DynamicCity
Own the Future

Feasibility Study

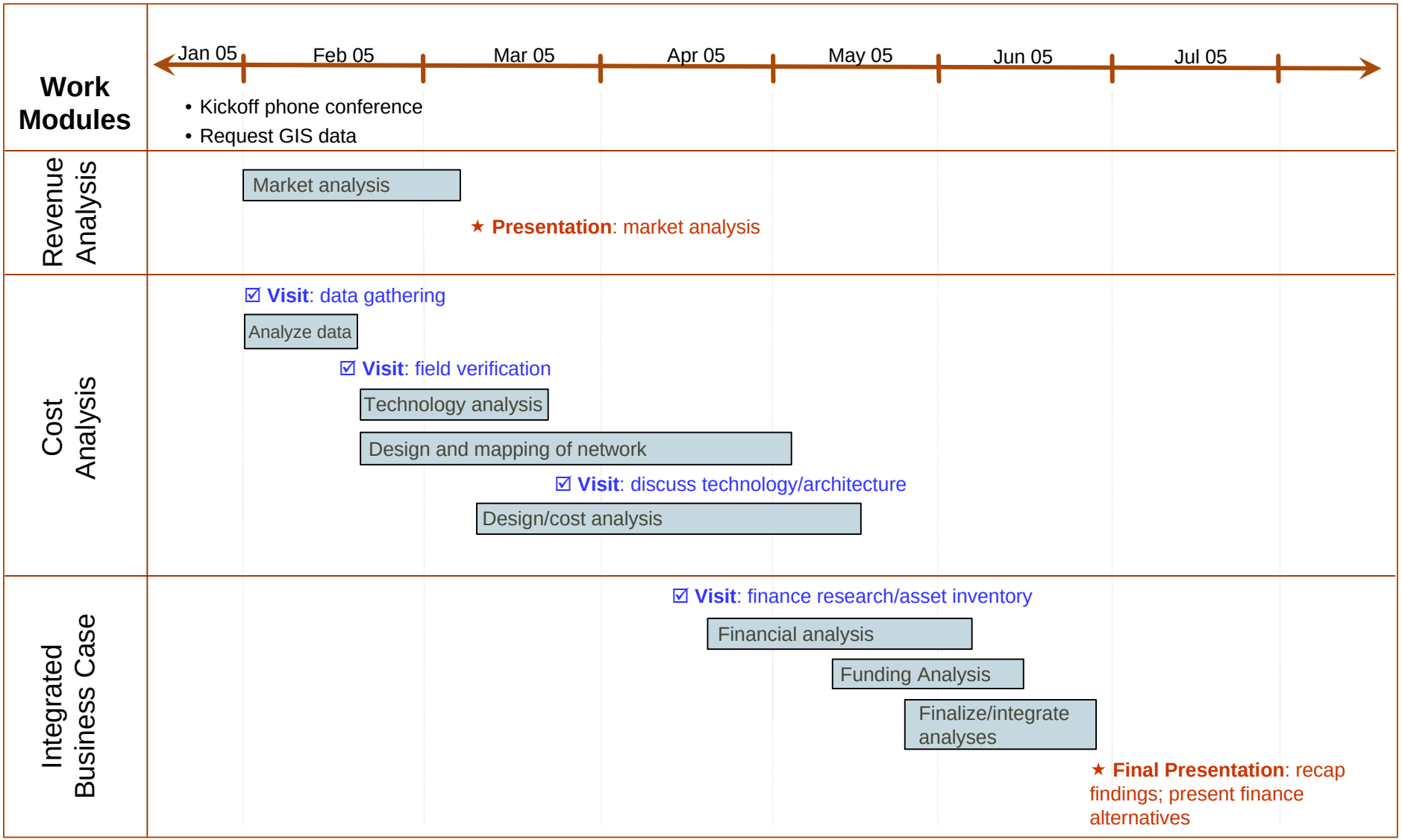
Portland, OR

Open Access Architects enabling the telecommunications infrastructure for the next century

Summary findings

1. The feasibility study suggests a strong business case for a publicly owned communications infrastructure in Portland.
   - Portland's high Internet penetration suggests that take rate will be high and that the project can be expected to perform as well as or better than other municipal projects.
   - Portland's high proportion of aerial plant and high density minimizes capital requirements and provides a cost-effective construction environment.
   - Using reasonable assumptions, the project can be expected to generate strong debt coverage and positive cash flow.
2. Risk factors were identified and used to stress the project model. These included:
   - Increased construction costs
   - Higher interest rates
   - Start-up delays
   - Lower revenue scenarios
3. The project is robust enough to withstand the downside scenarios.

Portland: Feasibility Study Timeline



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Agenda

1. Revenue & Operations
2. Capital Costs
3. Financials
4. Stress Tests

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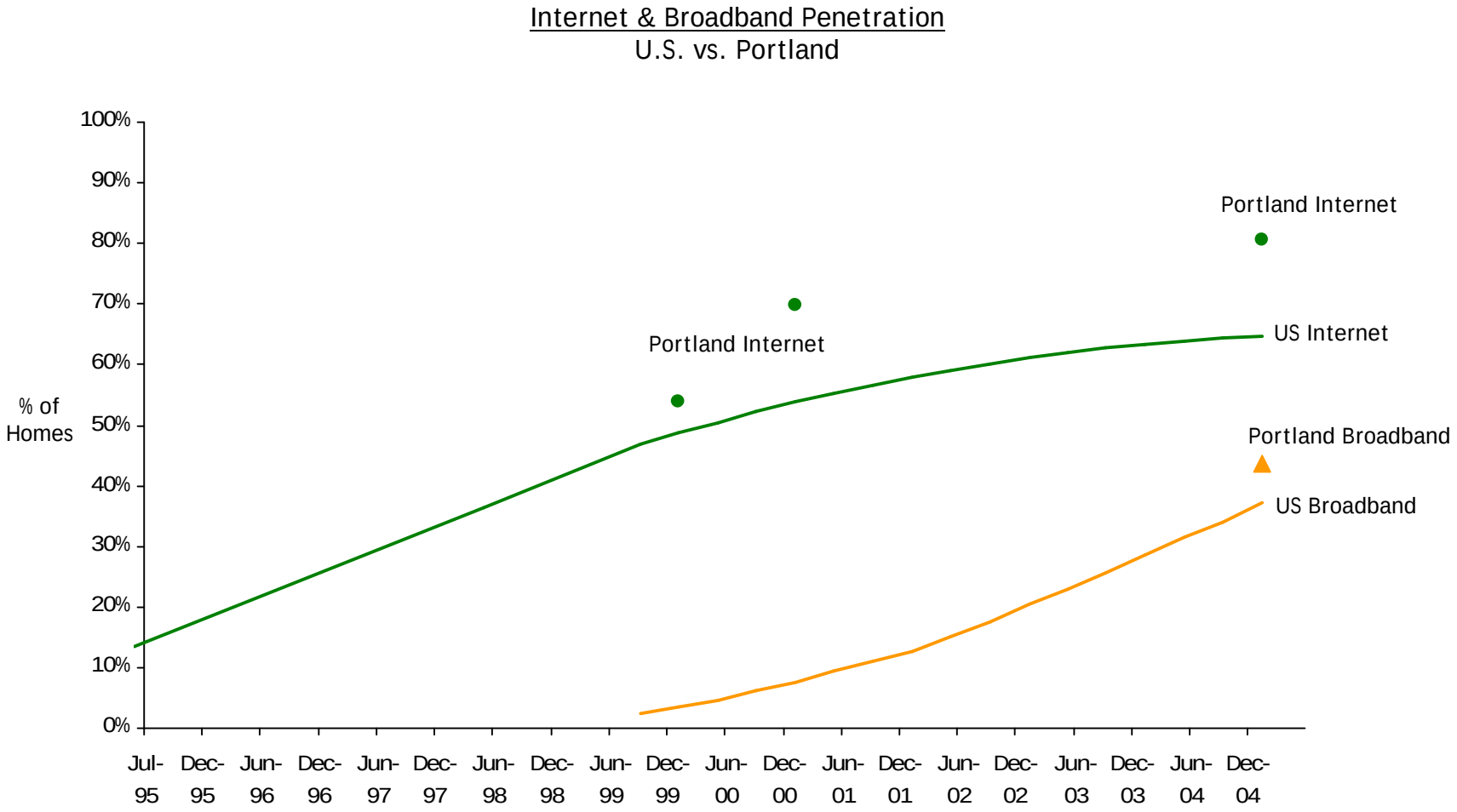
Portland has very high penetration of Internet connectivity and broadband



Source: Nielsen/NetRatings, Pew Internet Life Project

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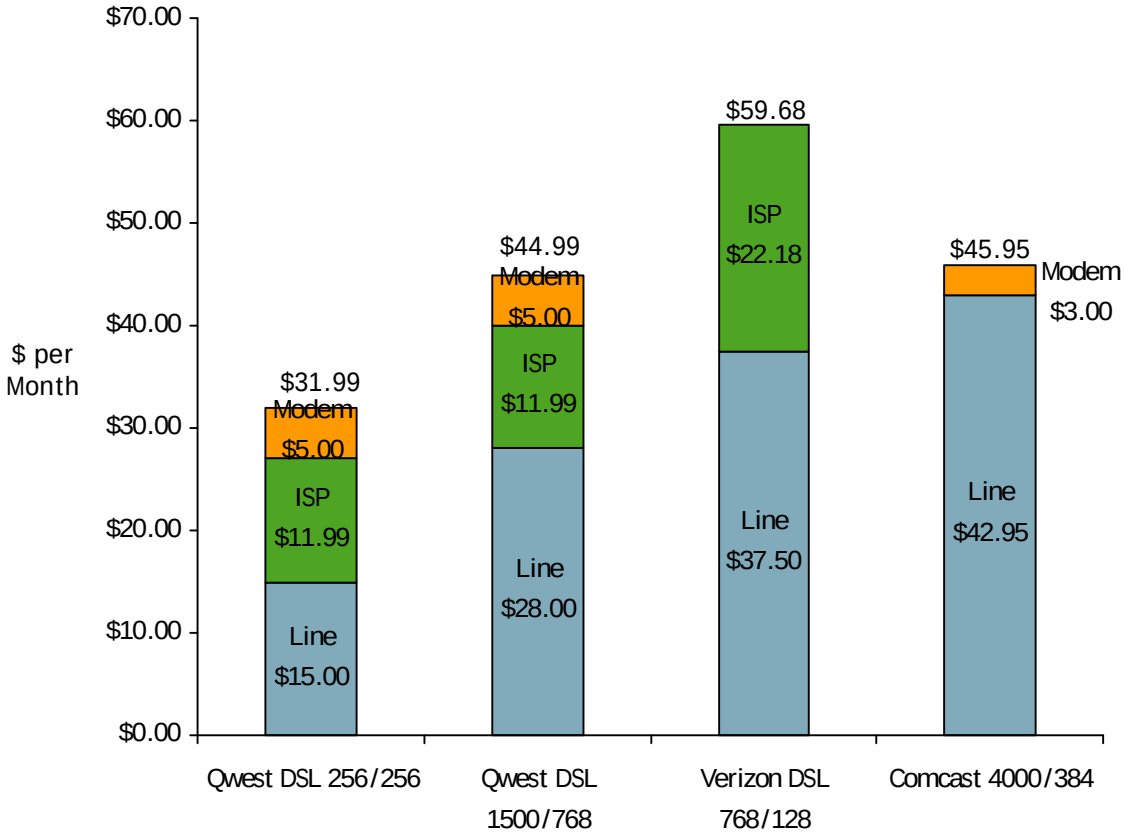
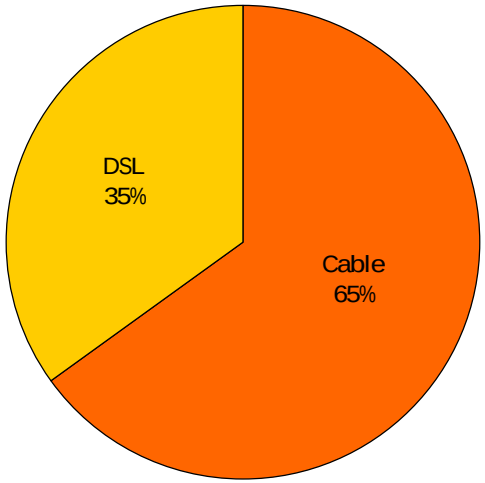
Cable modems have considerably more subscribers than DSL despite a modestly higher price

Broadband packages



Broadband penetration by technology



Source: Company websites, Leichtman Research Group

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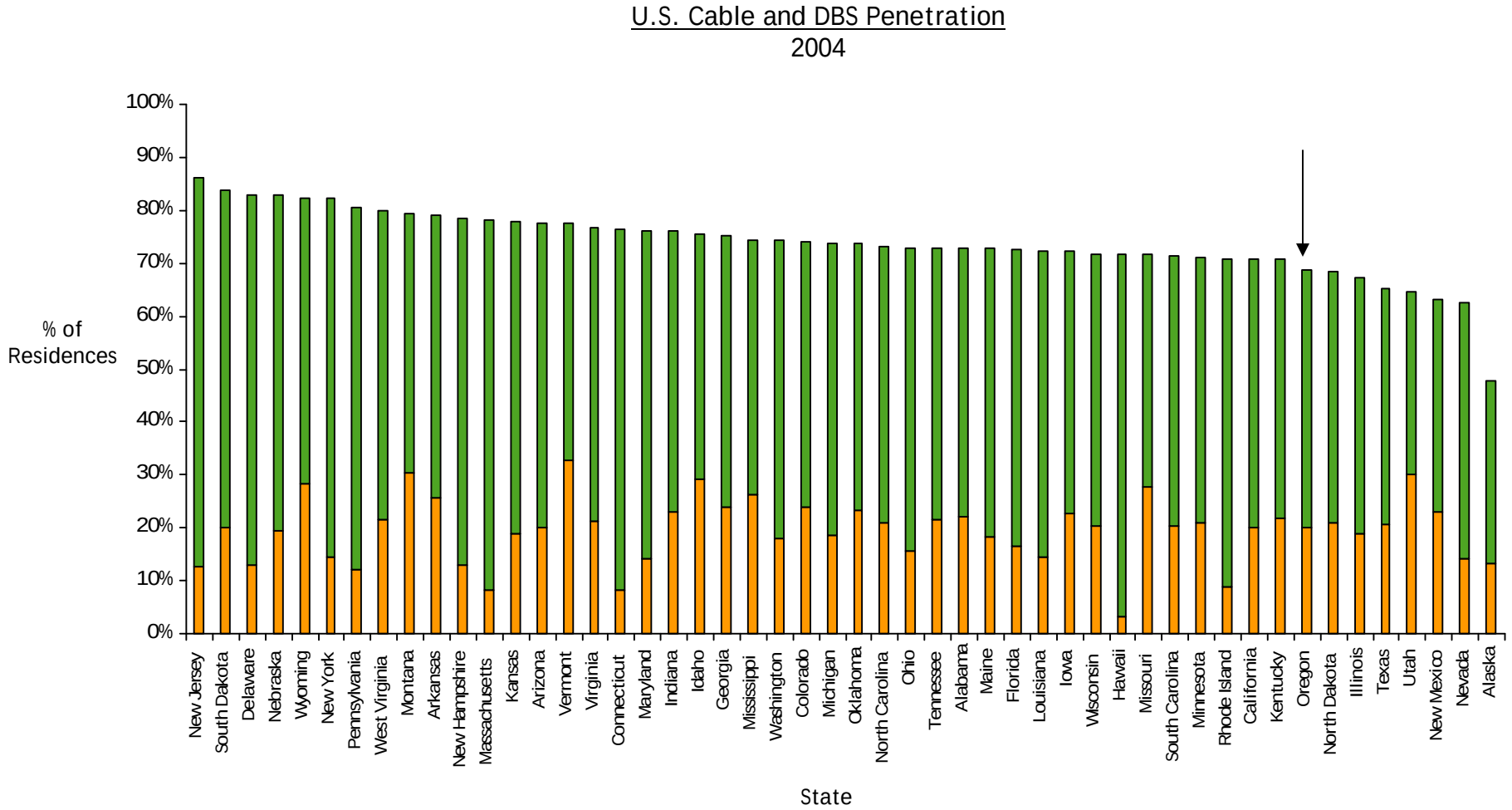
Oregon ranks 43rd in paid television subscribership. Although important, cable will not drive penetration as much as internet



Source: Leichtman Research Group

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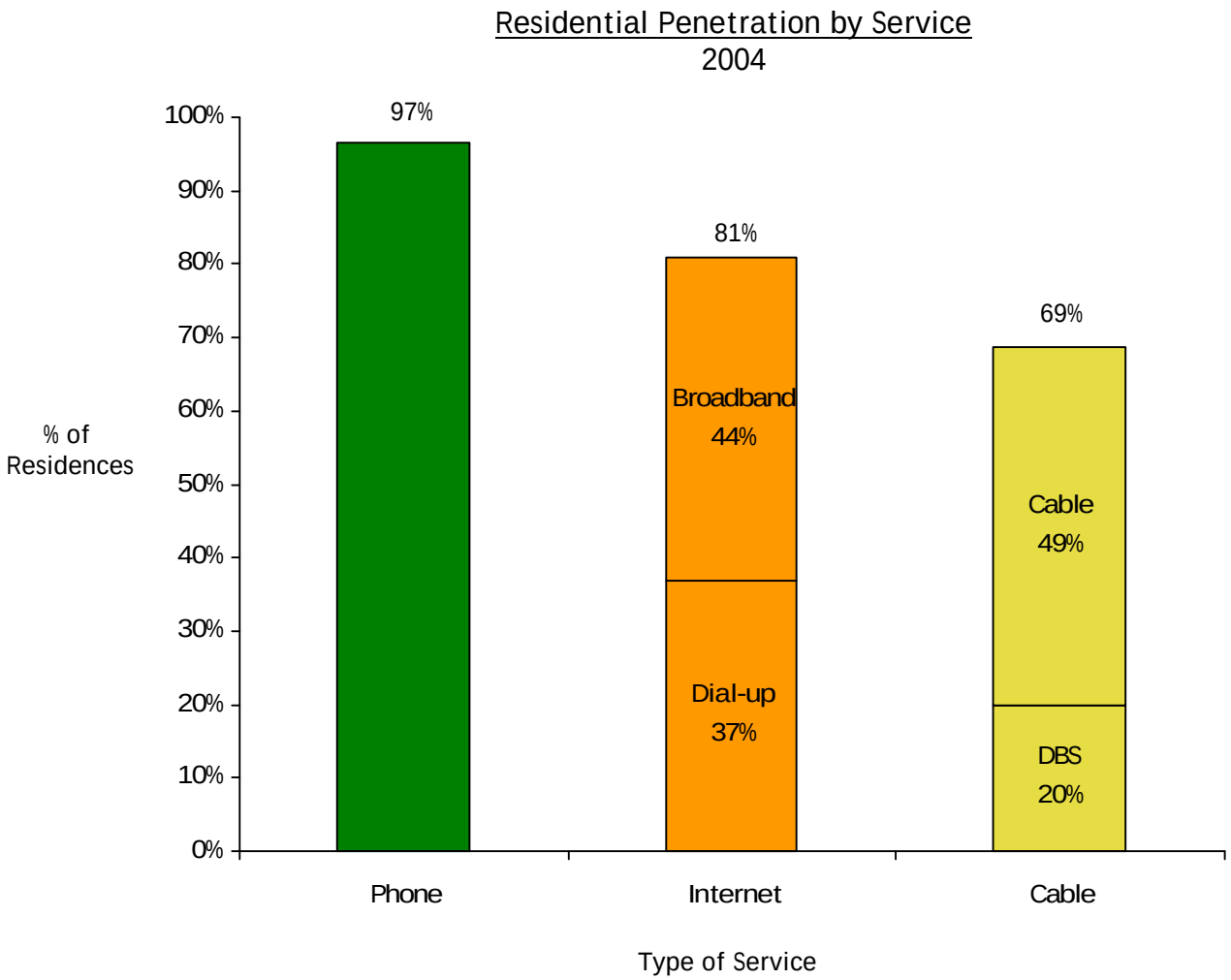
Residential service penetrations are favorable to a wholesale data network



Source: FCC, Nielsen/NetRatings, Leichtman Research Group

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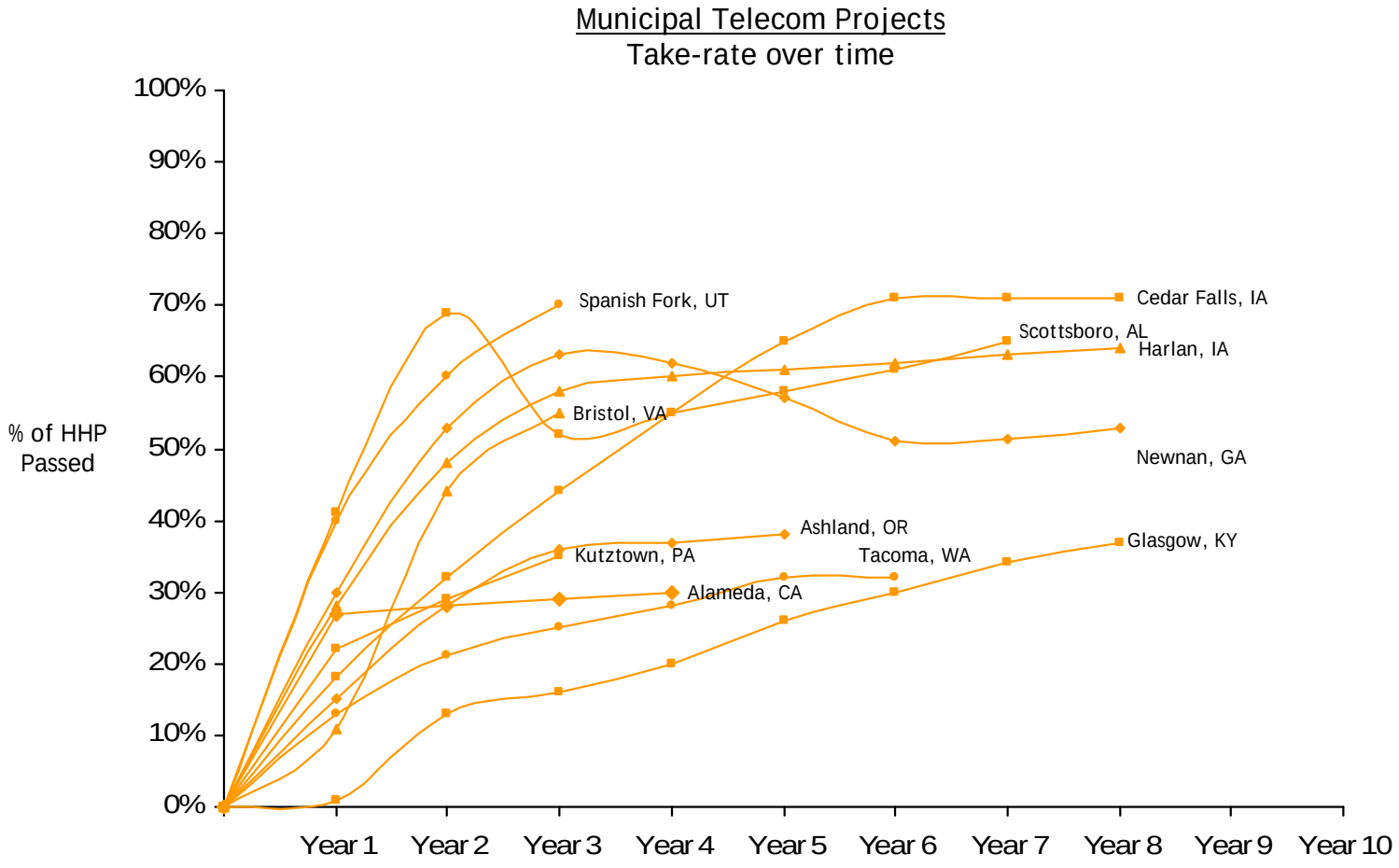
Other municipal projects have been successful but differ widely on business models, technology, and marketing



Note: HHP = "Households passed" and includes business and residential units

Source: Dean & Company, DynamicCity

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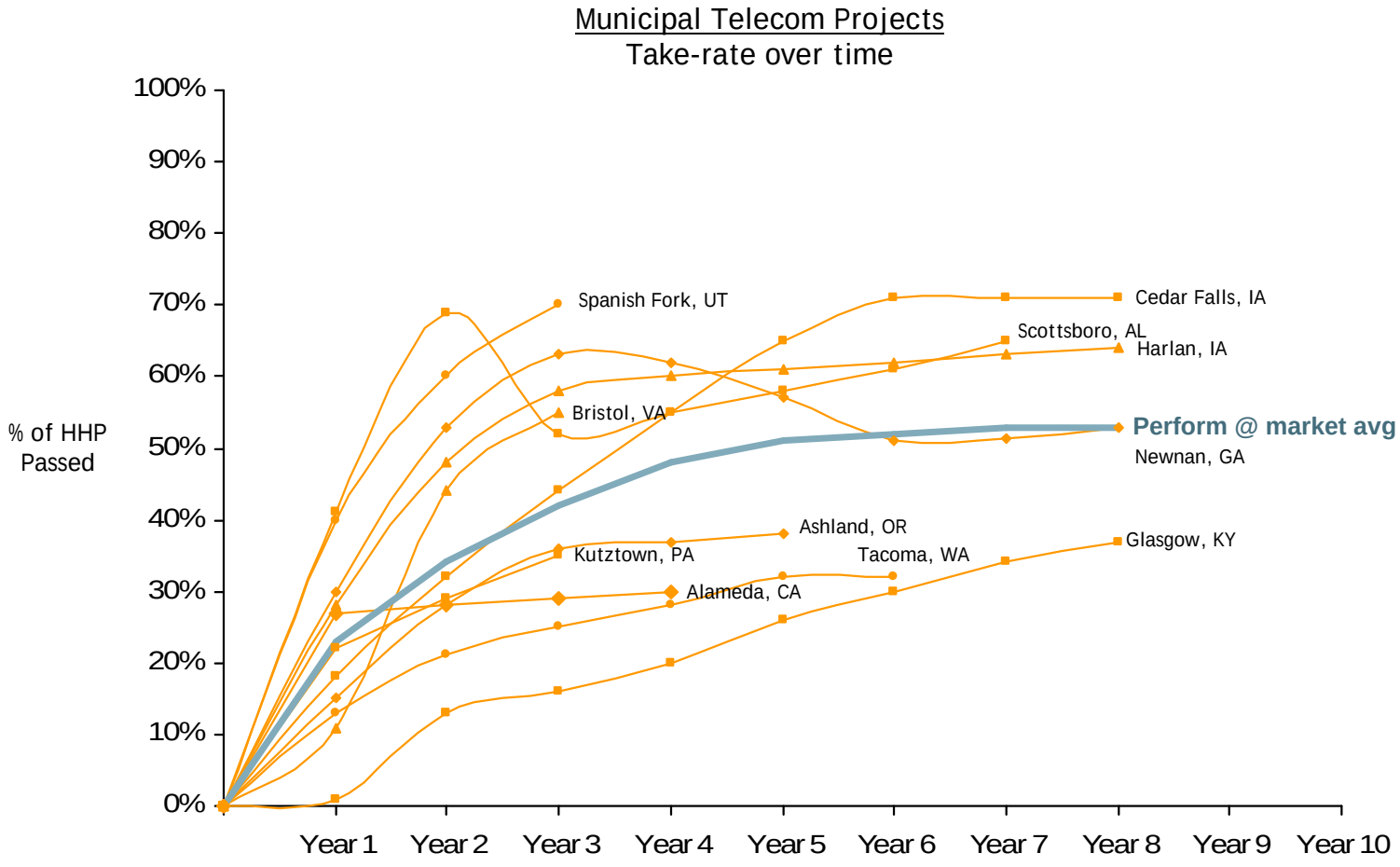
For modeling purposes, the take-rate was assumed to follow the average of existing projects



Note: HHP = "Households passed" and includes business and residential units

Source: Dean & Company, DynamicCity

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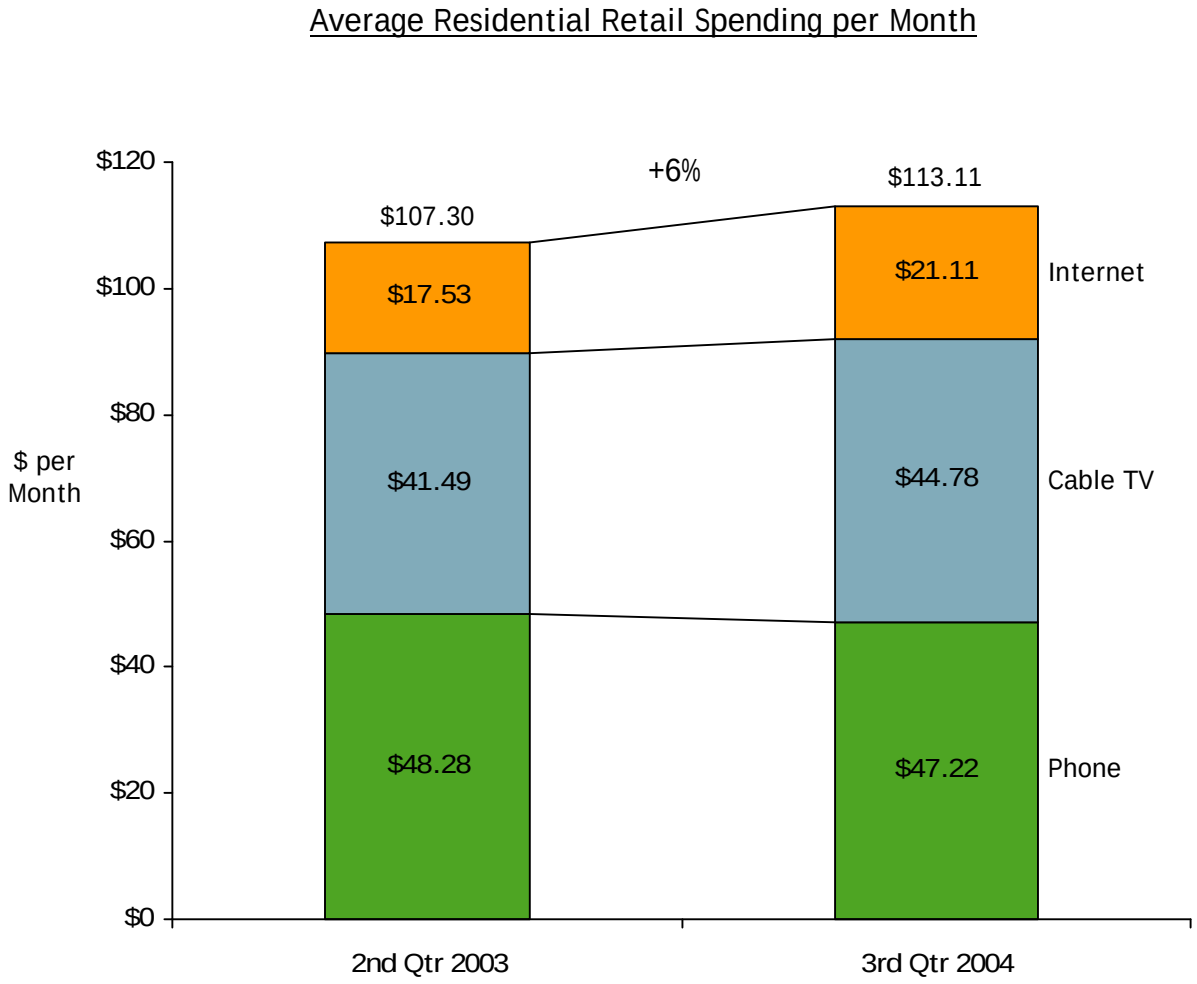
The majority of residential growth is occurring in Internet services as dial-up users upgrade to broadband



Source: TNS Telecoms

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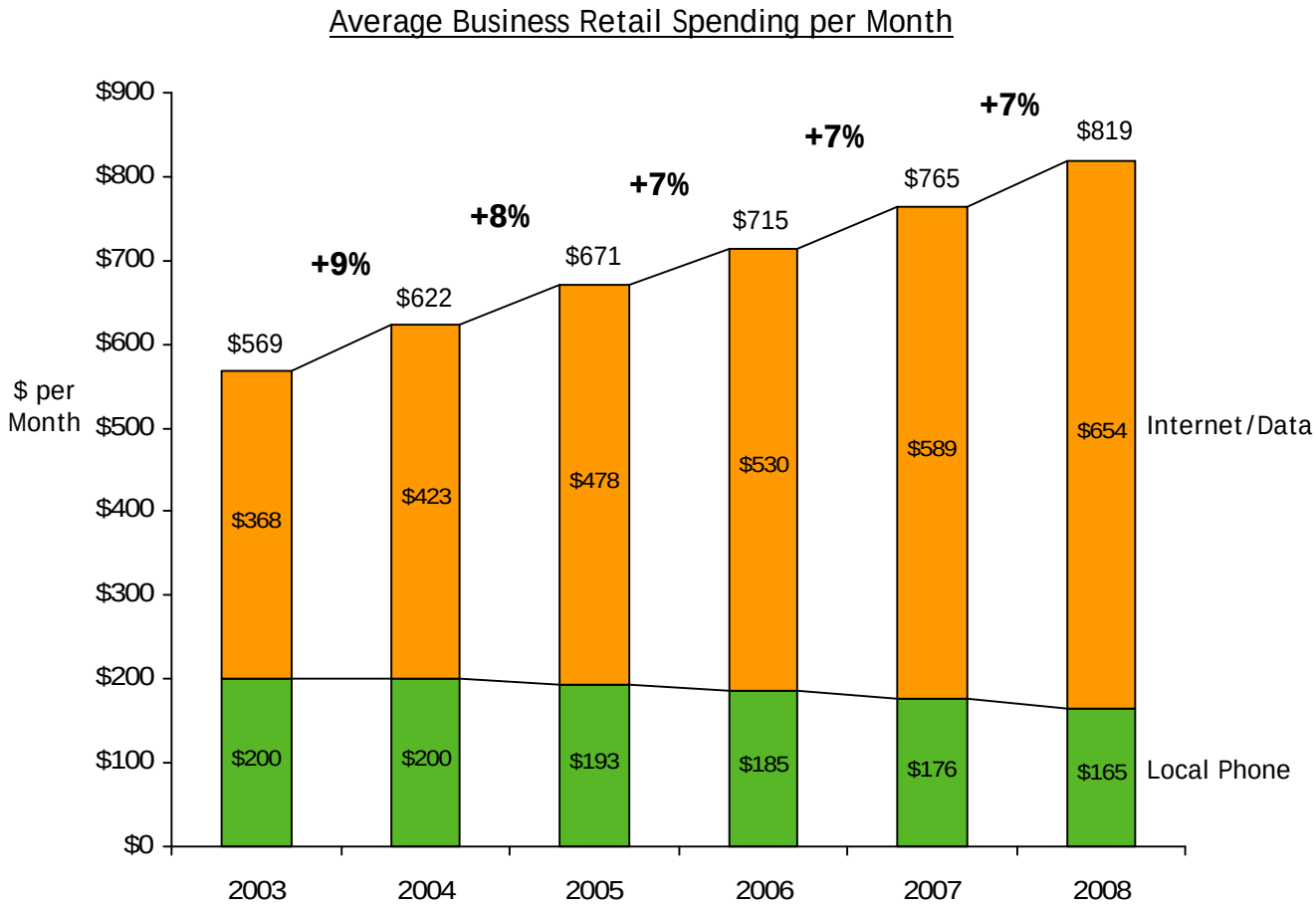
The majority of business growth is also occurring in Internet/Data as businesses convert to IP based services



Source: Cahners/In-Stat

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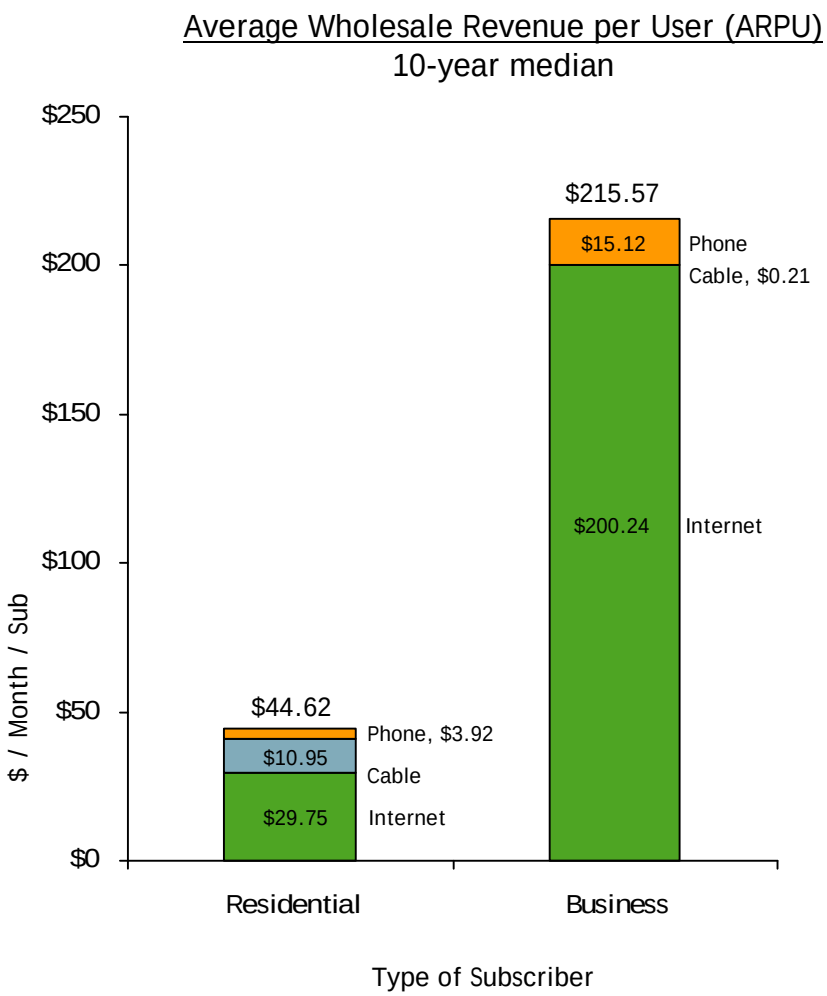
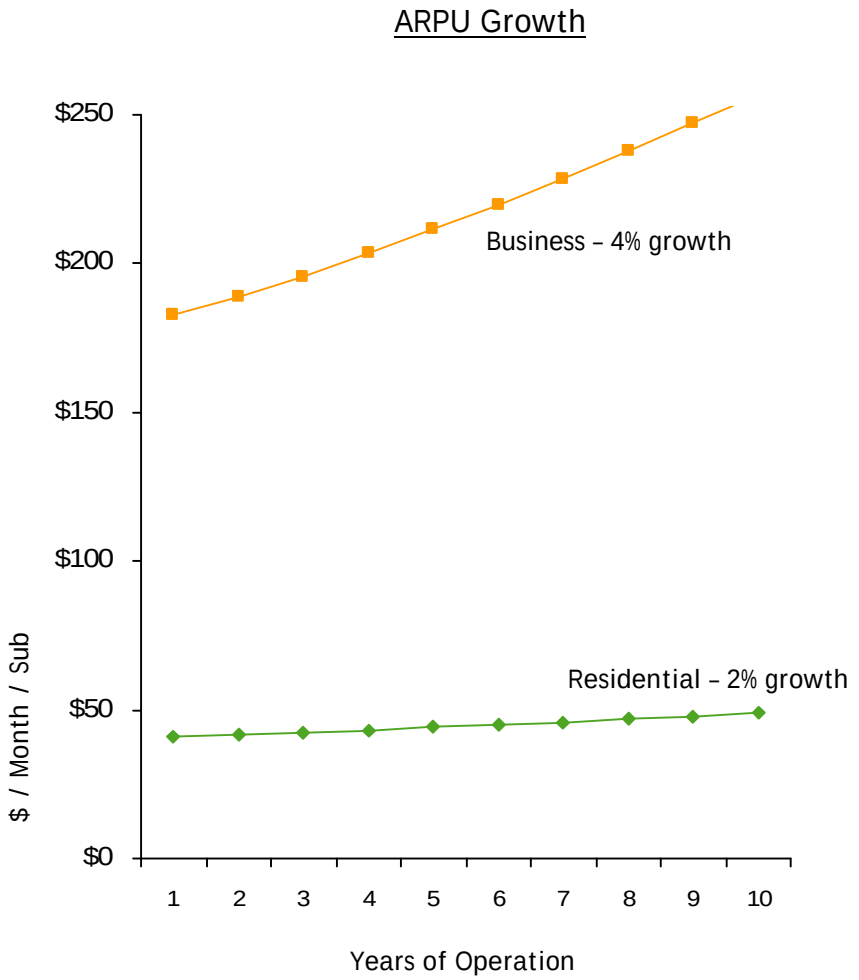
Revenue per user will grow as users upgrade the speed of their Internet service





Source: DynamicCity

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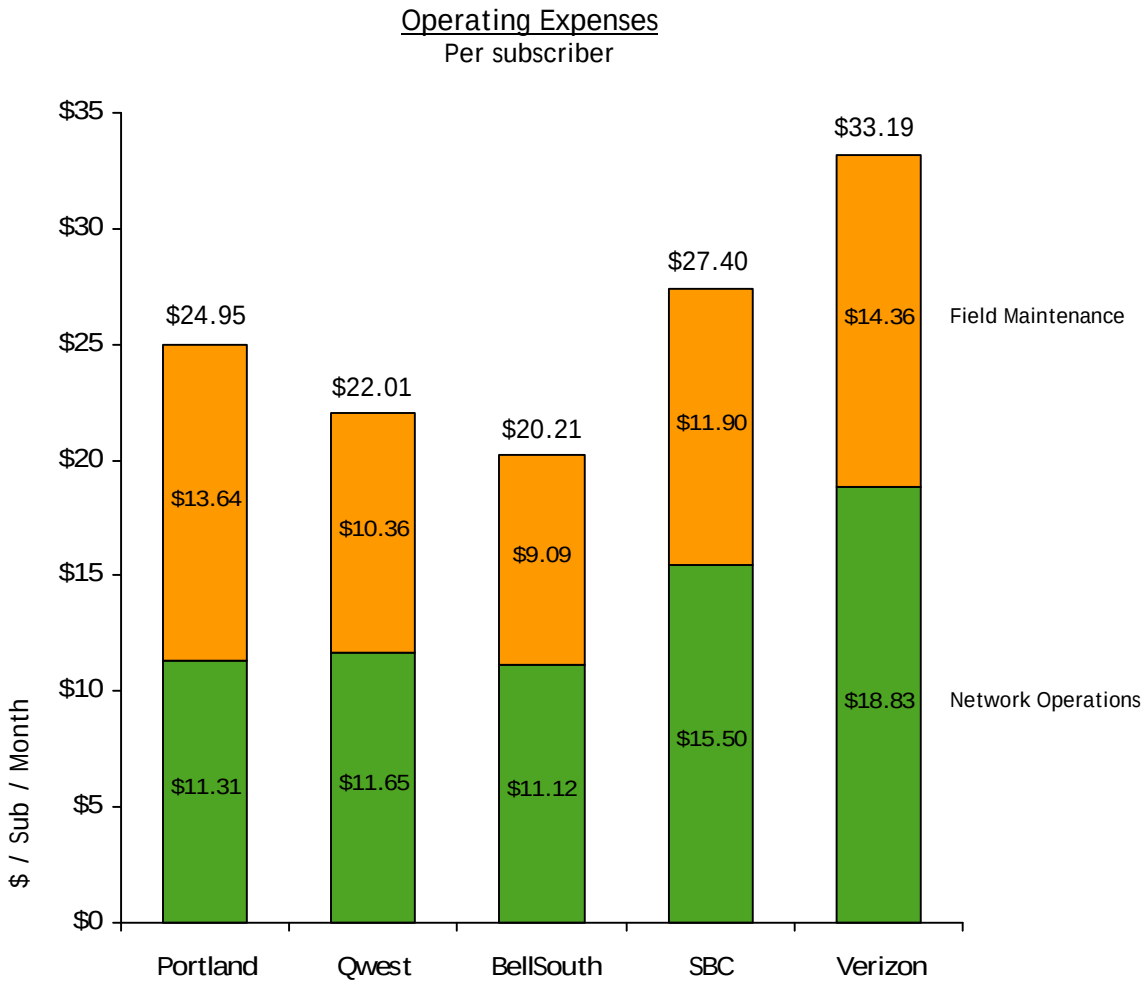
Operating expenses are comparable to the RBOCs' operating expenses



Source: DynamicCity, FCC

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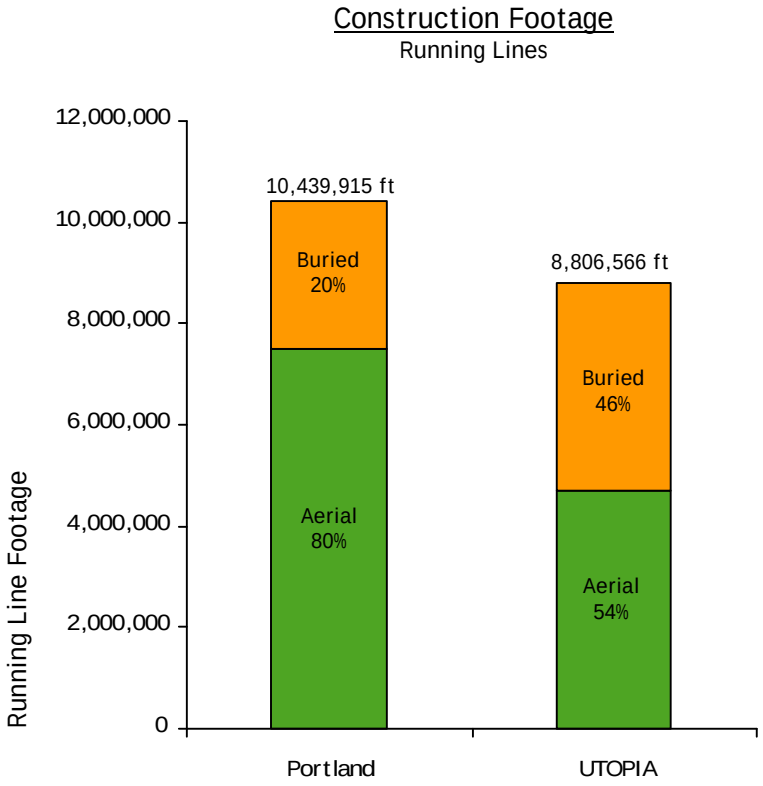
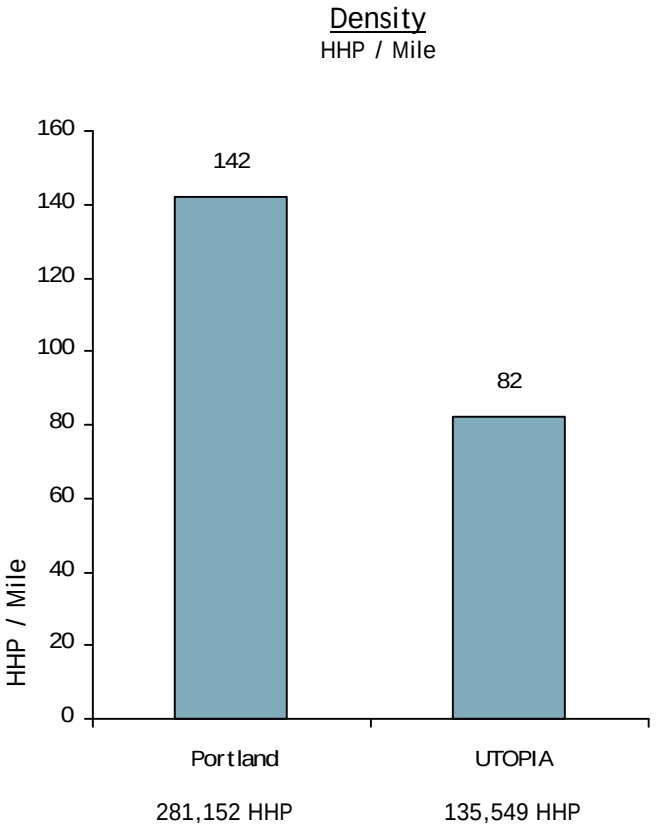
Portland's aerial plant and high density make construction very cost effective





Source: DynamicCity

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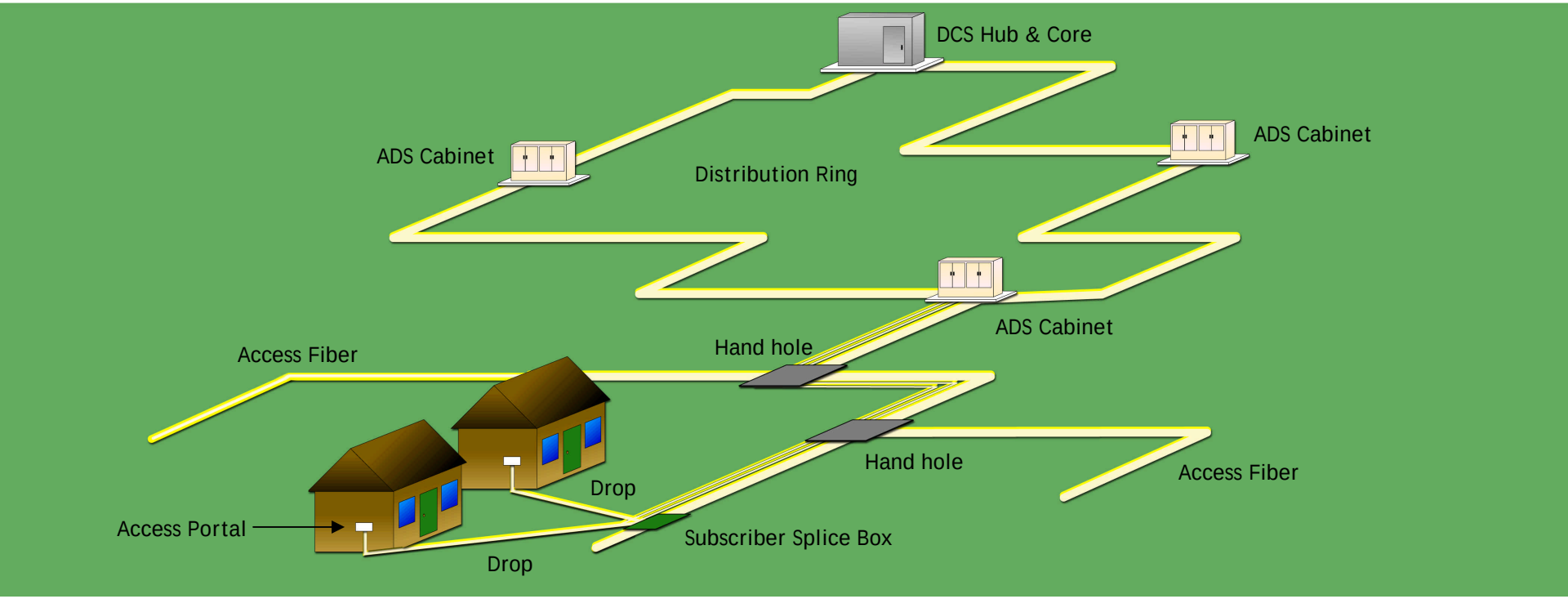
The fiber plant dedicates a single fiber from each home back to an ADS cabinet. ADS cabinets are connected on redundant rings.



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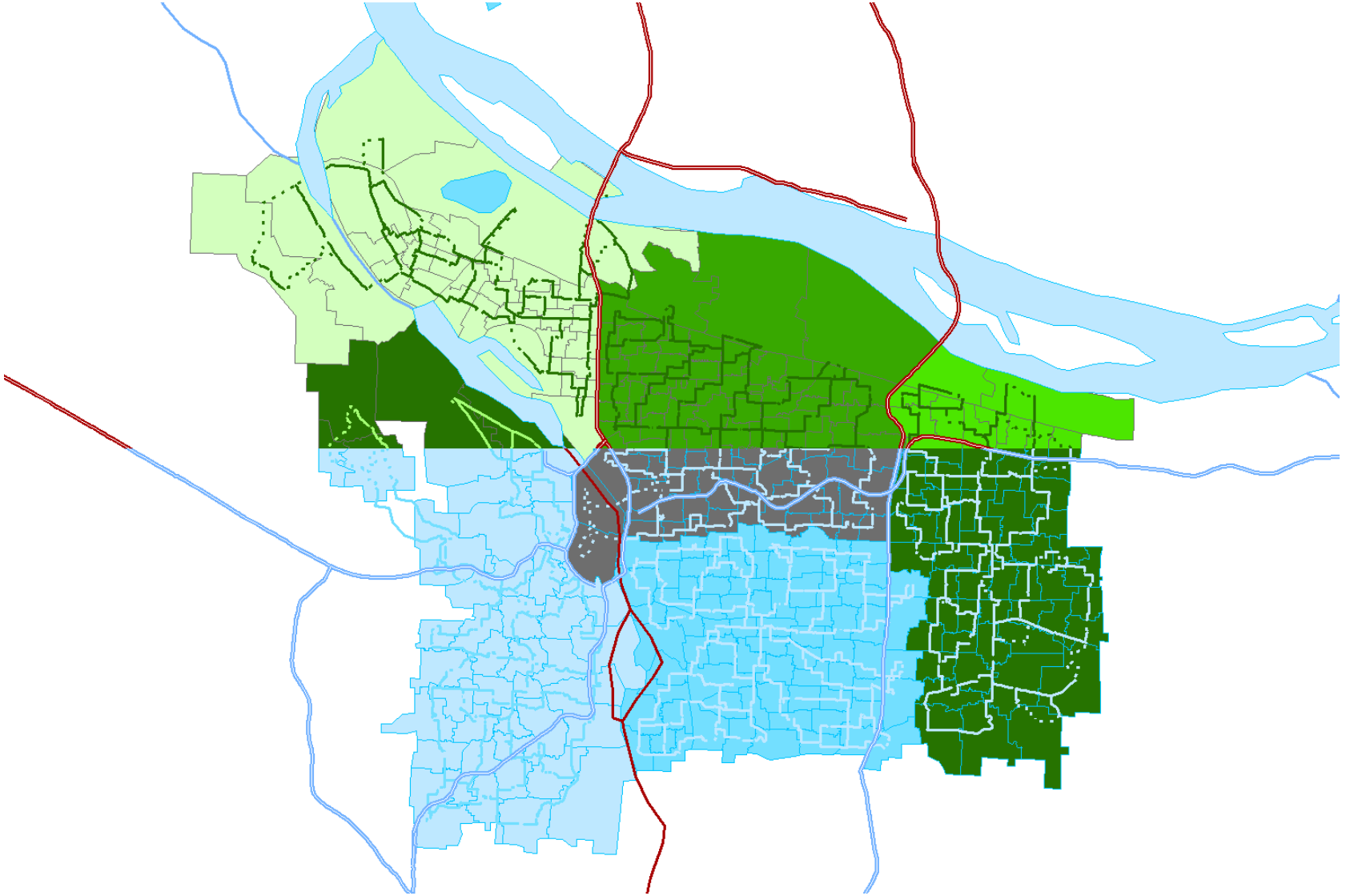
DynamicCity mapped 10.4 million feet of fiber running lines as the foundation for modeling Portland's capital costs



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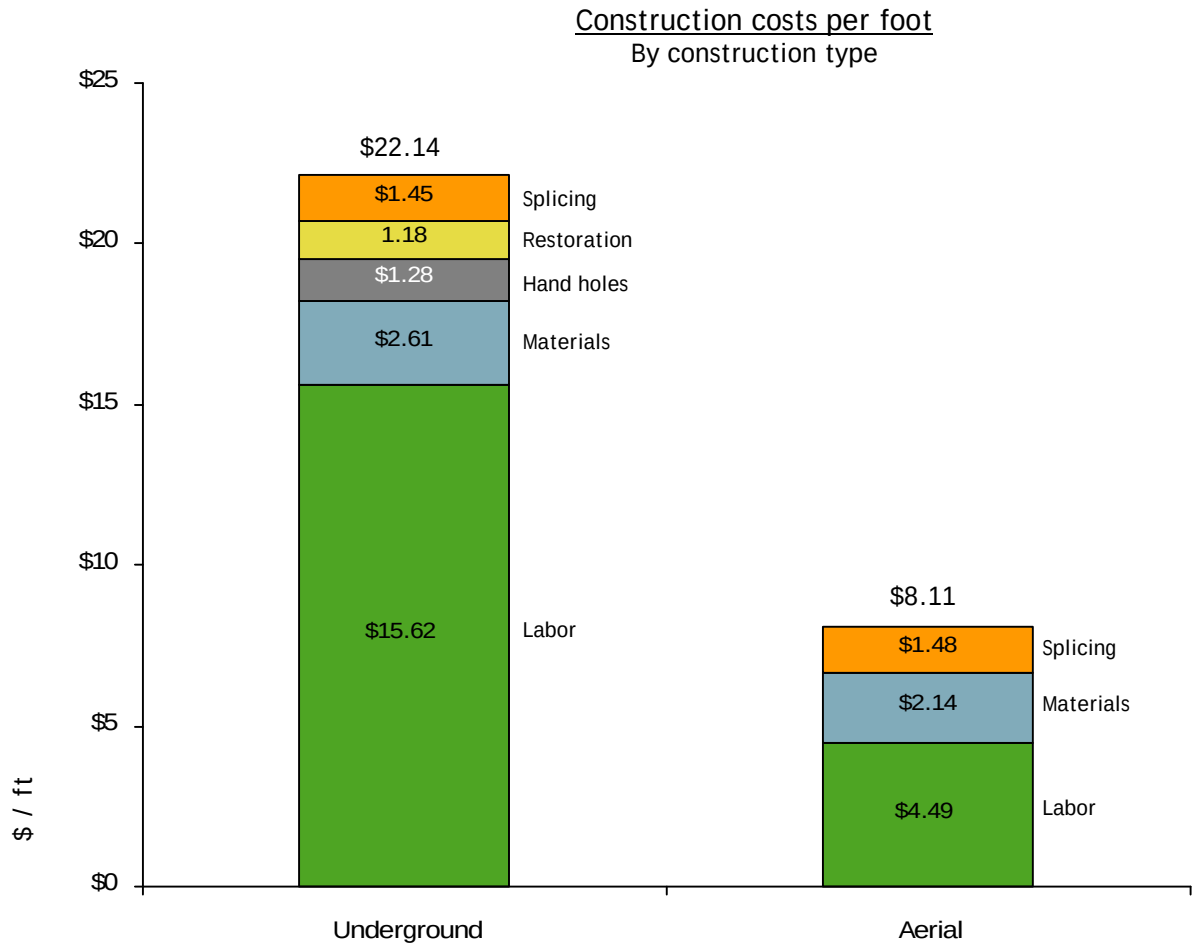
Construction costs include allowances for aerial make-ready, pole replacements, rocky terrain, and Prevailing Wage



Note: Central Business District assumes $125/ft

Source: DynamicCity

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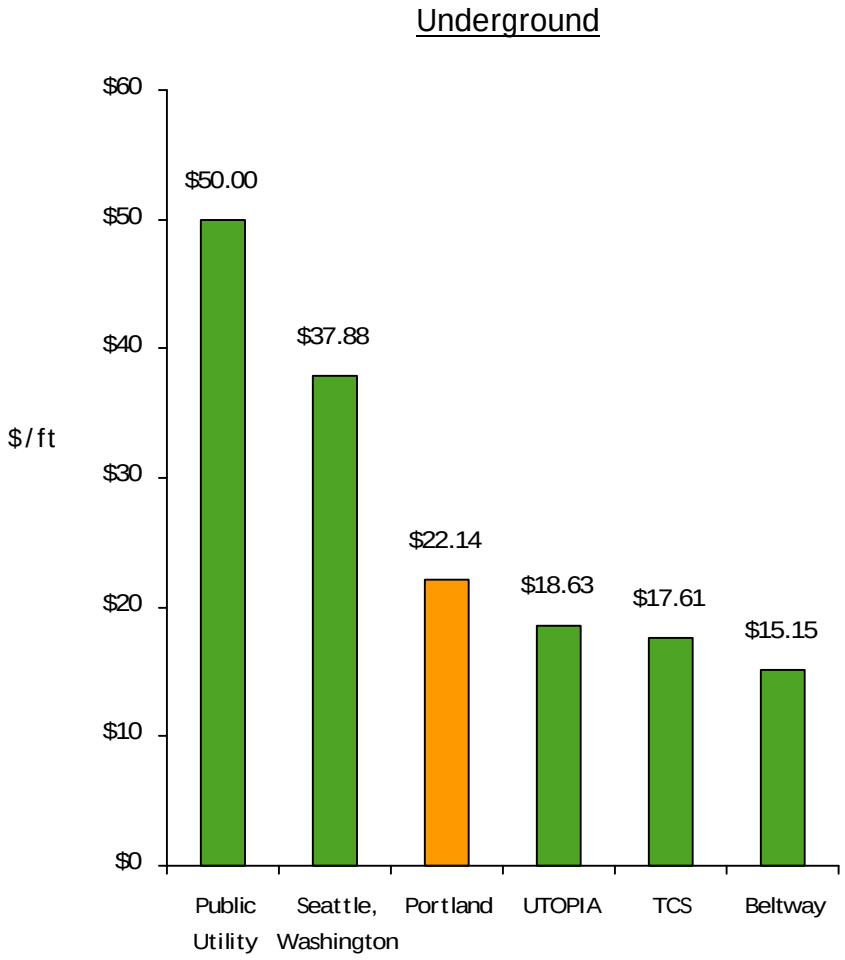
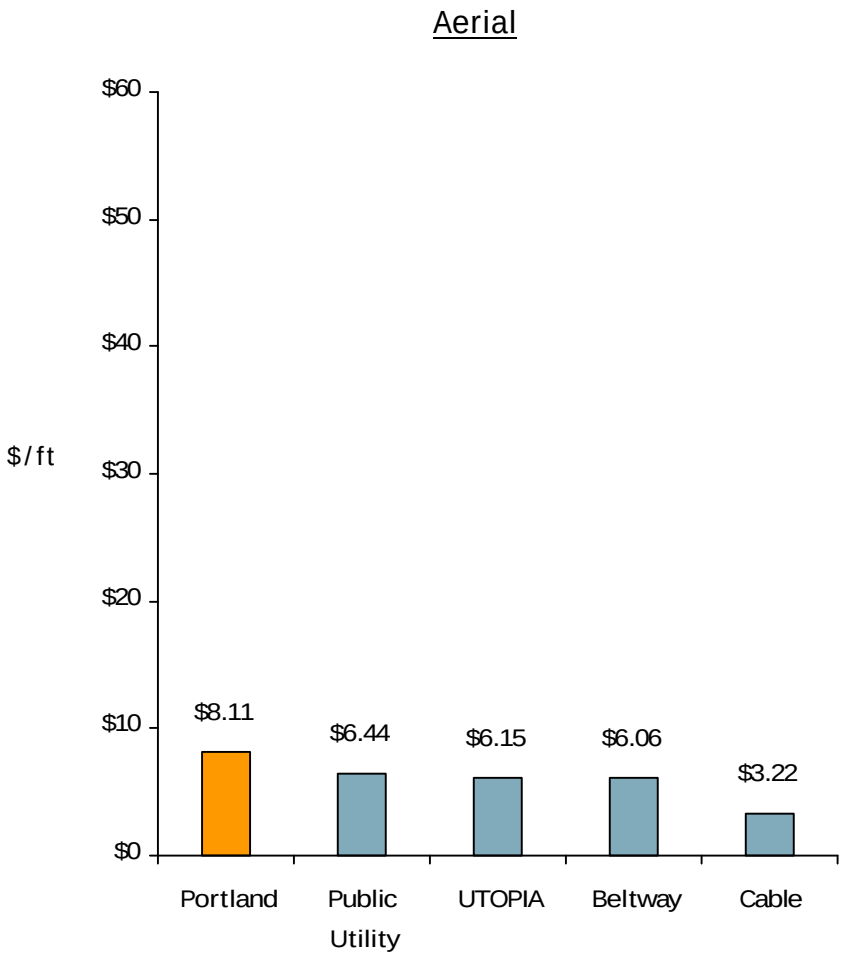
Portland's construction costs per foot are slightly higher than other projects due to Prevailing Wage law applied to a public project





Source: DynamicCity, Dean & Company

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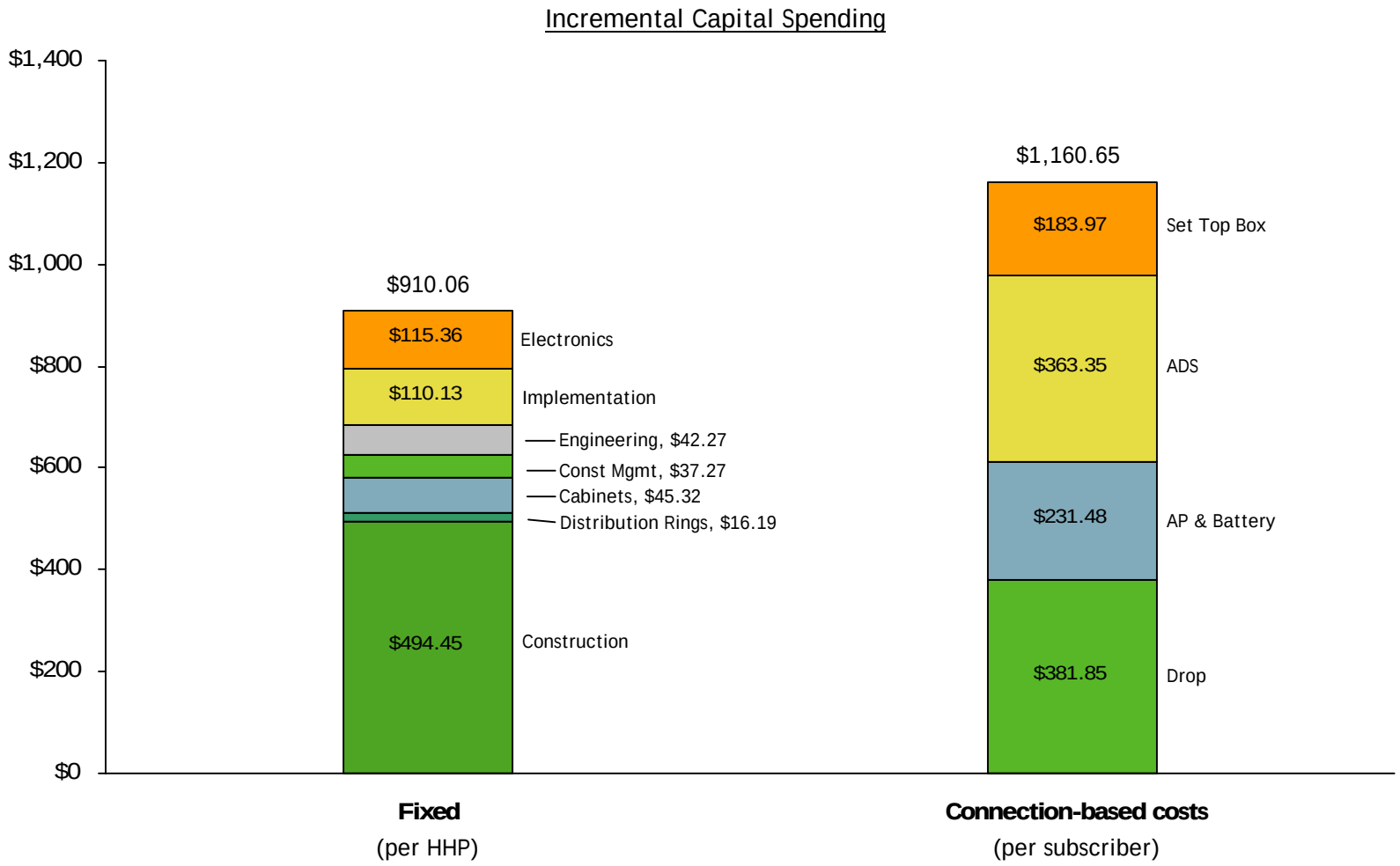
Capital costs are grouped into fixed costs to pass every address and variable costs to connect subscribers to the network



Source: DynamicCity

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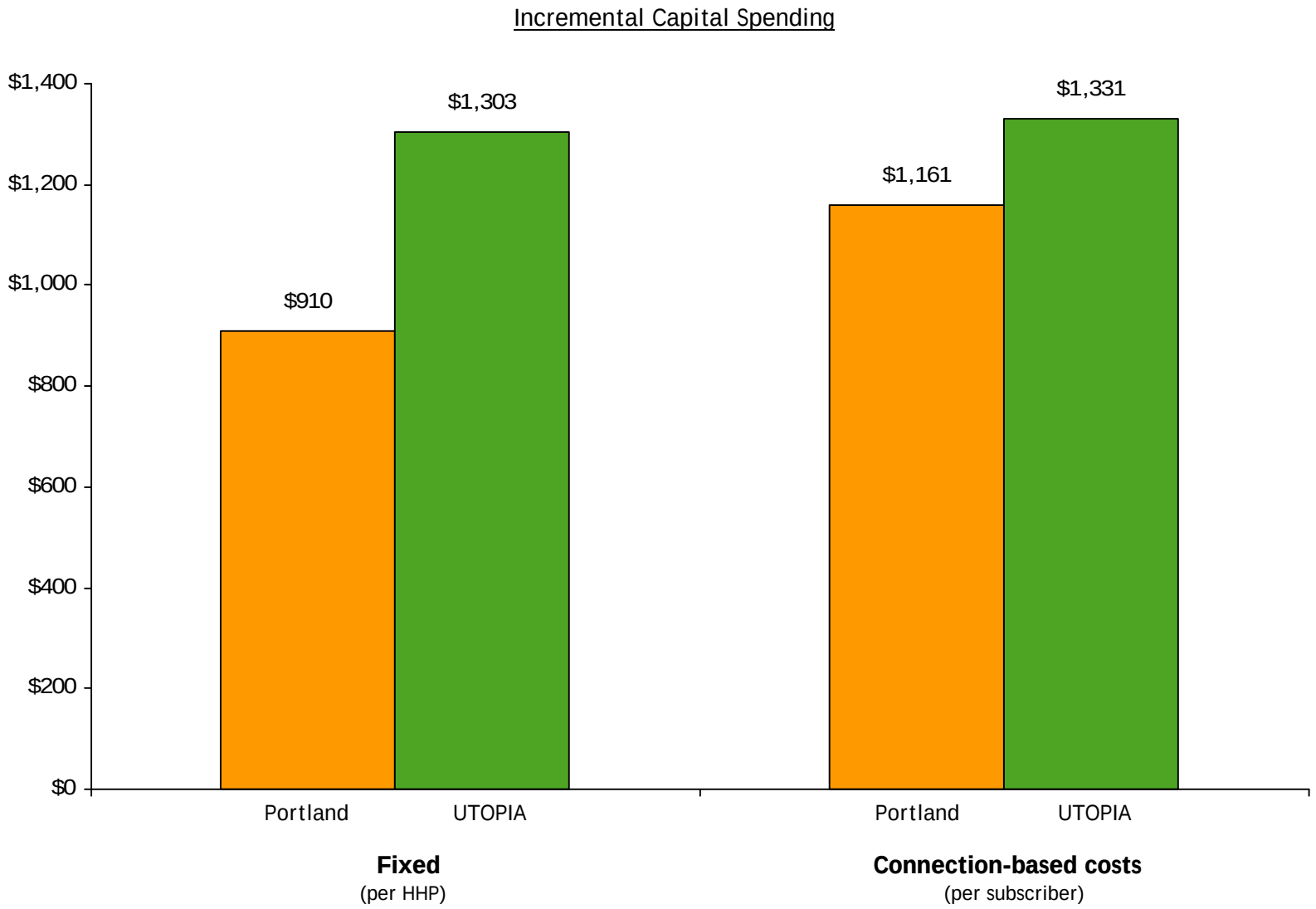
Portland's density and aerial plant make it less expensive to construct than UTOPIA



Source: DynamicCity

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Financing Assumptions

	Tranche 1	Tranche 2	Total
	(Millions)		
Construction Fund	$ 177.9	$ 203.5	$ 381.4
Debt Reserve	21.0	24.0	45.0
Capitalized Interest	16.7	17.5	34.2
Issuance Costs	4.4	5.0	9.4
Total Debt	$ 220.0	$ 250.0	$ 470.0

Interest Rate assumed to be ~5.5%

Amortization assumed to be 25 years

Portland pro forma Income Statement

	Projected Data - Calendar Year										
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Homes Passed	36,195	100,439	166,305	233,203	263,606	263,606	263,606	263,606	263,606	263,606	263,606
Homes Connected	8,192	33,994	70,662	111,968	134,266	138,034	139,838	140,691	141,096	141,286	141,376
Take Rate	23%	34%	42%	48%	51%	52%	53%	53%	54%	54%	54%
	(in thousands)										
Operating Revenue	$ 3,437	$ 18,534	$ 46,988	$ 77,148	$ 100,869	$ 107,742	$ 111,972	$ 115,574	$ 119,031	$ 122,642	$ 128,107
Operating Expenses											
Network Costs	$ (4,063)	$ (12,797)	$ (22,717)	$ (32,449)	$ (37,077)	$ (36,977)	$ (38,728)	$ (40,128)	$ (41,124)	$ (42,667)	$ (44,496)
Agency Operating Costs	(3,143)	(2,263)	(1,730)	(1,763)	(1,797)	(1,832)	(1,868)	(1,906)	(1,944)	(1,983)	(2,024)
Operating Expenses	$ (7,207)	$ (15,060)	$ (24,447)	$ (34,212)	$ (38,874)	$ (38,809)	$ (40,596)	$ (42,033)	$ (43,068)	$ (44,650)	$ (46,520)
Operating Income (Loss)	**$ (3,770)**	**$ 3,474**	**$ 22,542**	**$ 42,936**	**$ 61,995**	**$ 68,933**	**$ 71,375**	**$ 73,541**	**$ 75,963**	**$ 77,991**	**$ 81,587**
Other Income (Expense)											
Depreciation	(4,608)	(12,202)	(21,584)	(30,125)	(36,008)	(33,544)	(30,396)	(30,030)	(29,571)	(30,983)	(33,889)
Interest Expense	(11,066)	(11,204)	(26,579)	(26,823)	(27,141)	(26,777)	(26,223)	(25,512)	(24,830)	(23,990)	(23,167)
Interest Income	4,394	2,695	1,535	1,631	1,688	1,744	1,800	1,856	1,913	1,969	2,025
Other Income (Expense)	$ (11,280)	$ (20,710)	$ (46,627)	$ (55,317)	$ (61,461)	$ (58,577)	$ (54,819)	$ (53,685)	$ (52,488)	$ (53,005)	$ (55,030)
Net Income (Loss)	**$ (15,050)**	**$ (17,236)**	**$ (24,086)**	**$ (12,381)**	**$ 534**	**$ 10,356**	**$ 16,556**	**$ 19,856**	**$ 23,475**	**$ 24,986**	**$ 26,557**
Debt Coverage	**NA**	**NA**	**NA**	**1.69**	**1.87**	**1.70**	**1.76**	**1.81**	**1.87**	**1.92**	**2.01**

Total Capital Spending = $422M
Long Term Debt = $470M

Note: "Homes" includes residential and business units. Also abbreviated to "HHP"

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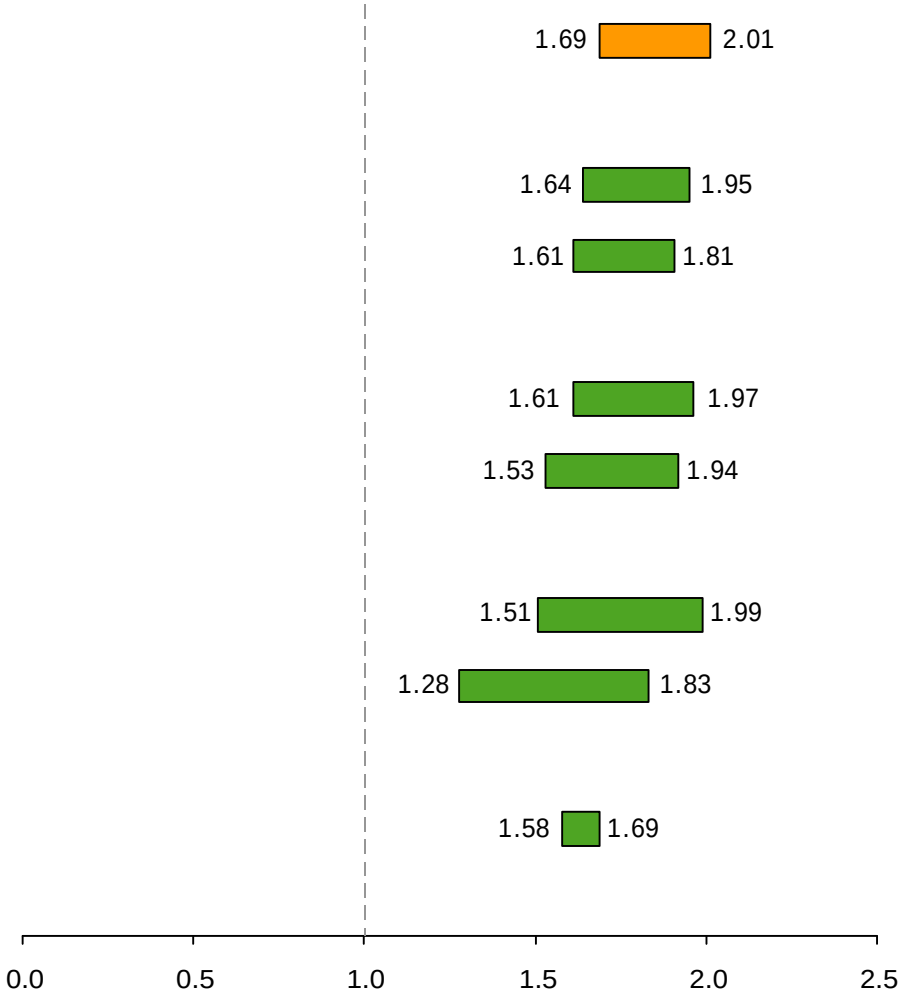
A number of downside scenarios could impact the project

- Aerial to underground
  - Foreign owned poles may be difficult to get attachment agreements
  - Differences between pole availability in CAD data vs. actual field conditions can be expected
  - Cursory field inspection reveals that many poles will require make-ready work
- Higher interest rate
  - Future interest rates could be less favorable than today
- Start up delays
  - Difficulty acquiring cabinet sites and pole attachment approvals could delay marketability of footprints
  - Service providers may need additional time to develop products, design marketing program, and integrate systems
- Less ARPU growth
  - Service providers may require future wholesale price reductions to preserve margins and profitability

Although the downside scenarios require additional cash, all scenarios remain feasible

Scenario		Additional Cash	Debt Coverage
Base Case		--	1.69 – 2.01
Aerial to Underground	10%	$ +15M	1.64 – 1.95
	15%	$ +25M	1.61 – 1.81
Interest Rate	6.0%	$ +2M	1.61 – 1.97
	6.5%	$ +6M	1.53 – 1.94
Start Up Delay	+3 Mos	$ +2M	1.51 – 1.99
	+6 Mos	$ +15M	1.28 – 1.83
Less ARPU Growth	1%/3%	$ +6M	1.58 – 1.69



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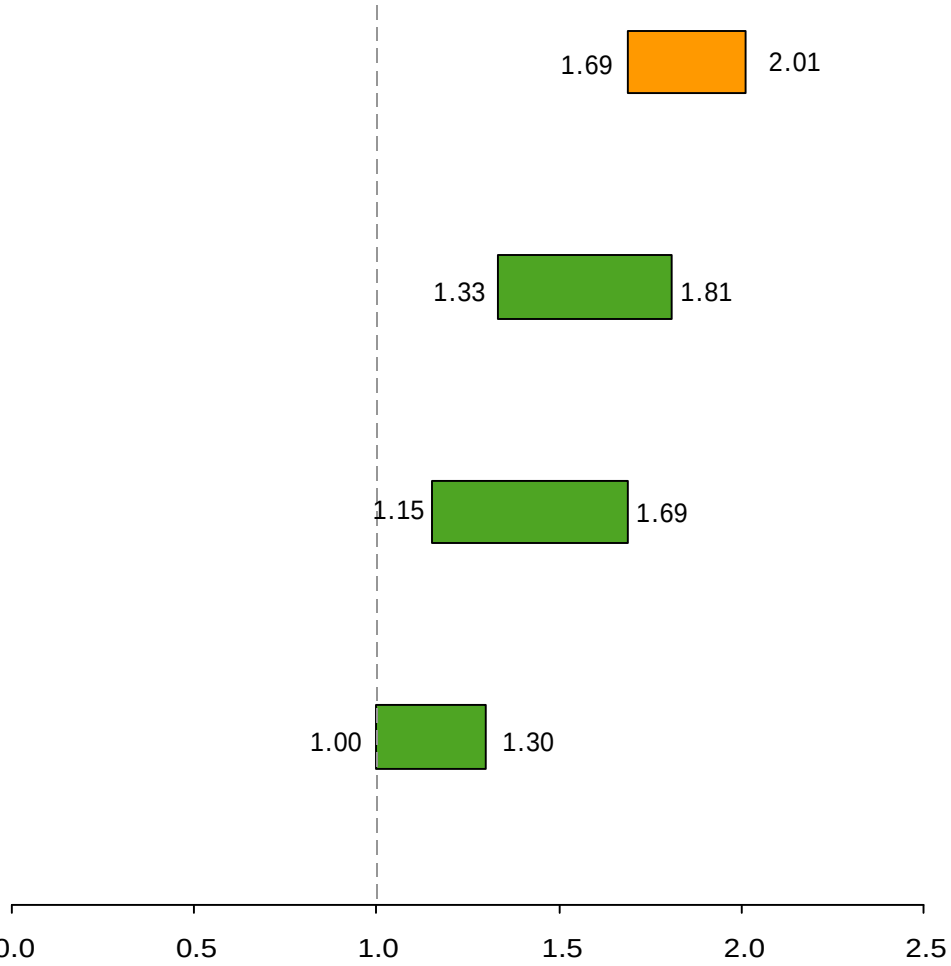
The project is robust enough to withstand combinations of downside scenarios

Combined Scenarios		Additional Cash
Base Case		--
Scenario I	Aerial to Buried = 10% Interest Rate = 6.0% Start up delay = +3 mos	$ +40M
Scenario II	Aerial to Buried = 10% Interest Rate = 6.0% Start up delay = +6 mos	$ +53M
Scenario III	Aerial to Buried = 15% Interest Rate = 6.5% Start up delay = +6 mos Less ARPU growth = 1% / 3%	$ +86M



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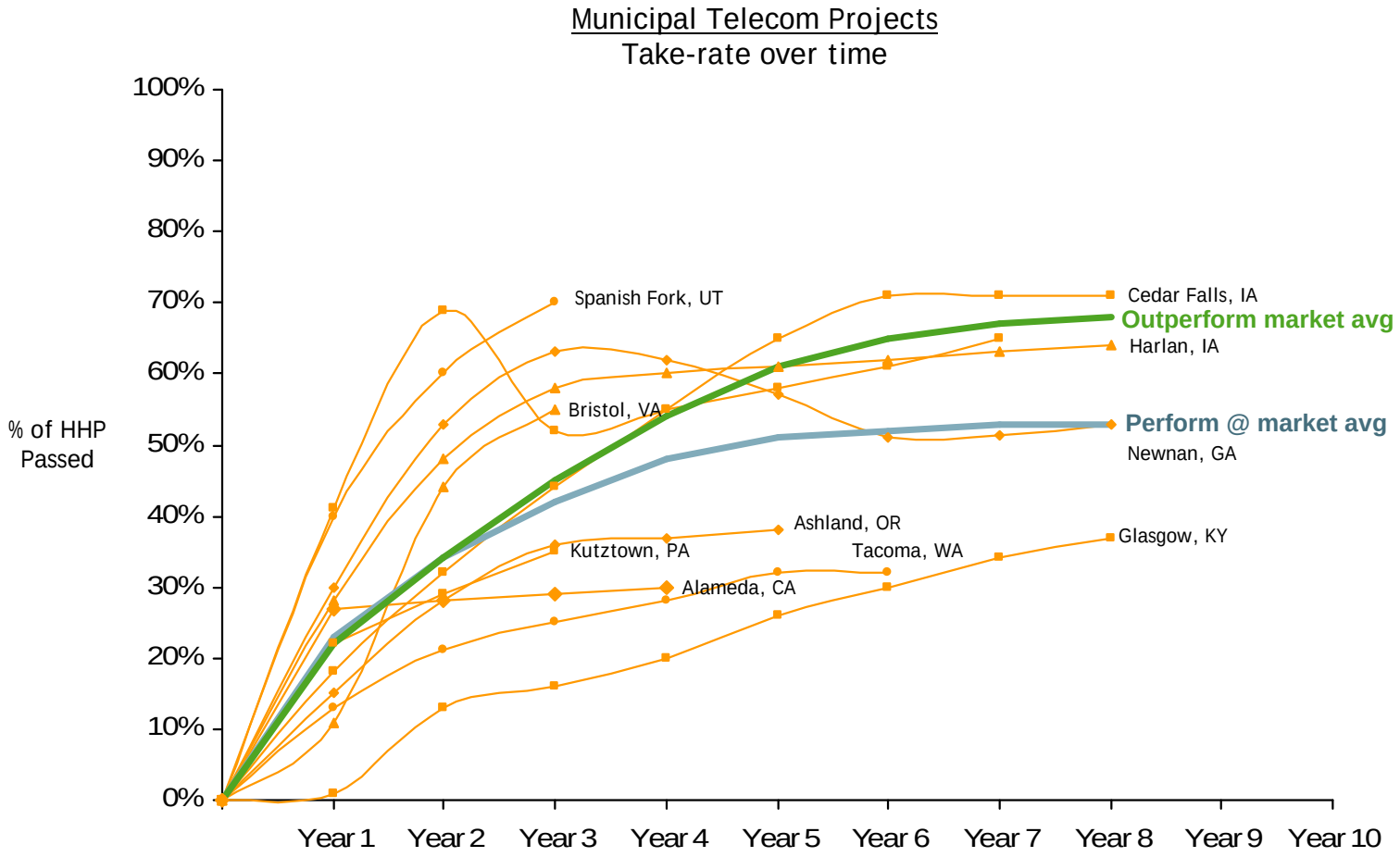
Given Portland's high Internet penetration, the network could be expected to out-perform most other municipal projects



Source: Dean & Company, DynamicCity

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