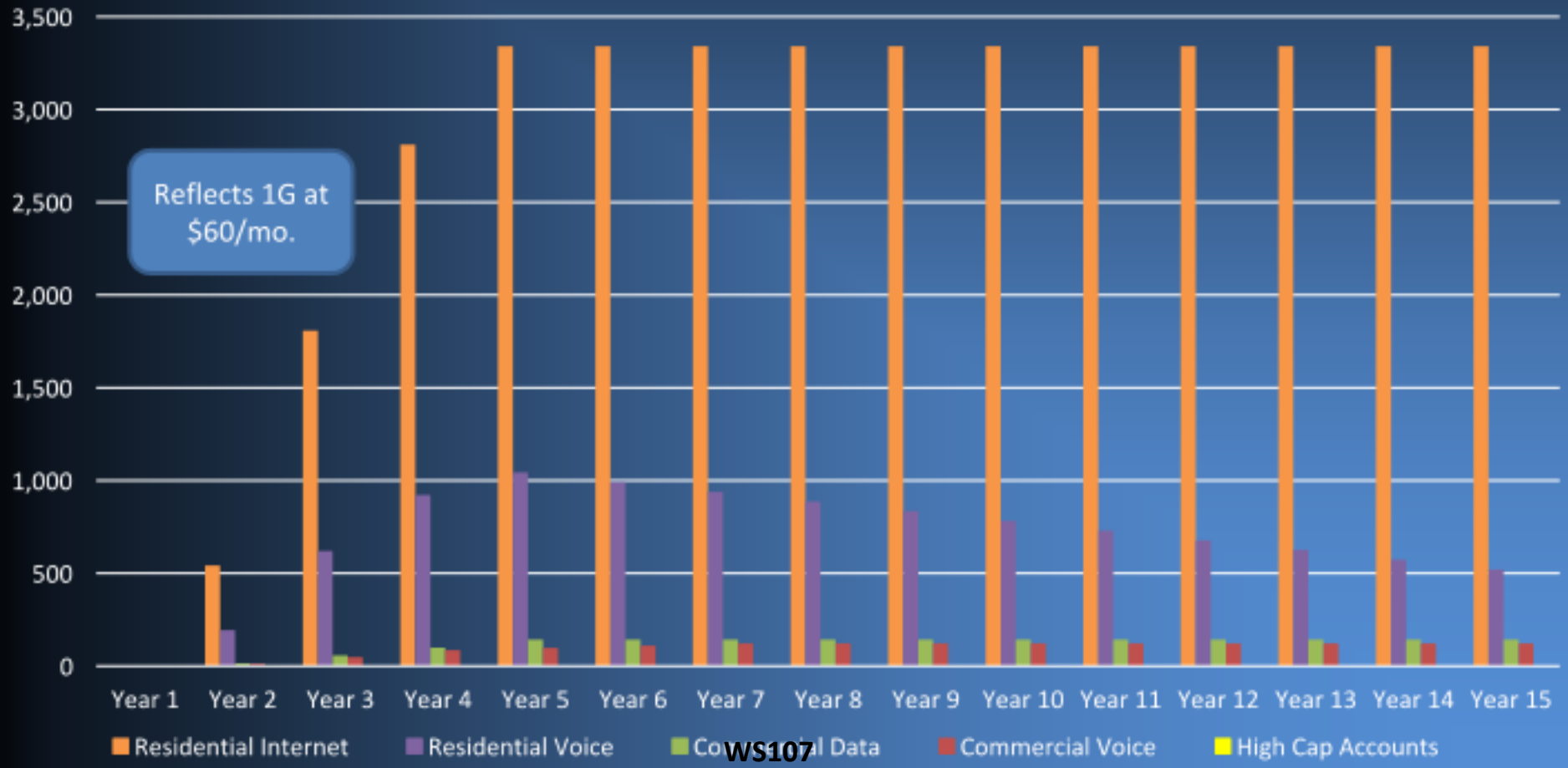
Pro Forma Analysis

Retail Model: Own & Operate

WS106

SUBSCRIBER FORECAST

The subscriber forecast is based upon the take rate analysis based on quantitative market research for the residential segment. The commercial segment take rate is based on municipal broadband take rate averages for that segment. The subscriber forecast remains constant over all business models being evaluated, but does remain dependent upon final retail price levels set by the ISP under Wholesale models…



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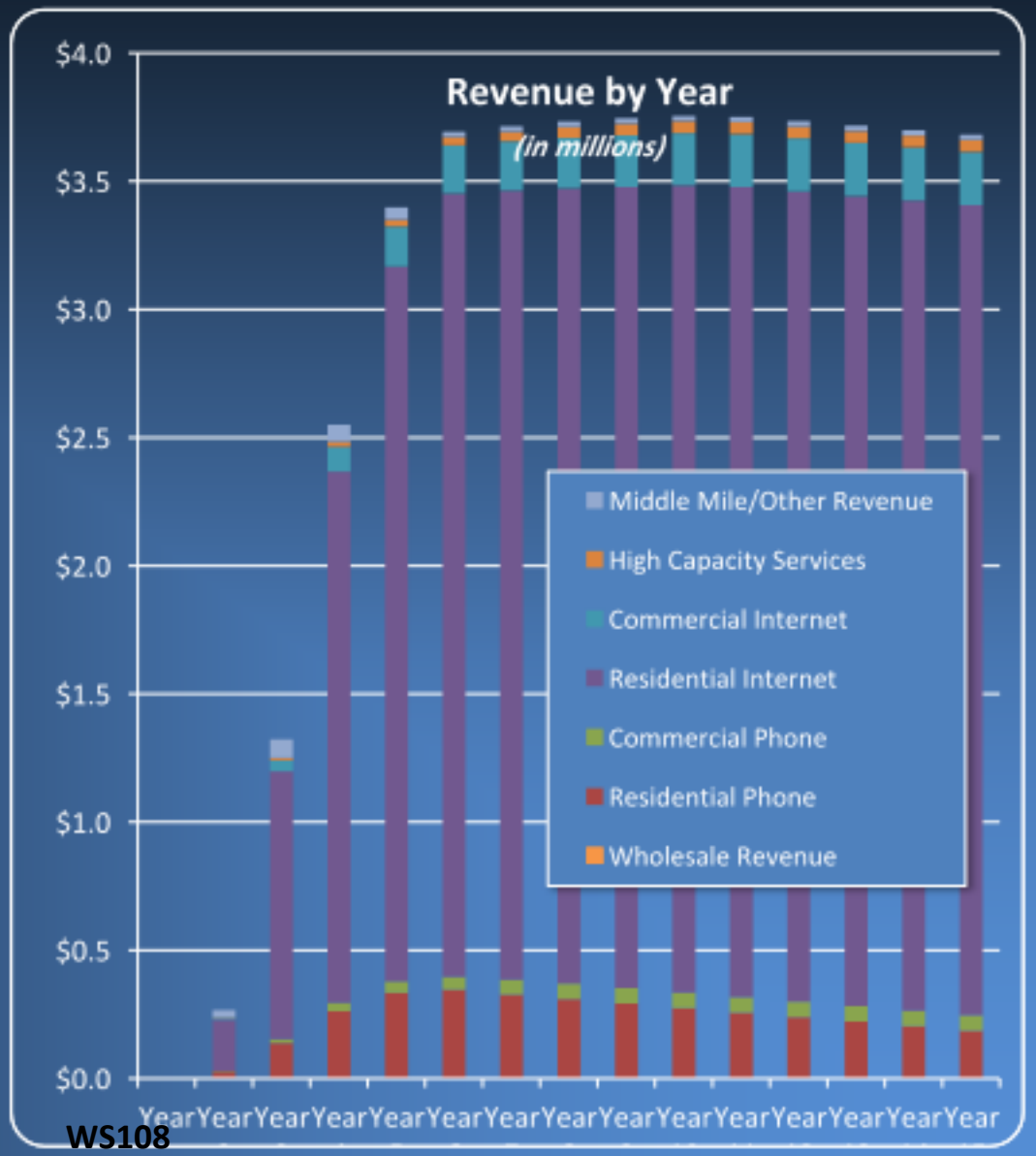
REVENUES

KEY INPUTS

- Timing
  - Year 1: 0 months
  - Year 2: 10 months
- Premises
  - Residential SFU: 6,940
  - Residential MDU: 2,448
  - Commercial: 436
  - % Complex: 5%
- Year 5 Penetration
  - Internet: 35.6%
  - Voice (eroded): 11.1%
- Residential Internet
  - Affordable Internet: All Tiers $30 discount
  - 1Gbps Tier: $60
  - 2Gbps Tier: $100
  - 4Gbps Tier: $150
  - WiFi Upgrade: $10
- Commercial Internet
  - 50Mbps Tier: $70
  - 100Mbps Tier: $130
  - 250Mbps Tier: $250
  - WiFi Upgrade: $20
- Voice
  - Residential: $28 net wholesale
  - Commercial: $16 net per line
- Install Fees
  - Residential: $50
  - Commercial: $100



WS108

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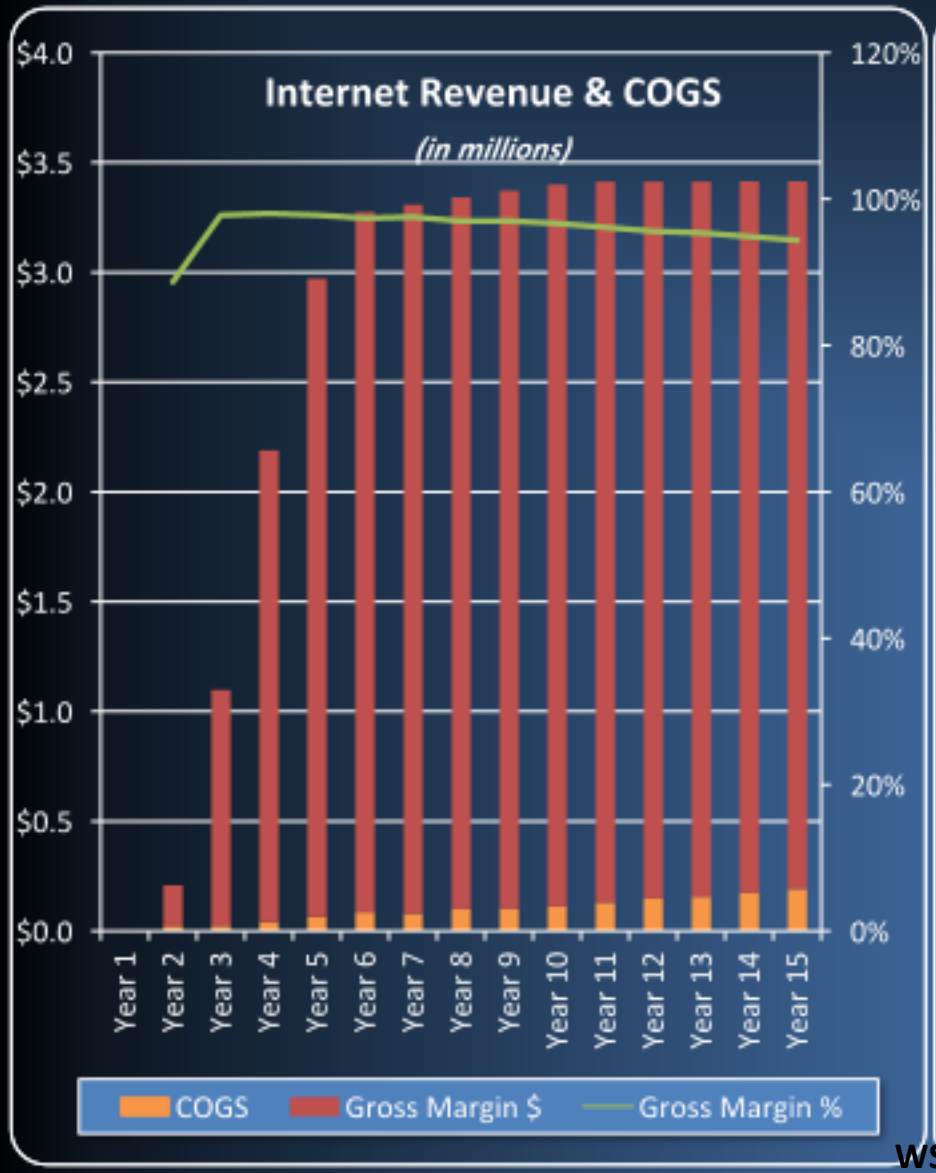
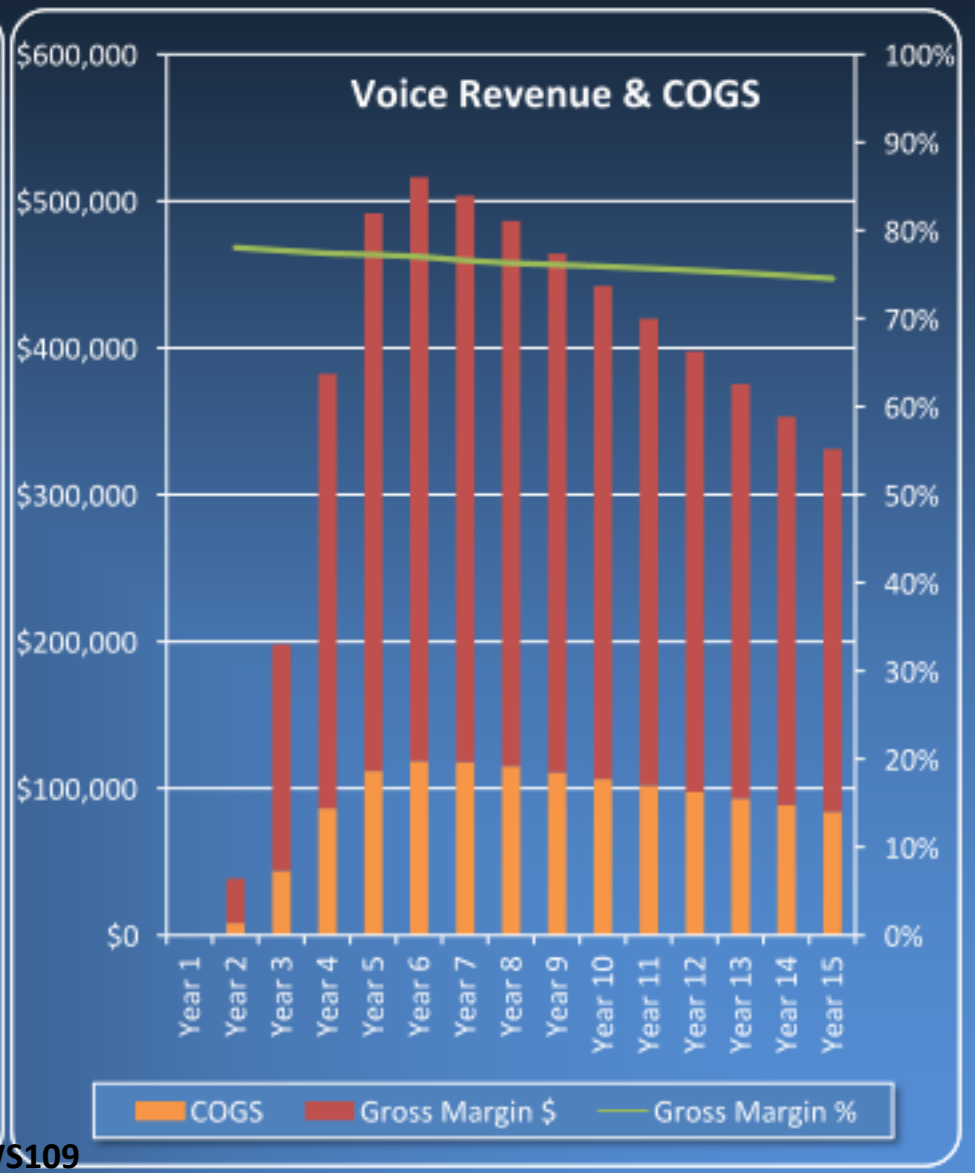
COGS & GROSS MARGIN





WS109

Bandwidth Sourcing

UPTOWN SERVICES, LLC

BANDWIDTH SOURCING

The City has access to lease capacity from CBX for transport circuits terminating at two major data centers in Portland and Denver. At these locations, the City has access to very affordable Internet bandwidth from a range of service providers…

	Direct Access Configuration at Portland and Denver Data Centers
Transport	Lease 2 transport circuits from CBX over fiber terminating at: • The Pittock Internet Exchange in Portland: $655/month ($590* after discount) • 910Telecom in Denver: $1,650/month ($1,485* after discount)
Access	At both locations, circuits terminate in the Meet-Me Room for access to the greater Internet via multiple bandwidth providers. Lease capacity in 10G increments of Committed Data Rate capacity: • Provider "A": 10G bandwidth for $1,050 MRC/$0 NRC and 1 year term & $1500 NRC • Provider "B": 10G bandwidth for $700 MRC/$0 NRC and 5 year term
Other Fees	• X-Connect: Included in transport lease fees • Lease IP addresses (IPv4): Budgeted at 50¢ each per month

*Discount applies if multiple circuits are ordered with the same termination location.

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BANDWIDTH FORECAST

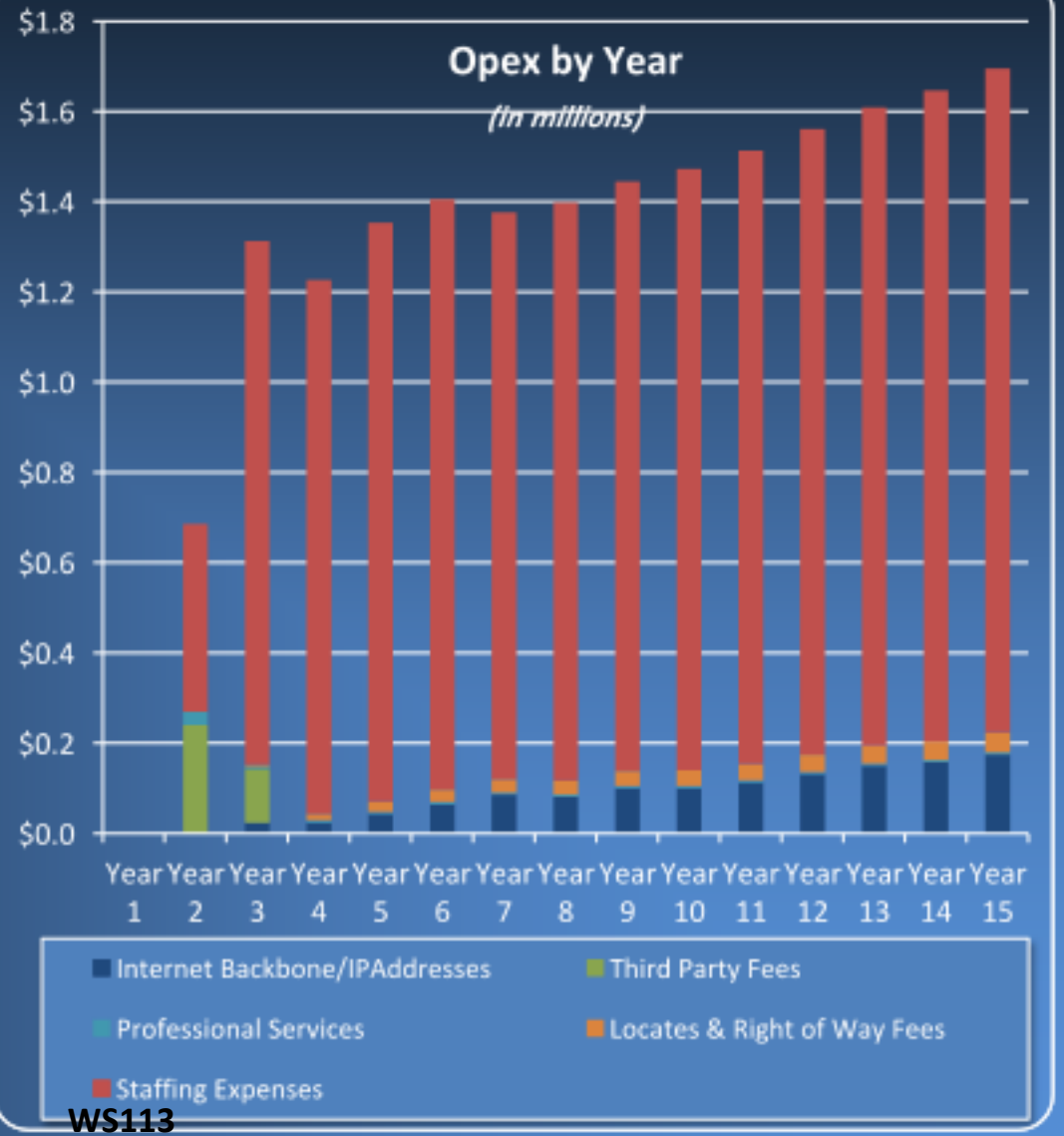
WS112

UPTOWN SERVICES, LLC

OPERATING EXPENSE

KEY INPUTS

- Bandwidth/IP Addresses *(see slide detail)*
- Staffing *(see slide detail)*
  - 13 Full Time Equivalent headcount
  - 2% annual wage increase
  - 30% benefits loading
- Vehicle Maintenance
  - 15k miles annually per vehicle
  - $.75/mile growing at 2%
- Professional Services
  - Implementation: $360k (2 years)
  - Legal/Acct: $30k (Yr1)/$5k (Yr2+)
- Other Opex
  - ROW Fees: $18/pole/year (Yr3+)
  - Vendor maintenance of $55k/year for OSS/BSS and FTTP electronics



WS113

INCREMENTAL BROADBAND FTE REQUIRED

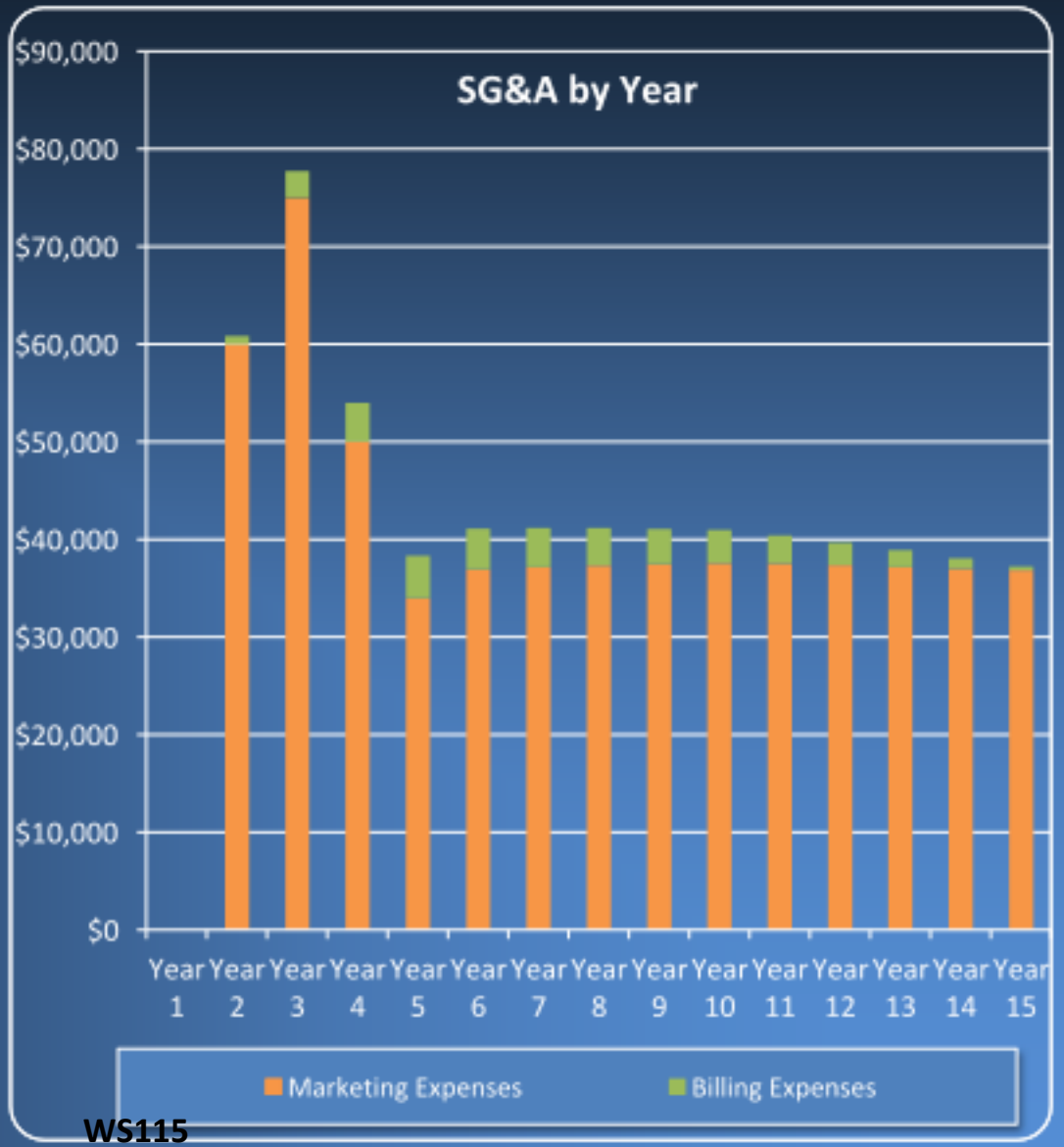
Based upon our experience working with public entities that have deployed and operate last-mile FTTP systems, Uptown forecasts growing Full Time Equivalent (FTE) headcount to 13 under the Retail Own & Operate model, with all of these positions being incremental hires…

Position Title	Salary (unloaded)	Year1	Year2	Year3	Year4	Year5	Year6	Year7
System GM	$130,000	1	1	1	1	1	1	1
Marketing Coordinator	$70,000		1	1	1	1	1	1
MDU/Comm. Account Manager	$80,000	1	1	1	1	1	1	1
Data Technician	$110,000	1	1	1	1	1	1	1
CSRs	$60,000		3	3	3	3	3	3
TSRs	$65,000		2	2	2	2	2	2
Install Techs	$55,000		1	1	2	2	1	1
Maintenance Techs	$65,000		1	1	1	1	1	1
Service Techs	$55,000		1	1	1	1	1	1
Total Headcount		**3**	**12**	**12**	**13**	**13**	**12**	**12**

SALES, GENERAL, & ADMINISTRATIVE

KEY INPUTS

- Marketing
  - Year 2: $60k
  - Year 3: $75k
  - Year 4: $50k
  - Year 5+: 1.0% of revenues
- Billing
  - 80% of residential customers on paperless billing (Yr1) growing to 100% (Yr15)
  - 100% of commercial customers on paperless billing (Yr1+)
  - Paper bill cost of $.75/each/month and growing 3% annually



WS115

CAPITAL

- Network Construction
  - OSP Construction (Single Family): $1,790 composite cost per passing
  - OSP Construction (Multi Family): $1,833 composite cost per passing including common wiring
  - Subsequent plant extensions: $ 850/passing
  - FTTP Optical Line Terminals: $150/passing
  - Backbone/Feeder cost: $83/passing
  - Year 10 Network electronics upgrade: $75/premise passed
  - Make ready cost: $1,851 per pole
- Facility Capital Costs
  - No incremental capex
- Back Office Systems (OSS/BSS)
  - OSS/BSS: $195k
  - Fiber Management & Network Management: $50k
- Backup Power
  - Generator w/ UPS: $0 (can use existing)
- Fixed Equipment
  - Core data switch: $400k
  - Internet systems back office: $150k
  - Splice Trailer/Field Tech Equipment/Tools: $250k

CAPITAL (CONT.)

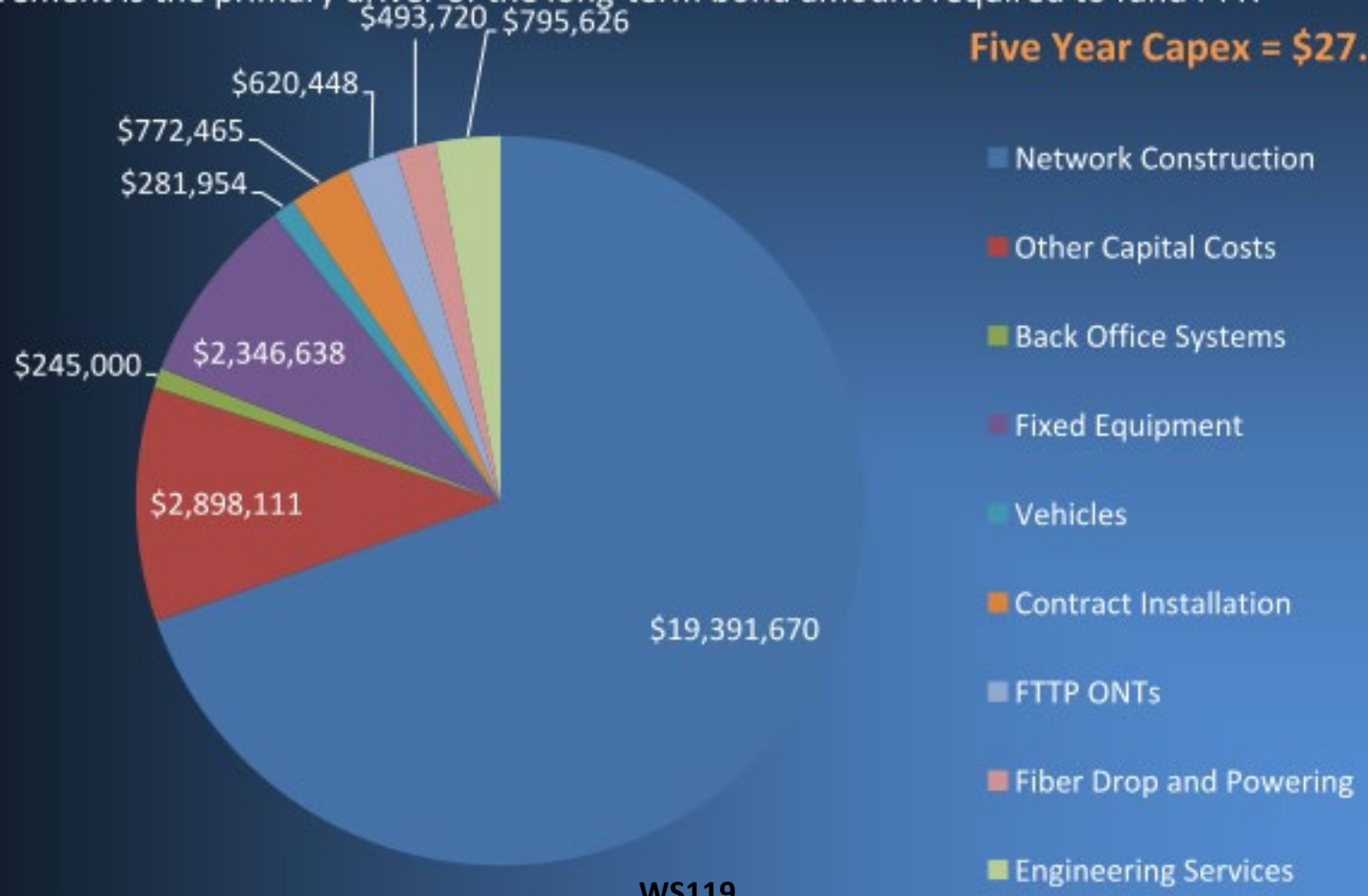
- Vehicles
  - Service Vans Per Install Technician: 1.0
  - Heavy Service Trucks Per Maintenance Technician: 0.5
  - Service vans: 3 at $45k each
  - Heavy Service Trucks (non-insulated): 1 at $120k each
  - Install Rigs: 1 per Install or Service Technician at $20k each
  - Vehicles replaced at 6 year intervals
- Contract Labor
  - Pre-Installs: 80% of Years 1-3 at $300 each
  - Premise Installs: 50% of Years 1-4 at $250 each
- Optical Network Terminals (ONTs)
  - Without WiFi: $130
  - With WiFi: $234
  - Multi-Gig: $310
  - Year 7 ONT upgrade: $140k ($40/ea.)
- Fiber Drop & Powering
  - Fiber drop and connectors: $125 each
  - Power cord and UPS: $52 each ($12 for non-voice install without UPS

CAPITAL (CONT.)

- Engineering and Integration
  - Walk out & strand mapping: $2,500 per mile
  - FTTP design: $5,000 per mile
  - Construction management services: $8,000 per mile
  - As-built drawings: $250 per mile
  - Backbone/Feeder design: $75,000

CAPEX BY TYPE: YEARS 1-5

Fully two-thirds of the 5 year capex requirement is due to outside plant construction, primarily composed of the labor cost to install aerial and underground conduit and fiber. This capex requirement is the primary driver of the long-term bond amount required to fund FTTP



WS119

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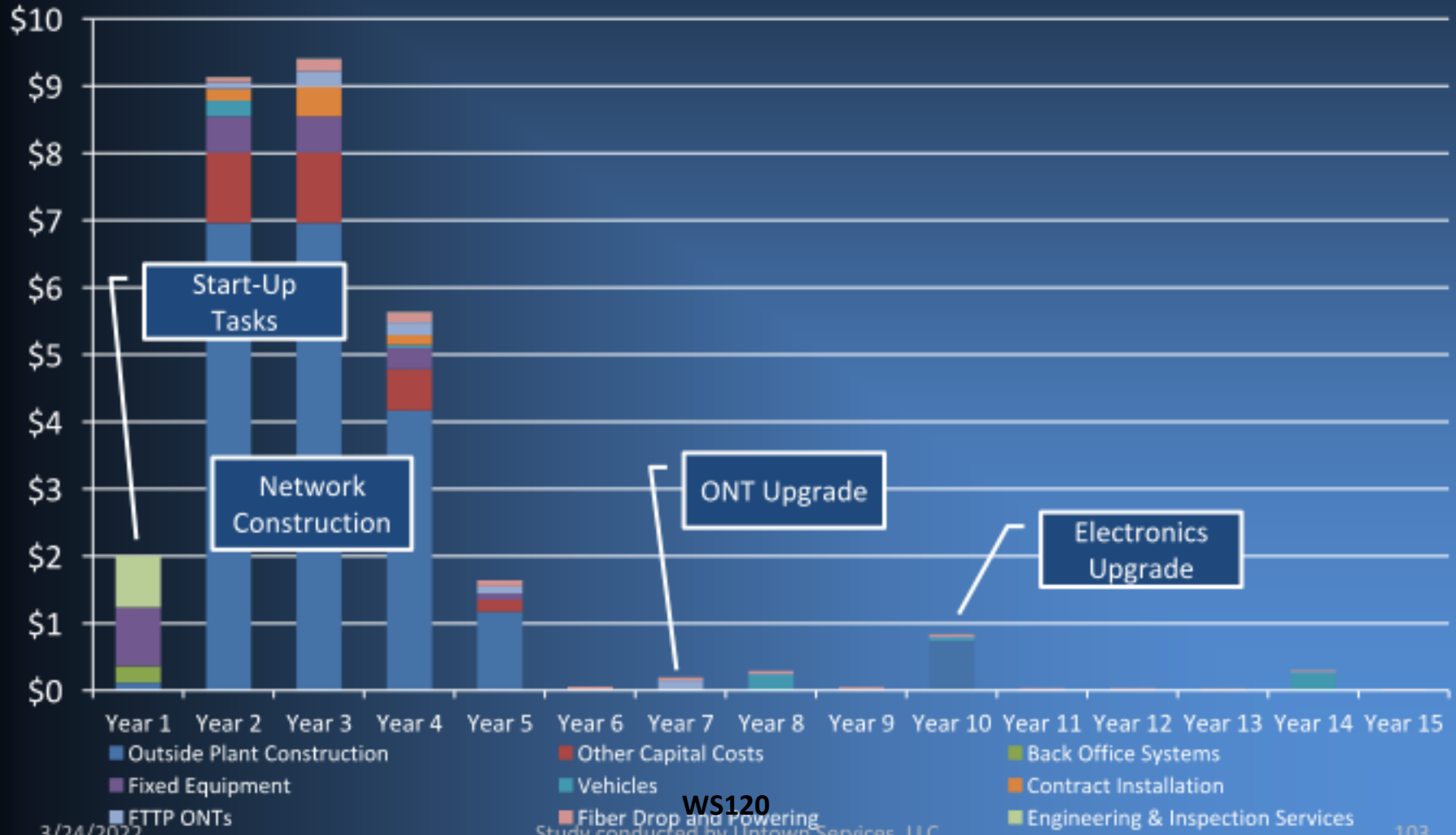
CAPEX BY YEAR ($M)

Capex spending is front-end loaded during the start-up and construction phases of the project, but the pro forma also includes incremental capex for electronics upgrades in Years 7 and 10



WS120

FINANCIAL FEASIBILITY METRICS

The Uptown pro forma model identifies key financial metrics that we rely on to evaluate financial feasibility of broadband investment projects (example project outcomes follow)…

1. Timeframe to positive operating income
   - Revenue proceeds exceed operating expenses
   - Typical goal is within 4 years

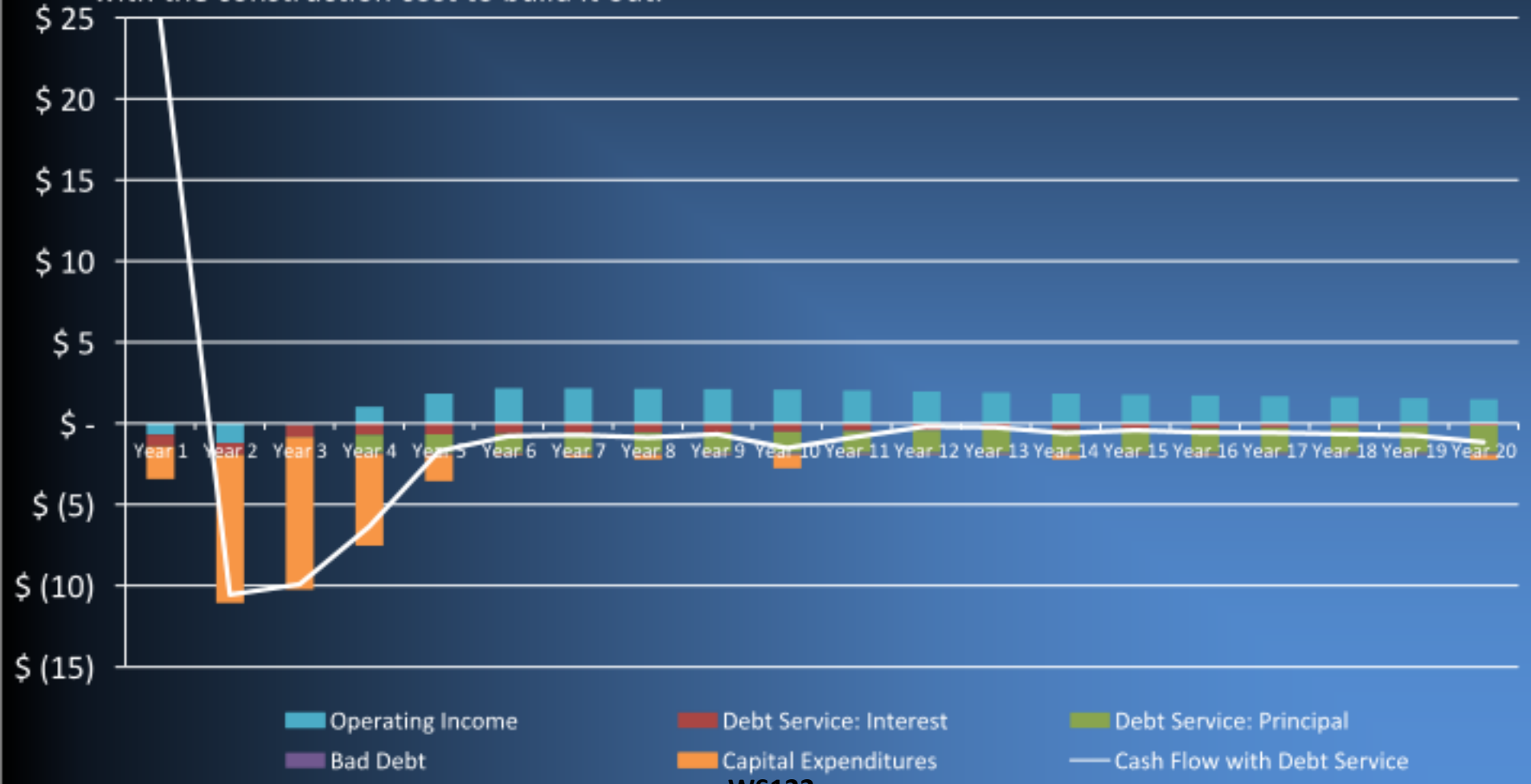
2. Net Payback Period
   - Total project revenue proceeds exceed total investment
   - Typical goal is less than 20 years

3. No Secondary financing
   - Net cash flow including debt service remains positive over the life of the investment
   - Pro forma model identifies an inability of the broadband system to self fund

4. Sensitivity Analysis
   - Reasonable ability to withstand "misses" on key operating or financial metrics
   - Typically sensitive metrics include construction cost, residential take rates, and interest rate on long term debt

CASH FLOW AFTER DEBT SERVICE ($M)

Over the 20 year forecast, operating income is not sufficient to service annual debt service, meaning that the revenue opportunity within the proposed service area is not commensurate with the construction cost to build it out.

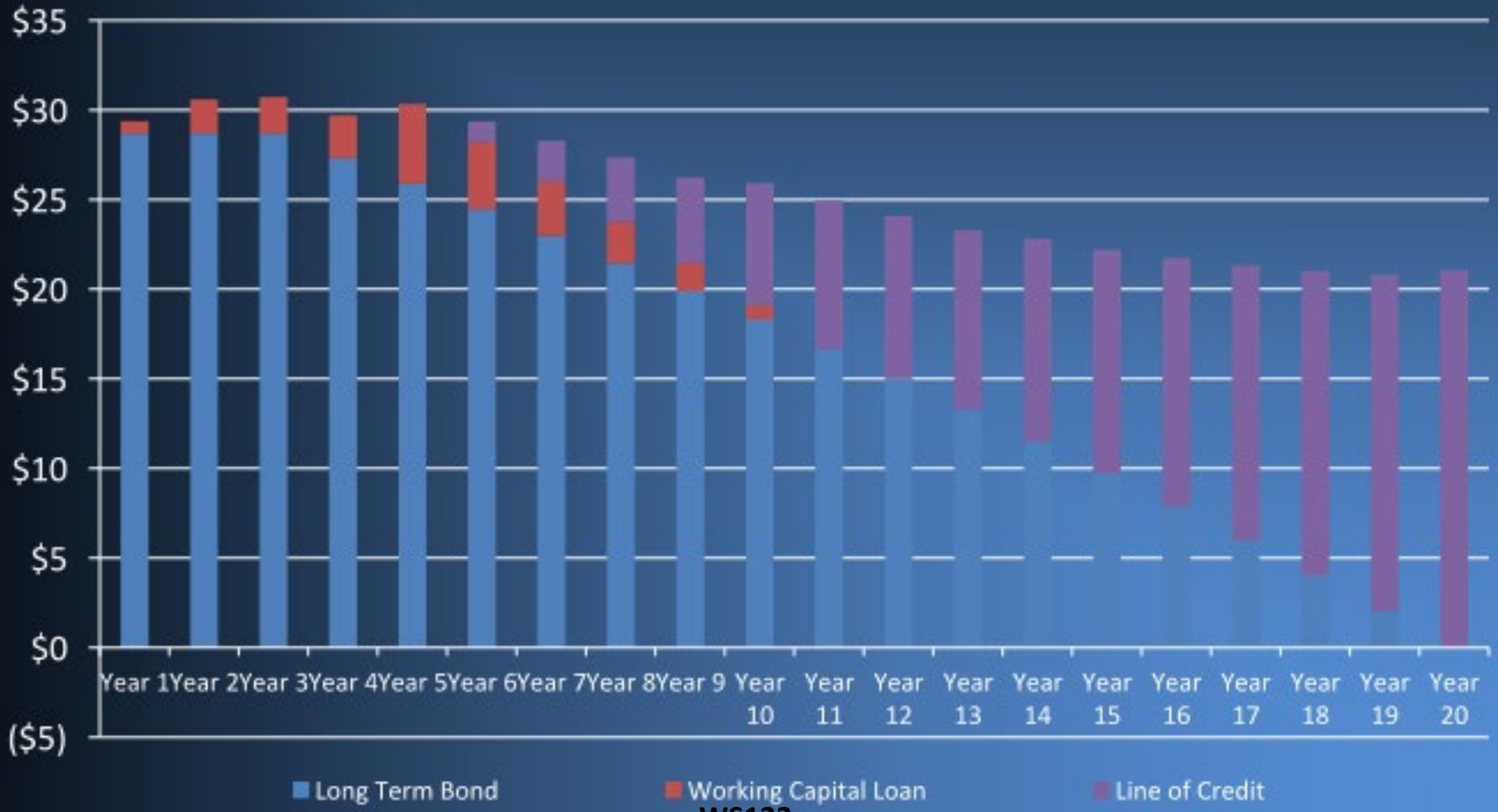


WS122

UPTOWN SERVICES, LLC

TOTAL DEBT ($M)

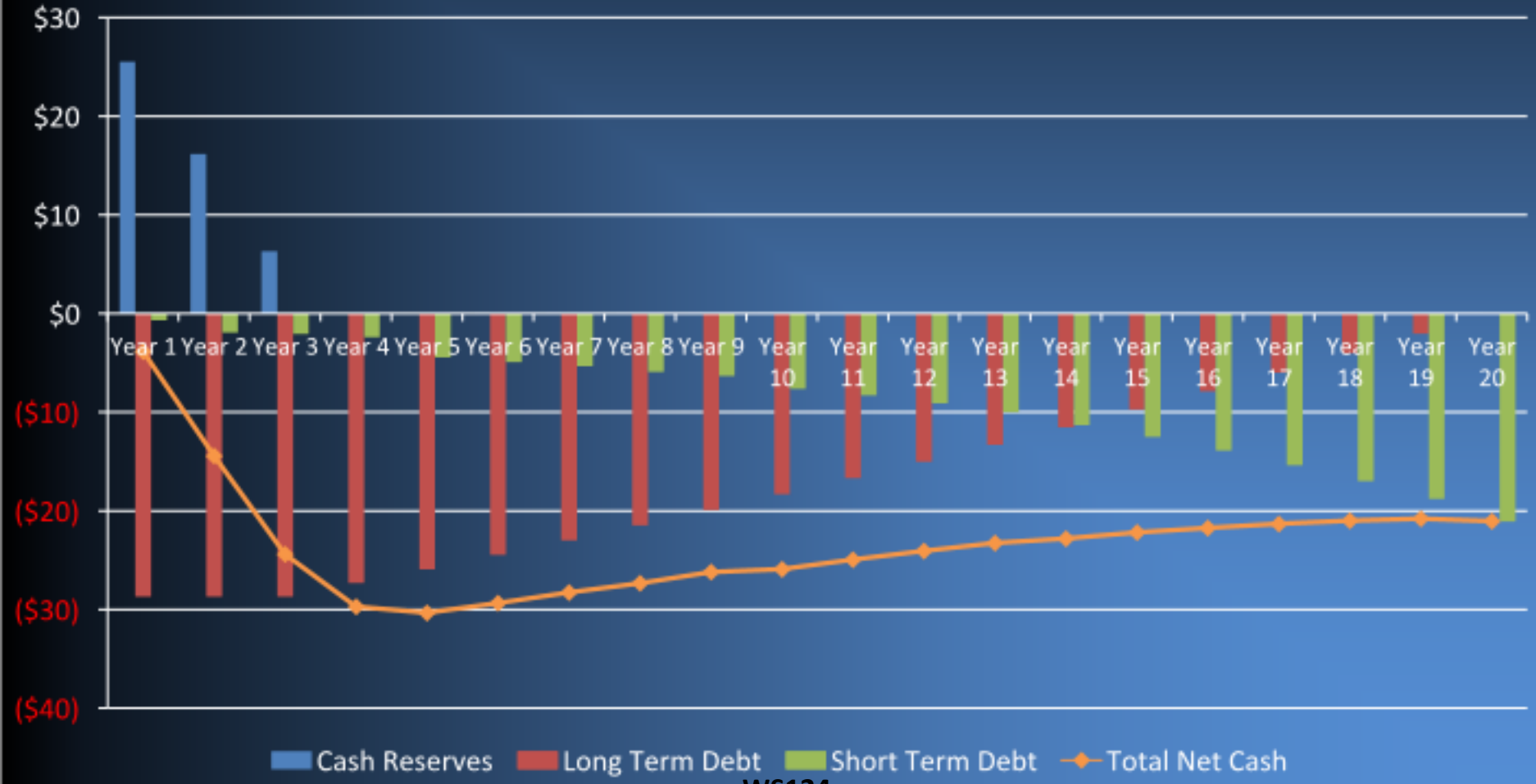
By Year 6 of the forecast, traditional financing (bond and working capital loan) proceeds are not sufficient to cover debt service, and therefore a 3rd funding source is required. Uptown models this as an open line of credit



WS123

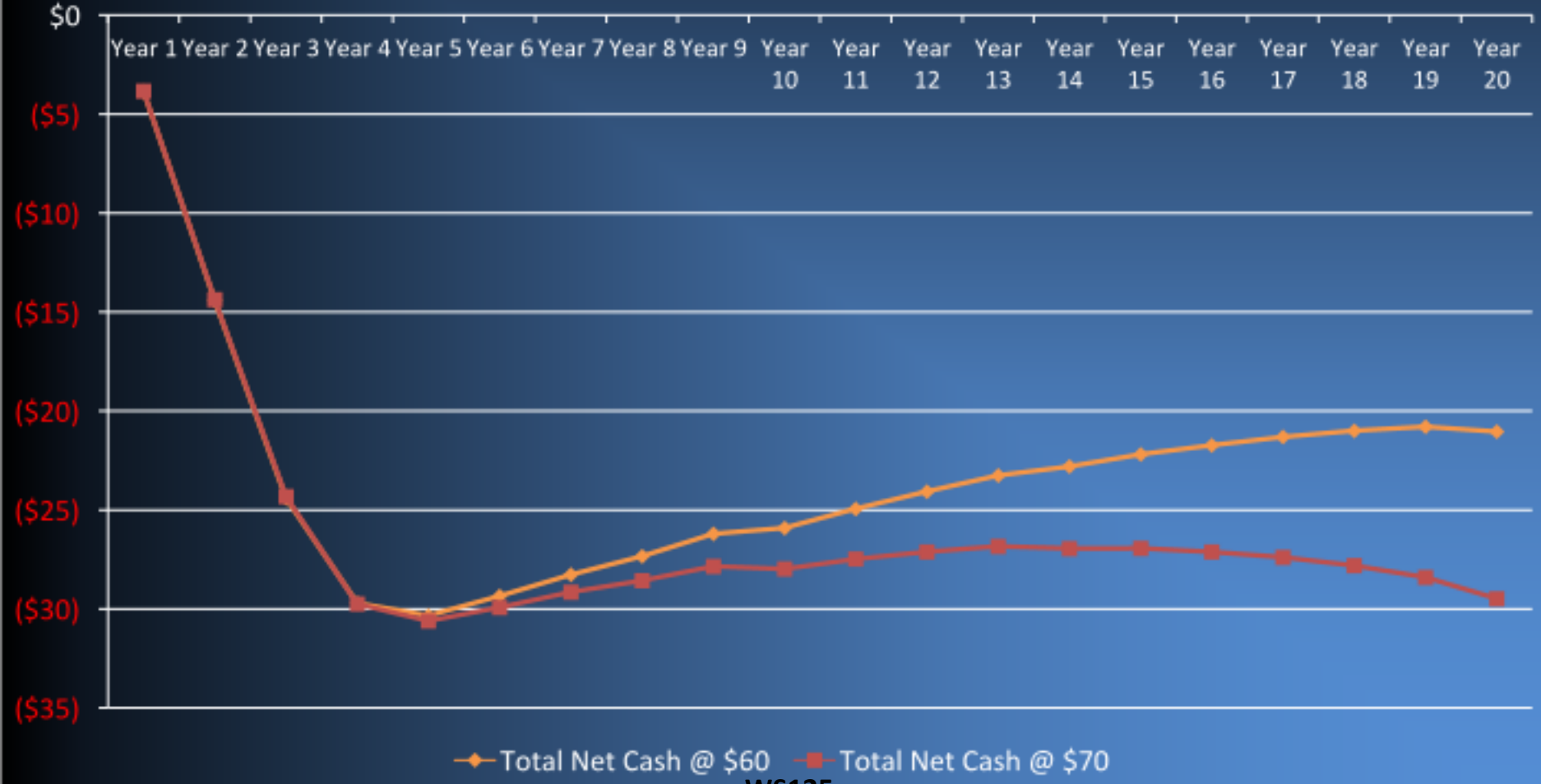
NET CASH ($M)

Due to the ongoing need for financing via the line of credit, the Retail Own & Operate model does not achieve financial self-sufficiency, and continues to require external funds to maintain operations



COMPARING PRICE POINTS: $60 VS. $70

Using the cell design from the quantitative survey, we determined that price elasticity of demand is elastic in comparing the $60 and $70 price point take rate impact. Due to this, the lower price point is financially superior…



WS125

Pro Forma Analysis

Retail Model: Own & Operate with Operating Partner

WS126

OPERATING PARTNERSHIP FRAMEWORK

Uptown has developed similar operating partnerships for other systems under the following preliminary framework for how the partnership could be structured…

Ownership Role of the City	• City funds capex for fiber build (FTTP), working capital, and all operating expenses • City is 100% owner of the FTTP system.
Operating Role of the City	• City is the service provider and performs some administrative functions (e.g. billing), general management, and on-site account support.
Operating Role of ISP	• Customer Operations: ISP provides customer care, help desk, billing, and services provisioning • Data Network Services: Network configuration/administration, hardware/software platform, and system monitoring.
Services Offered	• Internet and Voice
Services Revenue	• All revenue retained by the City • Partner compensated with monthly fee per connected end-user.
Partnership Terms	• Monthly fee per connected premises (household or business) of $10-$20

VALUE OF OPERATING PARTNER

Strategic Value:

- Utilize ISP's expertise to operate a broadband system across key areas of technical and customer operations
- Efficient use of existing ISP personnel and equipment, ideally without incremental hiring
- Potential to lower the total funding requirement

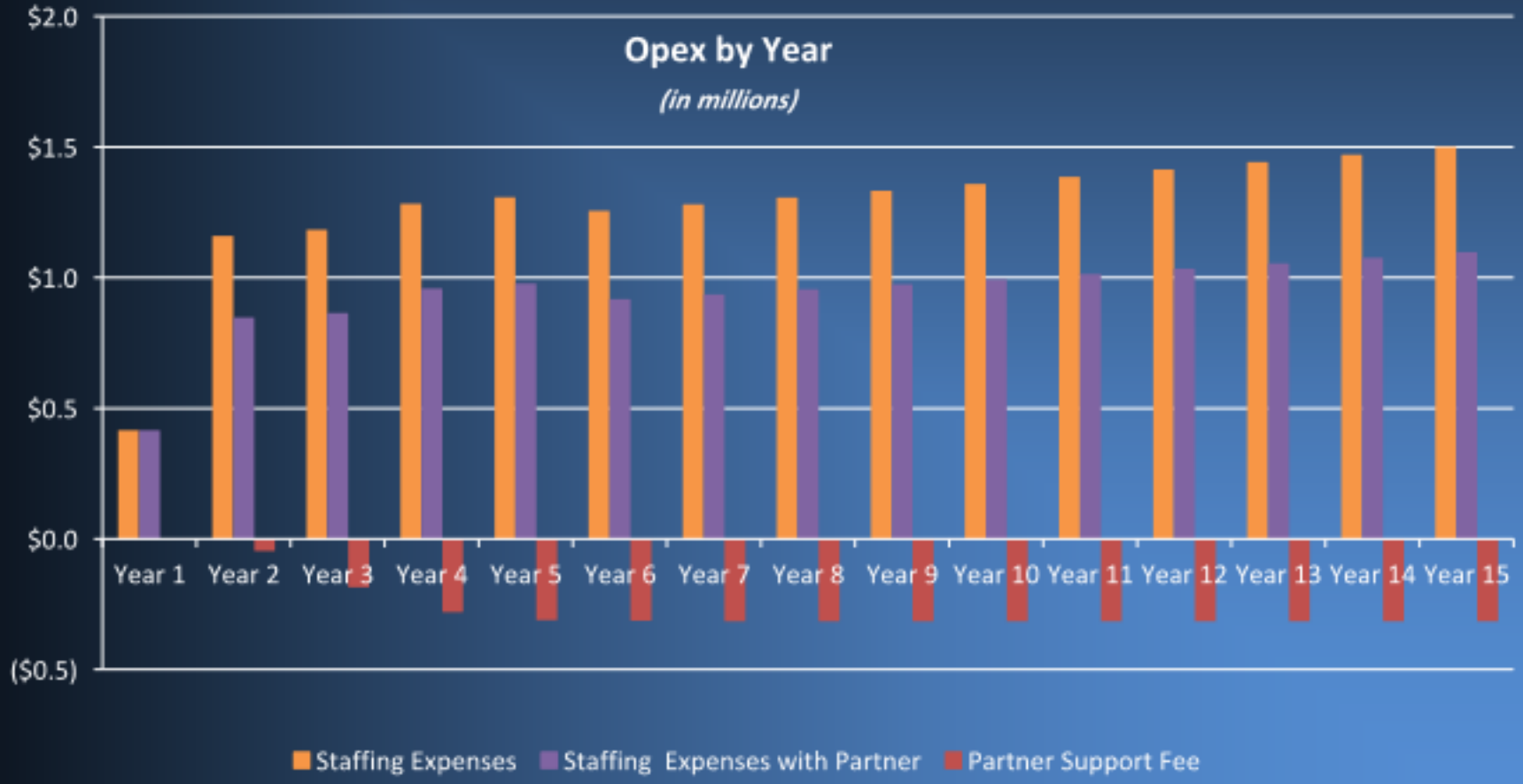
PRO FORMA IMPACT	
Revenue	• Monthly fee per connected premises (household or business) of $10-$20 included in the pro forma as contra-revenue
Operating Expense	• Staffing requirement reduced by 5 incremental, full-time employees • Some annual maintenance fees eliminated
Capital Expense	• Operations Support Software of $195k is not required • Core switch/router of $400k (layer 3) is reduced to $100k (layer 2) • Internet service back-office platform of $150k is not required

WS128

UPTOWN SERVICES, LLC

OPERATING EXPENSE

The primary value for the City to work with an operating partner would be to reduce staffing expense, in addition to minor relief in capex required. The financial improvement is a function of the reduction is staffing costs compared to the support fees paid to the partner…



WS129

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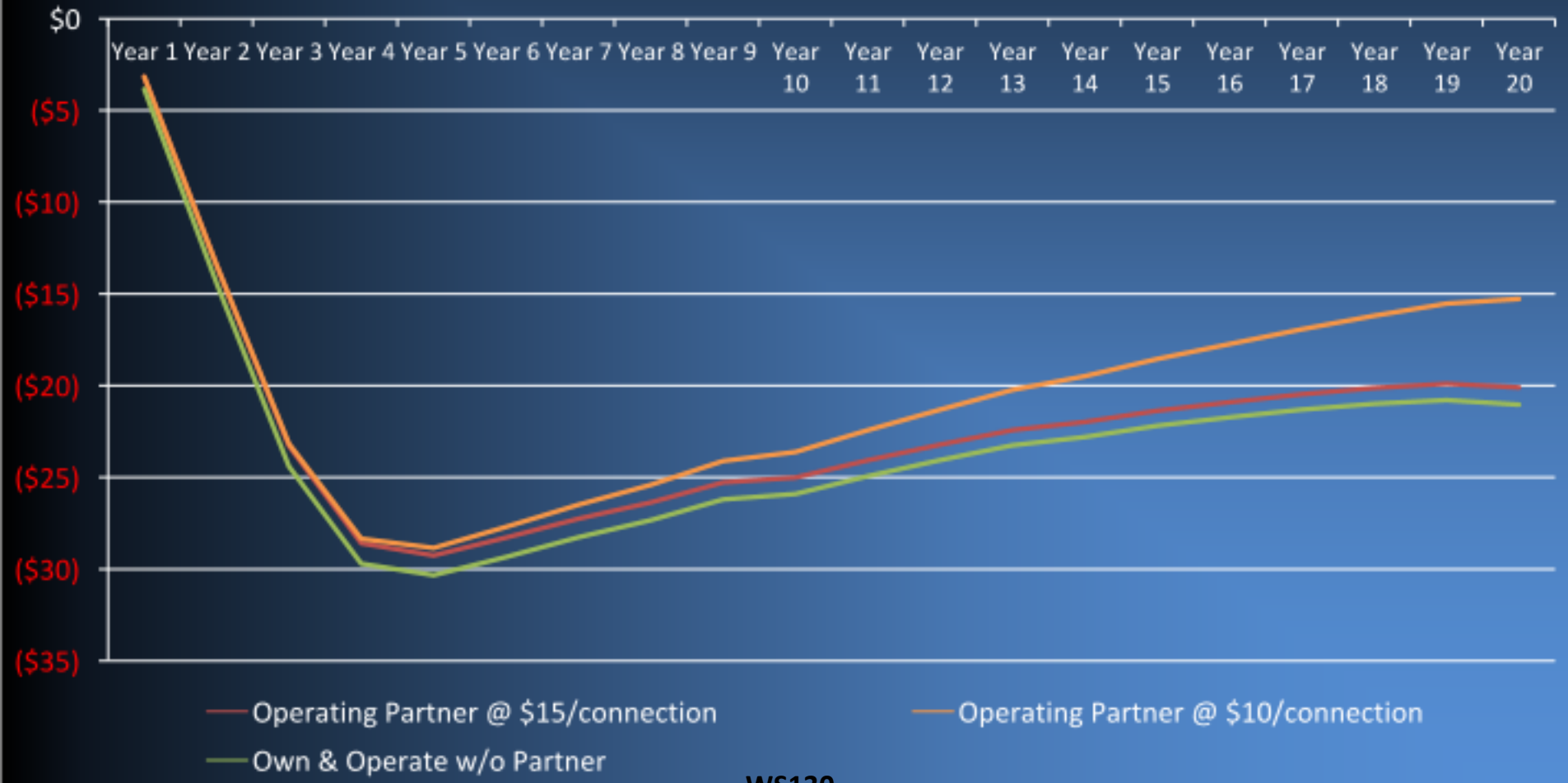
NET CASH ($M)

At a monthly fee per connection of $10 there is significant improvement in Net Cash, but still well beyond a 20 year payback. At a payment of $15 per connection/month, the Operating Partner model does not improve the net cash outcome compared to Own & Operate. …



WS130

SUMMARY FINANCIALS: RETAIL

Summary pro forma metrics across the baseline retail models evaluated reveal the necessity of external funding. This have been modelled as equity…

Input/Outcome	Retail Own & Operate			Retail Operating Partner		
Internet Price for 1G/1G	$60	$70	$60	$60	$60	$60
Operating Partner Payment	-	-	-	$10/connection per month	$15/connection per month	$10/connection per month
Long Term Bond Amount	$28.7M	$28.4M	-	$27.9M	$27.9M	-
Working Capital Loan*	$20.5M	$27.7M	$8.2M	$15.3M	$19.4M	$7.2M
Equity	-	-	$18.5M	-	-	$18.5M
Total Funding	**$49.2M**	**$56.1M**	**$26.7M**	**$43.2M**	**$47.3M**	**$25.7M**
Net Cash – Year 20	($21.0M)	($29.5M)	($2.9M)	($15.3M)	($20.1M)	($2.5M)
Project Break Even	**> 20 Years**	**> 20 Years**	**11 Years****	**> 20 Years**	**> 20 Years**	**11 Years****

**Includes Line of Credit draws if needed*

***For equity scenarios, project breakeven reflects treatment of equity as sunk investment*

Pro Forma Analysis

Wholesale Model: Ting Internet & Municipal Partner Examples

UPTOWN SERVICES, LLC

WHOLESALE MODEL OVERVIEW

- Shares funding, revenue and operating costs with retailer partner. Typical outcomes in analyzing actual PPP contractual financial terms:
  - Capital requirement reduced to ≈80% of retail
  - Opex requirement reduced to ≈10-20% of retail
  - Revenue reduced to ≈25-40% of retail
  - Staffing: 1 FTE for outside plant maintenance
- Financial feasibility requires both parties to meet financial return obligations
  - Municipal: Debt service and operating expense
  - Retailer: Sufficient ROI for shareholders
- Example PPP provider serving as ISP for public wholesale systems: Ting Internet
- Example municipal service provider included in the analysis

TING INTERNET OVERVIEW

- Background
  - Virtual Wireless Network Operator launched in 2012. Sprint and T-Mobile are their host networks.
  - Owned by parent Tucows
- FTTP Services
  - Residential: 1G/1G: $89/month + Modem ($200 purchase or $9/mo. lease) + Up to $200 install fee
  - Commercial: Custom pricing for 1G/1G service depending on SLA, static IPs, etc.
- Retail Service Provider for 9 municipal FTTP systems since 2015. Note that while Ting is serving smaller markets, they are not rural:
  - Charlottesville, VA (18k households)
  - Westminster, MD (7k households)
  - Holly Springs, NC (8k households)
  - Sandpoint, ID (4k households)
  - Centennial, CO (36k households)
  - Solana Beach, CA (6k households)
  - Fuquay-Varina, NC (12k households)
  - Wake Forest, NC (16k households)
  - Fullerton, CA (45k households)

WS134

WESTMINSTER, MD KEY CONTRACT TERMS

- City Role
  - Design, construction, and maintenance of the fiber network. City retains title to the network.
  - 24/7 availability for unscheduled maintenance with 4 hour on-site response timeframe
- Network Point of Demarcation
  - Residential: Exterior wall closest to public ROW
  - Commercial: Patch panel in telecom closet
- Services
  - Triple Play with Ting providing data service (up to 1Gbps) and 'arranging' for voice and video
  - Retail rates are at the sole discretion of Ting
- Financial Terms
  - Premise Passed Fee: $6/month and Connected Premise Fee: $17/month
  - Fees apply whether business or residential connection
  - ARPU Adjustment: The Connected Premise Fee will increase by $1 for every 10% increase in Ting's realized ARPU (compared to baselined ARPU at 1,500 subscribers)
- Other Terms
  - 10 Year Term with 2 ten year renewal periods
  - City must renew if actual wholesale revenues exceed debt service by 10% or more
  - Termination for Convenience: City can terminate with 6 months notice

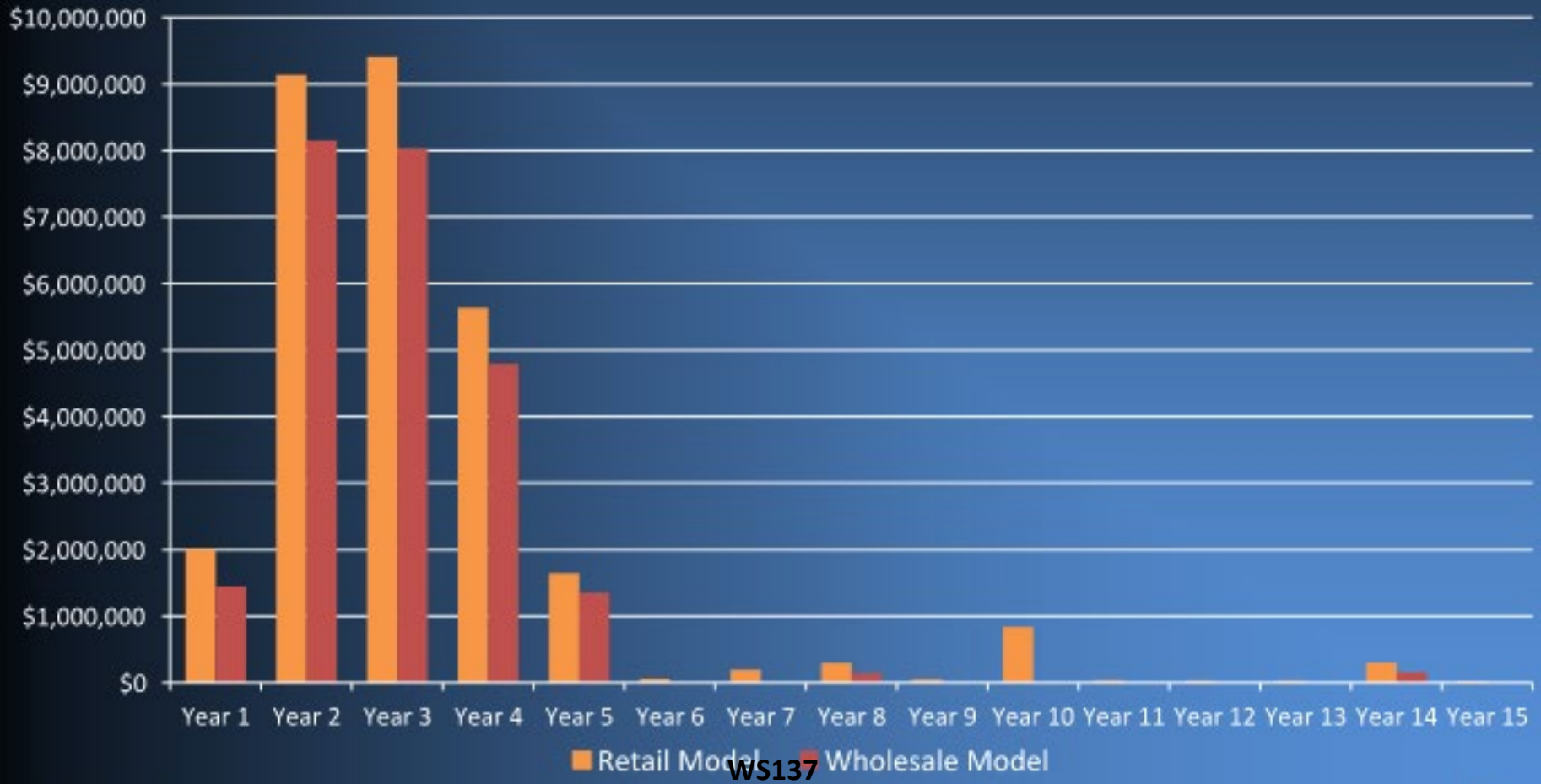
MUNICIPAL PARTNER OVERVIEW

- Uptown has evaluated various scenarios for a partner relationship whereby a municipal partner would serve as an ISP across the proposed service area across several possible financial terms:
  1. Scenario #1: Wholesale access fee of $40.95/connection/month
  2. Scenario #2: Wholesale access fee plus monthly fee per serviceable premises (similar to Westminster example)

- For potential finance terms of both scenarios, Uptown identified the wholesale fee levels required to achieve financial feasibility
  1. Scenario #3: Wholesale access fee per connection/month required for financial feasibility
  2. Scenario #4: Wholesale access fee plus monthly fee per serviceable premises required for financial feasibility

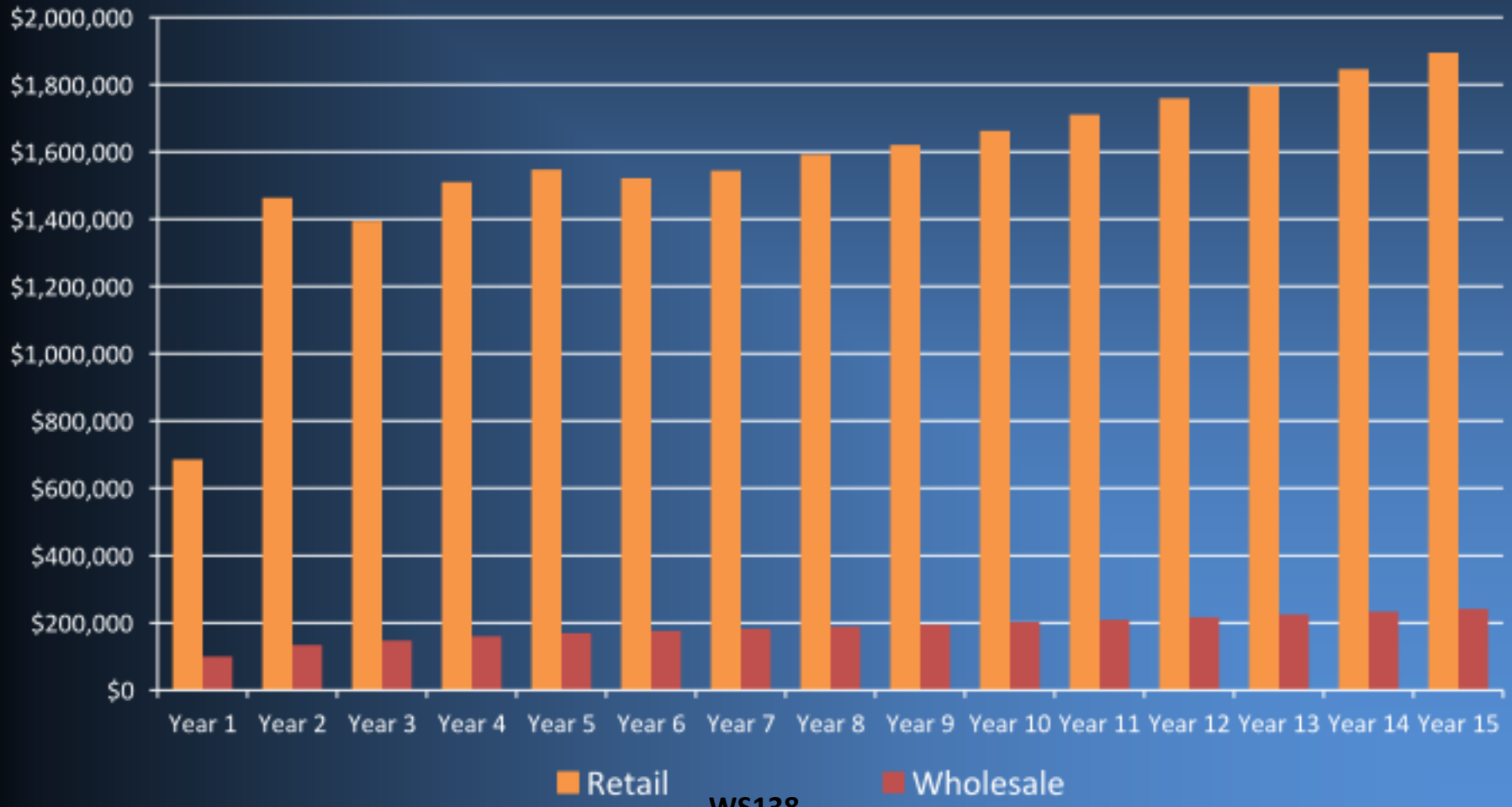
WHOLESALE MODEL CAPEX BY YEAR

The capex requirement under the wholesale model is $24.1M, which is 81% of the retail model capex of $29.7M…



WHOLESALE MODEL OPEX BY YEAR

The opex requirement (Years 1-15) under the wholesale model is $2.8M, which is 12% of the retail model opex of $23.5M, primarily due to staffing cost savings…



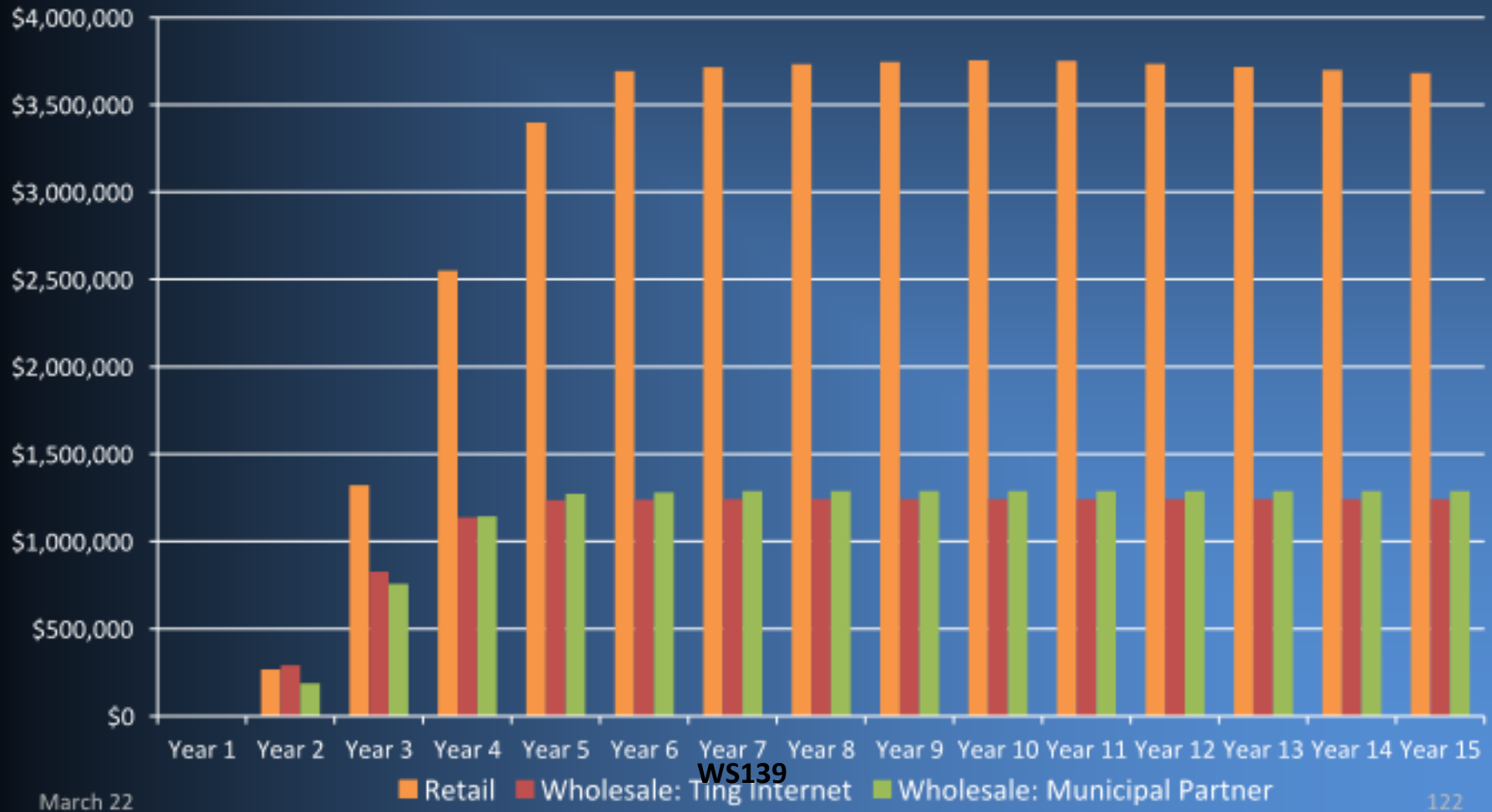
WS138

UPTOWN SERVICES, LLC

WHOLESALE MODEL REVENUES BY YEAR

The forecasted revenue (Years 1-15) varies by ISP, but indicates that wholesale revenues would be about $16M, or 36% of retail revenues:

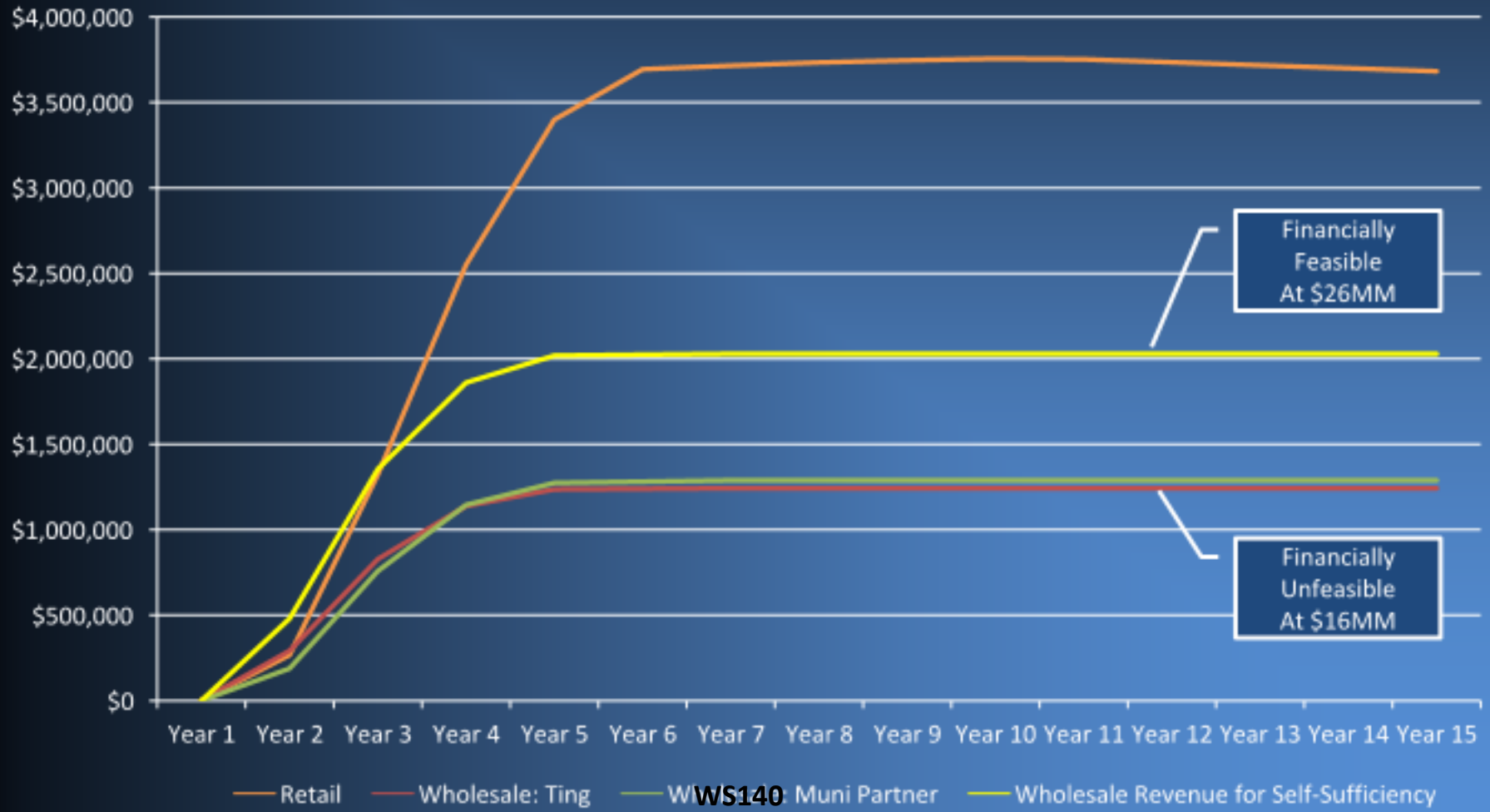
- Ting Internet as ISP: $15.9M, which is 36% of the retail model revenue of $44.8M
- Municipal partner as ISP: $16.2M, which is also 36% of the retail model revenue



WS139

WHOLESALE MODEL REVENUE SCENARIOS

The forecasted revenue (Years 1-15) under both wholesale partner scenarios is ≈$16M, which is insufficient for financial feasibility. To achieve financial self-sufficiency, wholesale revenues must increase from 36% or retail to 58%, or $26M over Years 1-15…



SUMMARY FINANCIALS: WHOLESALE

Similar to retail models, the summary pro forma metrics across the baseline wholesale models are not financially self sufficient under typical financial terms. Uptown has identified the wholesale financial terms required for financial feasibility…

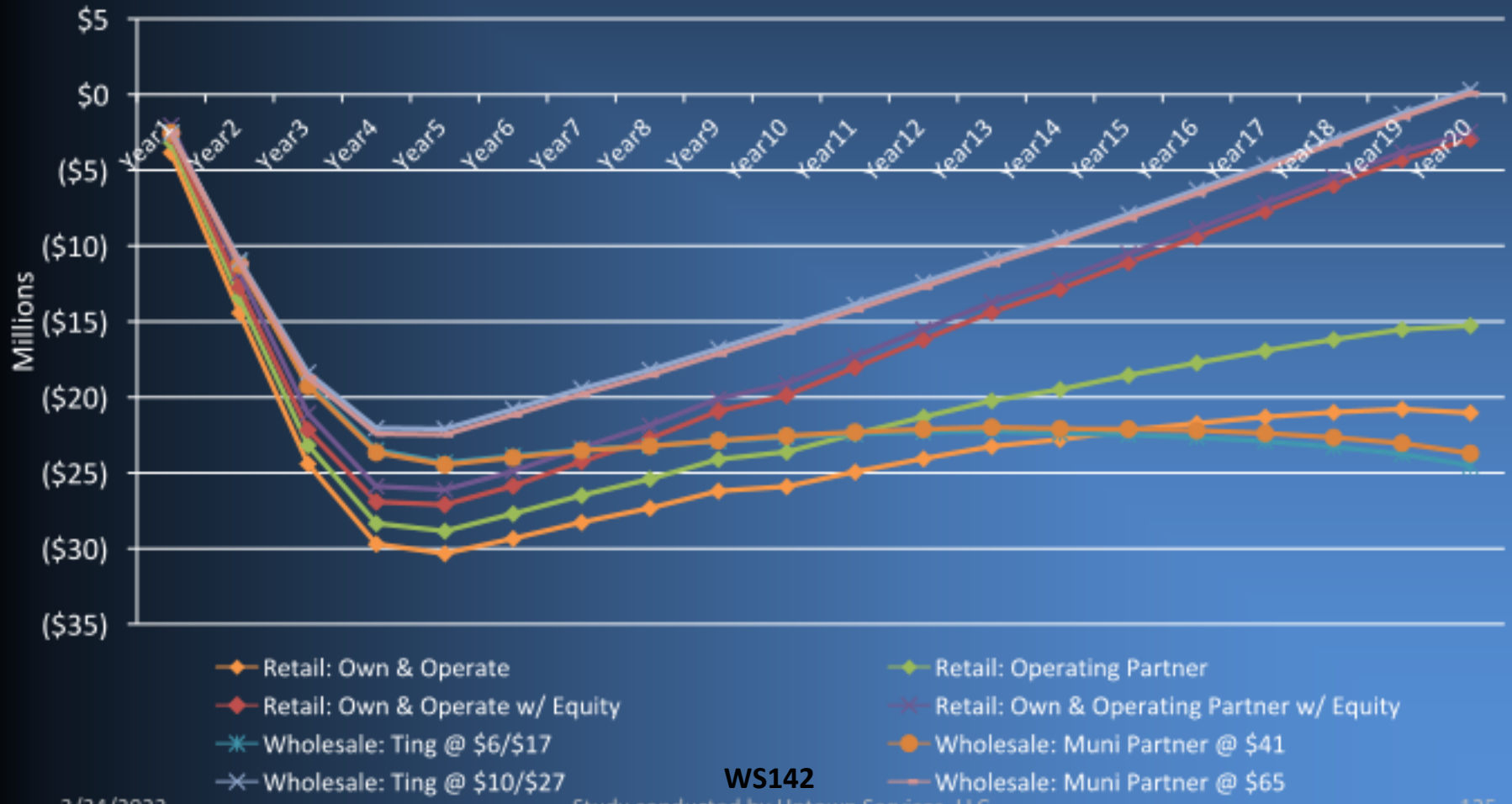
Input/Outcome	Wholesale Ting	Wholesale Muni Partner	Wholesale Ting @ Breakeven	Wholesale Muni Partner @ Breakeven
Per Passing Fee / Per Connection Fee	$6 / $17	$0 / $41	$10 / $27	$0 / $65
Wholesale Premises Passed Fees	$12.7M	-	$21.2M	-
Wholesale Connection Fees	$9.4M	$22.7M	$15.0M	$36.0M
Long Term Bond Amount	$24.5M			
Working Capital Loan**	$21.5M	$20.9M	$100k	$400k
Total Funding	**$46.0M**	**$44.0M**	**$24.6M**	**$24.9M**
Net Cash – Year 20	($24.5M)	($23.7M)	$300k	$100k
Project Break Even	**> 20 Years**	**> 20 Years**	**20 Years**	**20 Years**

***Includes Line of Credit draws if needed*

NET CASH: ALL MODELS

Due to a very high capes requirement, both business retail and wholesale business models require extraordinary funding measures to attain viability:

- Retail requires equity investment to reduced debt service costs
- Wholesale requires higher wholesale fees to avoid short term working capital financing



WS142

Pro Forma Analysis

Sensitivity Analysis: Construction Cost / Take Rate / Pricing

SUMMARY FINANCIALS: SENSITIVITY

Uptown additionally completed sensitivity analysis on the most impactful variables affecting the financial feasibility of the project: The price of Internet, construction cost, and the take rate. The Own and Operate business model was used to identify these performance thresholds…

Input/Outcome	Retail Own & Operate		
Internet Price for 1G/1G	Baseline: $60 Breakeven: $90	-	-
Construction Cost	-	Baseline: $1,800/passing Breakeven: $780/passing	-
Residential Take Rate	-	-	Baseline: 35.6% Breakeven: 46%
Long Term Bond Amount	$28.7M	$18.4M	$29.3M
Working Capital Loan*	$3.1M	$3.1M	$3.5M
Total Funding	**$31.8M**	**$21.5M**	**$32.8M**
Net Cash – Year 20	$1.2M	$1.1M	$1.3M
Project Break Even	**20 Years**	**19 Years**	**20 Years**

WS144

Pro Forma Analysis

Conclusions

STUDY CONCLUSIONS

1. A last-mile build out of the proposed service area requires significant capital expense due to high cost-per-passing of ≈$1,800. This is required across all business models.
2. A range of funding options were evaluated including contributed equity, long term debt (e.g. a 20 year bond), short term working capital loan, and wholesale fees. We note that federal infrastructure grant dollars, while significant and timely, are not likely to be obtained due to a lack of eligibility based on incumbent service offerings
3. Under both retail and wholesale business models, typical financing and partnership terms are insufficient to generate the cash flow to cover debt service and achieve financial self-sufficiency
4. To improve financial outcomes and reach feasibility, enhanced funding was evaluated to understand both the retail and wholesale terms revisions necessary:
   - Retail Model: Equity funding of $18.5M is required
   - Wholesale Model: "Above-market" wholesale fees are required
5. Additionally, in an effort to understand the sensitivity of financial feasibility to key performance metrics, Uptown identified the feasibility threshold of the following variables:
   - Services Pricing: Residential 1G would need to be increased from $60 to $90/month
   - Construction Cost: The outside plant construction cost per passing would need to drop from $1,800 to $780
   - Take Rate: The residential take rate would need to increase from 35.6% to 46.0%

WS146

POTENTIAL NEXT STEPS & STUDY REFRESH TIMING

Potential next steps:

- Monitor state broadband office guidelines for BEAD grant eligibility
- Monitor construction cost changes potentially driven by macroeconomic factors and grant funding winddown in 2026 and beyond
- Explore operating partnership interest via RFI or direct negotiations
- Explore wholesale partnership interest via RFI or direct negotiations

Study Validity and Refresh Timeframes:

- Market Research: Estimated at 2 years, or through 2023 as a common 'shelf-life' timeframe for mass market research
- Supplier Side Factors: Estimated at 4 years, as that is the timeframe for grant-funded projects to complete construction, at which time the activity level would be expected to drop, and likely improve construction costs compared to today's environment

CITY OF MILWAUKIE

WS 2.
8/2/22

OCR USE ONLY

COUNCIL STAFF REPORT

To: Mayor and City Council
Reviewed: Ann Ober, City Manager, and
Joseph Briglio, Community Development Director
From: Laura Weigel, Planning Manager

Date Written: July 21, 2022

Subject: **Transportation System Plan Advisory and Technical Committees Formation**

ACTION REQUESTED

Council is asked to provide direction regarding the formation of the Transportation System Plan (TSP) Advisory Committee (TSPAC) and the TSP Technical Committee (TSPTC). The TSPAC will be appointed by Council and is proposed to have a Council member serve as liaison to the committee. The TSPTC will not be appointed by Council, but staff would like direction on the proposed composition.

HISTORY OF PRIOR ACTIONS AND DISCUSSIONS

June 15, 2021: Staff briefed Council on the upcoming TSP update and Council adopted a resolution requesting funding assistance for the Oregon Department of Transportation (ODOT) to update the TSP.

BACKGROUND

In September 2021, the city was notified by ODOT that it had been selected to move forward to the next stage of the grant award process. For several months the city worked with ODOT to refine the budget and scope of work (SOW) to issue a request for qualifications (RFQ). In May 2022, Kittelson and Associates, Inc (KAI) was selected to consult on the TSP.

The city and ODOT are currently negotiating the budget and SOW with KAI. Scoping is a bit more complicated than normal due to the influence of state administrative rulemaking, which altered the requirements of the Transportation Planning Rule (TPR). Once the SOW is complete, it will be sent to the Oregon Department of Justice (DOJ) for review. The review process could take four to six months. While the SOW is under review, ODOT will prepare an intergovernmental agreement (IGA) for the city to review and sign. Prior to signing, the city is required to send ODOT the $100,000 it has previously committed to the project. Once the IGA is signed, work will commence.

The project must be complete by December 13, 2024.

The TSP is the city's long-term plan for transportation improvements and includes goals and policies that guide improvements to the system over a 20-year horizon. It also identifies projects that could be implemented through the city's Capital Improvement Plan (CIP), development review, or grant funding. The TSP fulfills the requirements of Statewide Planning Goal 12 (Transportation), which is largely implemented through the state's TPR. The last major update to the TSP was in 2007, but smaller revisions were made in 2013, 2015, and 2018. The primary

purpose of a major update to the TSP is to fulfill the TPR requirements for comprehensive transportation planning in Oregon. Recent changes to TPR requirements will be addressed.

While parts of the TSP have been updated much of the plan remains out-of-date and not informed by the 2020 Comprehensive Plan update, the 2018 Climate Action Plan (CAP), the extension of light rail to the city, and the city's current level of development. The updated TSP will guide the city on how best to plan and develop "a complete network of sidewalks, bike lanes, and paths along with well-maintained streets and a robust transit system [to] connect our neighborhood centers," as stated in the Milwaukie 2040 Vision.

DISCUSSION

Engagement

The consultants (JLA and We All Rise are subconsultants on the project) with staff assistance will develop an engagement plan that will include methods to solicit input throughout the project. The plan will include public open houses/workshops (virtual or in-person), online engagement using the Engage Milwaukie website, pertinent stakeholder interviews, possible working groups, project articles, factsheets, and other means to engage the public throughout the process, including Spanish translation services.

The engagement plan will also address the following requirements of the TPR:

- Assess, document, acknowledge, and address where past policies and effects of climate change have harmed and are likely to perpetuate harm to underserved populations.
- Assess, document, acknowledge, and address where current and past racism has harmed and continues to harm underserved populations.
- Recognize where and how intersectional discrimination compounds disadvantages.

Advisory Committee and Technical Committee

The engagement plan includes the formation of an advisory committee (TSPAC) and a technical committee (TSPTC).

Staff's recommendation for the make-up of the **TSPAC** includes up to 11 members, plus rotating subject matter experts.

- One City Council member
- One member of the city's Planning Commission
- One member of the city's Equity Steering Committee (ESC)
- One member of the city's Public Advisory Safety Committee
- Three Comprehensive Plan Advisory Committee (CPAC)/Comprehensive Plan Implementation Committee (CPIC) members
- Four members who represent cyclists, walkers, people under the age of 18, older adults, parents w/ young children, disabled persons, business interest.

Staff recommends holding an open recruitment for the last four members similar to the recruitment process that was used to create the Milwaukie Vision Advisory Committee, with an emphasis on recruiting members who frequently use the transportation system beyond driving a vehicle. An individual may be able to serve multiple roles. For example, a CPIC representative may also be a parent. Staff recommends these four members be selected after the positions above are selected to fill out the needs of the committee. A draft of the recruitment form is attached (Attachment 1.)

It is important for the TSPAC to understand its role during this project. Staff consulted the International Association of Public Participation (IAP2) "Spectrum of Public Participation" (Attachment 2) and based on the technical nature of the project and the level of work the city has already completed, staff recommends using the "Consult" level of participation as outlined by IAP2. The intent of the "Consult" approach is as follows:

> *Public Participation Goal:*
> To obtain public feedback on analysis, alternatives and/or decisions.
>
> *Promise to the Public:*
> We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.

The second committee staff recommends forming is the **TSPTC,** which will provide expertise and ensure in-depth technical review throughout the planning process. Staff also recommends a "consult" level of participation. Members will include representatives from:

- ODOT
- Oregon Department of Land Conservation and Development (DLCD)
- Metro
- Clackamas County
- TriMet
- Milwaukie Police Department (MPD)
- Clackamas Fire District #1 (CFD1)
- North Clackamas School District (NCSD)
- North Clackamas Parks and Recreation District (NCPRD)

The public kick-off for the project, including the first meetings of each of these committees, is dependent upon the length of time the DOJ takes to review the SOW.

Question for Council:

- Is Council comfortable with the proposed approach for forming the TSPAC and TSPTC?

BUDGET IMPACTS

Staff does not anticipate a significant budget impact associated with committee recruitment. The planning department is currently at appropriate staffing levels to support both committees.

WORKLOAD IMPACTS

Staff anticipates that supporting both committees will require a significant dedication of staff time and resources from the fall of 2022 through the beginning of 2024.

COORDINATION, CONCURRENCE, OR DISSENT

The city manager, assistant city manager, community development director, city recorder, planning manager, and the development project manager have coordinated this effort to-date.

STAFF RECOMMENDATION

Staff recommends the proposed approach for selecting committee members.

ALTERNATIVES

Staff is seeking general direction. No alternative approaches have been explored.

ATTACHMENTS

1. Draft TSPAC Application
2. IAP2 Spectrum of Public Participation

TRANSPORTATION SYSTEM PLAN
ADVISORY COMMITTEE APPLICATION

The City of Milwaukie is currently accepting applications for the Transportation System Plan Advisory Committee. Seven of the positions on the advisory committee will be held by: a City Councilor, a Planning Commissioner, a member from the City's Equity Steering Committee, a member of the City's Public Safety Advisory Committee and three members from either the Comprehensive Plan Advisory Committee or the Comprehensive Plan Implementation Committee. The city is seeking to recruit up to four additional members for the Advisory Committee and is particularly interested in recruiting members who frequently use the transportation system beyond driving a vehicle. Are you a non-driver? Do you frequently walk and/or bike? Do you take transit to get around? Are you a high school student or perhaps an older adult? Do you have young children? Do you have a disability that impacts your ability to drive? The city is also interested a representative from the business community. We encourage you to apply!

The update to the TSP is anticipated to take approximately 18 months to complete and the results of the plan will have long lasting impacts on the city. ***Applications are due on TBDTBD can also be filled out online at http://www.milwaukieoregon.gov/planning/vision. If you need a paper copy please call TBD.***

Name: _____ Date: _____

Home address: _____

Mailing address (if different): _____

Best contact phone: _____

E-mail address: _____

Occupation: _____ Company/Organization: _____

Are you: A **resident** of Milwaukie? ☐ If so, for how long? _____

A **business owner** in Milwaukie? ☐ If so, which one and for how long? _____

An **employee** in Milwaukie? ☐ If so, which one and for how long? _____

Otherwise invested in Milwaukie? ☐ If so, in what context? _____

Are you currently serving on a City of Milwaukie Advisory Board or Commission? _____

If so, which one(s)? _____

For the following questions, please limit each response to 200 words. Attach additional pages as needed.

Why are you interested in helping the City of Milwaukie develop a Transportation System Plan? Are there specific topic areas that you are especially interested in? _____

_____

_____

The City Council is interested in creating a committee that is representative of the entire Milwaukie community and has experience using the transportation beyond just driving a car. Do you frequently walk and/or bike? Do you take transit to get around? Are you a high school student or perhaps an older adult? Do you have young children? Do you have a disability that impacts your ability to drive? Do you own or represent a Milwaukie business? The city is seeking committee members that cover a broad range of age groups, incomes, and cultural and educational backgrounds. Please describe how your background would help fulfill this City Council objective. _____

_____

_____

How did you hear about the committee?

Facebook/Twitter/Instagram: ☐ City Website: ☐ Friend/Neighbor: ☐

Newspaper/Pilot: ☐ Employer: ☐ Other (please list): _____

Please complete this form fully **by XXXX** for your application to be considered. Applications can be returned to Planning Manager, Laura Weigel online at the link above, via email (weigell@milwaukieoregon.gov) or mail (6101 SE Johnson Creek Blvd, Milwaukie, OR 97206). For additional information, please call 503-786-7654.

IAP2 Spectrum of Public Participation

IAP2's Spectrum of Public Participation was designed to assist with the selection of the level of participation that defines the public's role in any public participation process. The Spectrum is used internationally, and it is found in public participation plans around the world.

INCREASING IMPACT ON THE DECISION

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

WS 3. 8/2/22
Presentation

Transportation system plan advisory Committee

City Council Work Session

August 2, 2022

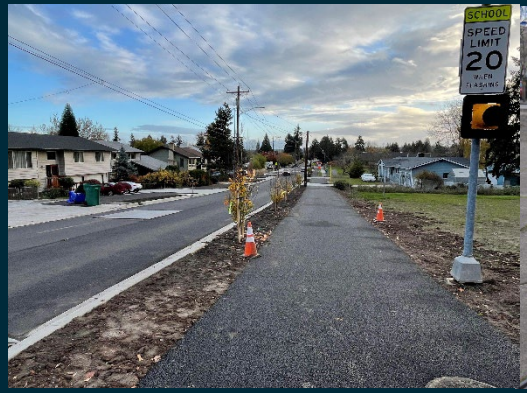
Laura Weigel, Planning Manager

Transportation System Plan (TSP)

- Long term plan for transportation improvements
- Last major update in 2007
- Statewide Planning Goal 12 Requirement
- Incorporate adopted plans
- Update Comprehensive Plan Goals and Policies

Milwaukie Vision

"A complete network of sidewalks, bike lanes, and paths along with well-maintained streets and a robust transit system connecting our neighborhood centers" - Milwaukie 2040 Vision.



City Council Goals

Climate Change Mitigation and Resilience Action

Equity, Justice and Inclusion

State requirements of new Climate Friendly Equitable Communities rulemaking

TSP Scope

- Engagement Plan
- Policy and Planning Framework
- Financial Forecast
- TSP Vision Goals and Policies
- System Performance Measures
- Livable Street Recommendations
- System Conditions & Needs
- Future Conditions & Solutions
- Projects and Funding Strategy

Technical Committee

- ODOT
- Department of Land Conservation and Development
- Metro
- Clackamas County
- TriMet
- Milwaukie Police Department
- North Clackamas Fire District
- North Clackamas School District
- North Clackamas Parks and Recreation District

Advisory Committee

- City Councilor
- Planning Commissioner
- Public Safety Advisory Committee member
- Equity Steering Committee member
- Up to 3 Comprehensive Plan Advisory Committee / Comprehensive Plan Implementation Committee members
- 4 folx representing;
  - Cyclists, walkers, people under the age of 18, older adults, parents w/ young children, disabled persons, business interests

Action

- Does Council support the composition of the TSPAC and TSPTC?
- Does Council support the application process?
- Council member appointment

Timeline

- Current - scope/budget negotiation
- Submit final scope to DOJ
  - 4-6 month review process
- August/Sept - advisory/technical committee Recruitment
- Late fall/early winter - TSP kick-off
- June 2024 - project complete

Thank You