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October 26, 2012

Via ECFS

Marlene Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: American Cable Association (“ACA”), Ex Parte Meeting on Connect America Fund, WC Docket No. 10-90 and High-Cost Universal Service Support, WC Docket No. 05-337

Dear Ms. Dortch:

On October 24, 2012, Ross Lieberman (ACA), Ed Naef and Samuel Kornstein (CSMG, consultants to ACA), and the undersigned, Thomas Cohen (Kelley Drye & Warren LLP), met separately with: Priscilla Delgado Argeris, Legal Advisor to Commissioner Rosenworcel; Angela Kronenberg, Wireline Legal Advisor to Commissioner Clyburn; and Nicholas Degani, Legal Advisor to Commissioner Pai. The purpose of each meeting was to discuss the Commission’s Connect America Fund Phase II cost model proceeding and the *ex parte* submitted on October 23, 2012 by ACA, which is attached. Also attached is a presentation, “CAF Phase II Cost Modeling,” used at each meeting. ACA is most concerned that Phase II support made available to price cap local exchange carriers (“LECs”) pursuant to the cost model (1) only be used in areas where there is no current or potential private sector business case for deployment and (2) be provided as efficiently, that is, it should be no more than the amount required to provide the Commission’s mandated 4/1 Mbps broadband service to the particular location.

In each meeting, ACA focused primarily on the issue of ensuring the cost model results in the efficient distribution of support and the enormous consequence of choosing either the ABC Coalition (price cap local exchange carrier (“LEC”)) greenfield fiber to the DSLAM (“FTTD”) model design or ACA’s proposed brownfield FTTD model design. From a physical standpoint, these two models employ the same architecture and network facilities – fiber feeder from the central office to the DSLAM and copper from the DSLAM to the premises. Yet, from a cost perspective, the greenfield FTTD build results in much greater amounts of support based on the fiction that the entire network

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from the central office to the premises is being built anew. In contrast, a brownfield FTDD model bases support on the fact that (1) where broadband service does not exist, the only new construction is new fiber feeder plant from the central office to the DSLAM and existing copper is re-used from the DSLAM to the premises and (2) where broadband service exists and the location is higher-cost, no new plant is being built and only maintenance and operational costs need to be recovered.

ACA began by raising the point that during the development of the CAF program the price cap LECs argued that they should receive a right of first refusal to receive support to build broadband in high cost areas they serve because they already had deployed infrastructure in those areas, and it would be wasteful for the Commission to strand that investment, much of which had been built using high-cost universal service support.¹ However, in proposing a greenfield FTDD build for the cost model, the price cap carriers are now effectively asking the Commission to ignore that existing infrastructure and instead give them funding as if they are going to build completely new infrastructure (which will in fact not occur).

ACA next elaborated on the substantial inefficiencies that arise from using a greenfield FTDD model by discussing results from recent “post-Workshop” runs of the CostQuest model (CQBAT model) submitted by the ABC Coalition:

First, the model demonstrates that a brownfield FTDD build can serve the same number of unserved and higher-cost locations as the greenfield FTDD build for approximately \$1 billion less annually or \$5 billion less over the five year lifetime of Phase II support. The funding saved by a brownfield build could be used to reduce the universal service contribution rate paid by consumers or, as discussed below, expand the number of unserved homes that will receive broadband service.

Second, the model demonstrates that for the same amount of support, a brownfield FTDD build can serve a total of 8.4 million locations (including virtually all unserved locations) versus the 3.8 million locations served with a greenfield FTDD build.²

¹ See e.g., Joint Comments of AT&T, CenturyLink, Fairpoint, Frontier, Verizon, and Windstream, Connect America Fund, WC Docket No. 10-90 et. al. at 12-13 (Aug. 24, 2011); Joint Reply Comments of AT&T, CenturyLink, Fairpoint, Frontier, Verizon, and Windstream, Connect America Fund, WC Docket No. 10-90 et. al. at 11-16 (Sept. 6, 2011). (“The Plan’s right of first refusal is not designed to “tilt the competitive landscape in favor of the Price Cap incumbents,” as some contend. Instead, it is a narrowly-targeted means of accelerating broadband deployment and preventing inefficient duplication of existing facilities. In short, it identifies those wire centers where a provider has made significant progress in deploying joint-use voice and broadband facilities and gives that provider an opportunity to extend those facilities to unserved households and businesses in those wire centers.”)

² Of the 3.8 million locations served under the ABC Coalition greenfield FTDD build, 1.8 million already have broadband service of 4/1 Mbps.

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The consequences of using a greenfield FTDD model extends beyond wasting \$5 billion dollars of consumer universal service contributions or failing to serve the nation's unserved homes. Private, unsupported entities will be harmed because price cap LECs will use the "excessive" funds to compete with them in unsupported areas. That is, because after using subsidies to either build the limited FTDD network (where existing copper continues to be used from the DSLAM to the location) or for maintenance and operations of existing 4/1 Mbps broadband plant (almost 50% of the supported locations), a price cap LEC has every incentive to use the remaining support where it can earn the best return on its investment – which is almost certainly in a lower cost service territory (assuming the remainder is not paid out to price cap LEC shareholders.) This is contrary to the Commission's objective of enabling growth in private sector deployments.

Finally, the model demonstrates that the amount of support per location that would be provided on average in a greenfield FTDD build is virtually identical to the amount of support in a greenfield FTTH build -- approximately \$50/location/month in both instances. Yet, the broadband performance capabilities of these two networks are dramatically different – 4/1 Mbps (potentially 6/1.5 Mbps) for FTDD versus 100+ Mbps-1 Gbps currently for FTTH. Thus, if the Commission bases support on a greenfield FTDD model, it will be "paying" for an FTTH network but getting far inferior performance – performance that is in fact inferior to that provided today on most non-FTTH networks. If the Commission decides not to reduce the amount of support that the price cap LECs will receive or increase the number of unserved housing units they are required to serve, then the Commission should at least require them to use the support to build FTTH facilities to the 3.8 million housing units in the ABC Coalition plan.

ACA closed by discussing the many reasons why a brownfield FTDD build will provide price cap LECs with sufficient support to deliver broadband service to 8.4 million higher-cost and unserved locations:

- The brownfield model includes a 9% unlevered rate of return, which is above the cost of capital for price cap LECs.
- ACA accepts the cost floor proposed by the ABC Coalition, which triggers their willingness to accept support for 3.8 million higher-cost housing units.
- The CQBAT model overestimates a number of inputs, including SG&A costs.

And, if support is rejected, it is not necessarily because support is not sufficient. Rather, the Commission should recognize that each of the price cap LECs has different parameters that drive their overall strategic investment decisions.

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This letter is being filed electronically pursuant to section 1.1206 of the Commission's rules.

Sincerely,



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Counsel for the American Cable Association

Attachments: American Cable Association October 23, 2012 Ex Parte Presentation
American Cable Association "CAF Phase II Cost Modeling"

cc: Priscilla Delgado Argeris
Angela Kronenberg
Nicholas Degani

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Via ECFS

Marlene Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: American Cable Association (“ACA”), *Ex Parte* Presentation: In the Matter of Connect America Fund, WC Docket No. 10-90, High-Cost Universal Service Support, WC Docket No. 05-337

Dear Ms. Dortch:

On September 13 and 14, 2012, the Wireline Competition Bureau held its Connect America Phase II Cost Model Workshop focusing primarily on the design and mechanics of the CostQuest CQBAT model submitted by the ABC Coalition.¹ ACA representatives participated in the workshop and found it to be productive in clarifying issues and improving our understanding of that model. As a result, ACA has reconsidered and refined the arguments and conclusions it presented in its comments and *ex parte* filings² and presents them in this submission. Once again, results from new runs with the CQBAT model demonstrate that a brownfield approach more accurately depicts the actual costs incurred and provides greater

¹ See Wireline Competition Bureau Announces Connect America Phase II Cost Model Workshop, WC Docket Nos. 10-90, 05-337, Public Notice, DA 12-1313 (Aug. 20, 2012).

² See American Cable Association Comments on Public Notice DA 12-911: Model Design and Data Inputs for Phase II of the Connect America Fund, WC Docket Nos. 10-90, 05-337 (July 9, 2012); American Cable Association Reply Comments on Public Notice DA 12-911: Model Design and Data Inputs for Phase II of the Connect America Fund, WC Docket Nos. 10-90, 05-337 (July 23, 2012) (“ACA Reply Comments”); *Ex Parte*, American Cable Association, WC Docket Nos. 10-90, 05-337 (Aug. 3, 2012); *Ex Parte*, American Cable Association, WC Docket Nos. 10-90, 05-337 (Sept. 7, 2012).

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benefits more efficiently than the greenfield approach proposed by the ABC Coalition. By using the brownfield approach as the basis for the cost model, the Commission can bring broadband service to virtually all unserved locations in the United States and support locations in higher-cost areas. ACA considers using a brownfield model a major opportunity and encourages the Commission to seize it.

I. ISSUES CLARIFIED BY COSTQUEST AT THE WORKSHOP

During the workshop, CostQuest clarified many important points about the CQBAT model, including several of particular importance when considering use of a brownfield model. First, in previous filings the ABC Coalition raised several primary concerns about use of a brownfield methodology. The following were the responses from CostQuest at the workshop:

- **ABC Coalition Argument**: A brownfield methodology is not consistent with a forward looking cost model.³
- **CostQuest Response**: The CQBAT brownfield model is in fact consistent with a forward looking cost model.

Therefore, a brownfield methodology meets the FCC's requirement that subsidies be based on a forward looking cost model.

- **ABC Coalition Argument**: “[Brownfield] fails to consider the costs associated with the existing infrastructure.”⁴
- **CostQuest Response**: A brownfield model can be run to calculate both operating expenses associated with existing infrastructure and capital recovery for new investment by running a greenfield scenario with certain capital expenditure charge factors set to zero.

Accordingly, the model can be used to accurately estimate the operating costs associated with existing infrastructure, including last-mile copper.

³ See Comments of United States Telecom Association, AT&T, CenturyLink, Fairpoint Communications Frontier Communications, Verizon, and Windstream Communications, WC Docket Nos. 10-90, 05-337 (July 9, 2012) at 3 (“ABC Coalition Comments”).

⁴ *Id.* at 15.

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- **ABC Coalition Argument**: “[Brownfield] excludes the stranded costs of those parts of the network that will need to be replaced, such as copper feeder, even where the equipment is not fully depreciated.”⁵
- **CostQuest Response**: The cost of replacing items of plant other than retirement units, rearranging and changing the location of plant, repairing material for reuse, and restoring the condition of plant damaged by storms, floods, fire, or other casualties are all included in the model’s operating expenses. In addition, replacement costs beyond routine operating expenses could be included by adjusting the annual charge factors.

As a result, the model can estimate replacement costs of copper plant under a wide range of assumptions.

Second, CostQuest discussed whether the National Broadband Map and Warren Media data are comprehensive and stated that in fact the data underestimates areas served by unsubsidized providers. This is problematic for a variety of reasons, including because the CQBAT model designates any census block with fewer than 35 locations/mile as unserved and new service may have been deployed since the model’s input data were last updated. This means that while the map is a useful proxy for modeling purposes, for it to ensure unsupported providers are not overbuilt, it would need to be updated prior to the determination of areas where subsidies would be distributed, and there should be a process allowing unsupported providers to challenge an award before subsidies are distributed.

Third, CostQuest indicated that both the greenfield and brownfield variations of the model include capital recovery for locations that already have broadband provided by price cap carriers. Thus, capital recovery would be provided for locations where investment is taking place.

II. RATIONALE FOR ADOPTING A BROWNFIELD MODEL

In its previous submissions in the dockets, ACA set forth the rationale for adopting a brownfield methodology for the cost model. With updated information supplied by CostQuest at the workshop and subsequent runs of the CQBAT model based on this information, ACA submits the case for using a brownfield build is even more persuasive as it is now clear that a brownfield build can be modeled to include operating expenses associated with existing infrastructure, such as copper plant. In brief, a brownfield build would distribute support more

⁵ *Id.* at 17.

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efficiently, ensuring the maximum number of unserved locations would get broadband service for the first time and the currently served higher-cost locations would have sufficient support for the continued provision of service. Moreover, the amount of support gives the price cap carriers a more than sufficient return on their investment.

A. Greenfield FTTD is Greenfield FTTH

At the outset, it is important to understand that although a fiber-to-the-DSLAM (“FTTD”) network’s broadband performance is only a fraction of that provided by a fiber-to-the-home (“FTTH”) network, the greenfield FTTD deployment proposed by the ABC Coalition requires nearly the same investment and subsidies as a greenfield FTTH deployment. Specifically, the ABC Coalition requests a subsidy of \$2.2 billion per year for five years to cover 3.8 million higher-cost housing units with an average subsidy of \$48.88/location/month.⁶ A similarly structured greenfield FTTH plan – covering 3.8 million higher-cost housing units with a subsidy of \$2.2 billion per year – would result in an average subsidy of \$49.27/location/month.⁷

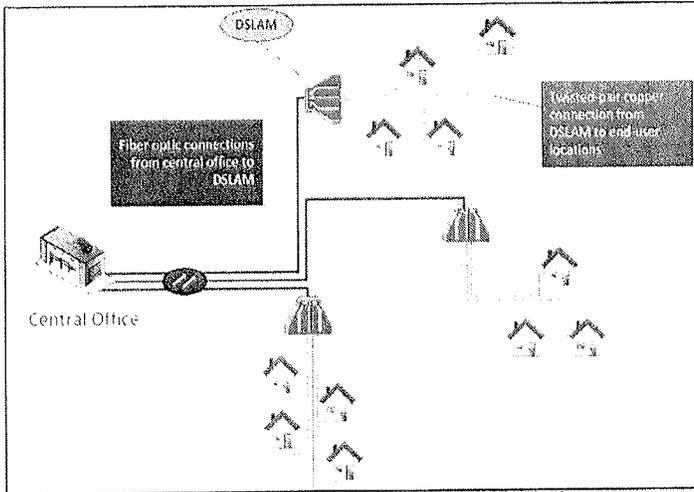
Because the Commission only requires Phase II recipients to provide broadband service at a speed of 4/1 Mbps and permits recipients of support to use any technology to meet this requirement, there is every reason to expect that a price cap LEC will expend the minimal amount of capital to achieve the Commission’s objectives. Thus, under the ABC Coalition’s FTTD proposal the Commission would pay for the equivalent of greenfield FTTH but only receive brownfield FTTD. In sum, the greenfield approach is inconsistent with the Commission’s effective infrastructure investment mandate and includes enormously excessive recovery for costs of plant that will not actually be built.

⁶ Subsidies are based on the ABC Coalition proposal, which estimates coverage based on an \$80/month cost floor and \$256/month cost ceiling. The proposal has 0.65 million locations above the cost ceiling.

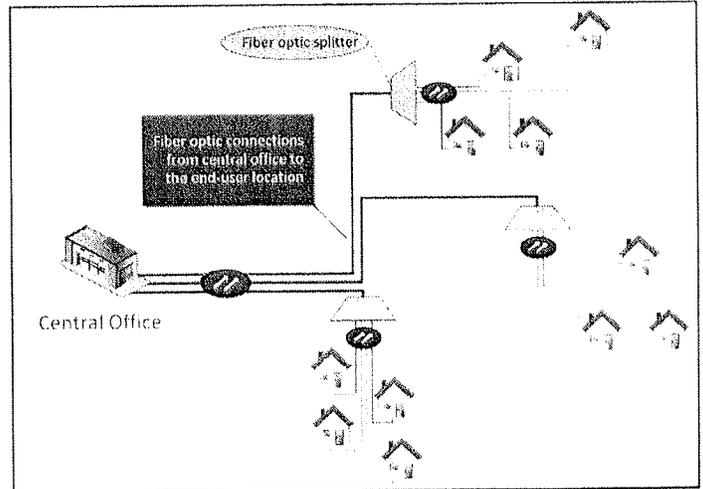
⁷ Subsidies are based on a CQBAT Fiber-to-the-Premises model, which estimates coverage based on an \$74.50/month cost floor and \$256/month cost ceiling. The model has 0.66 million locations above the cost ceiling.

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Greenfield Fiber-to-the-DSLAM



Greenfield Fiber-to-the-Home



Source: FCC Wireline Competition Bureau Public Notice⁸

B. Baseline Results from the CostQuest Model Comparing Greenfield and Brownfield FTTD Builds

1. Introduction

Before examining further the costs and benefits of greenfield and brownfield FTTD builds (both of which are based on having fiber from the central office to the DSLAM and then copper from that aggregation point to the location), it is important to understand in greater detail the results each approach delivers – i.e. what the Commission gets for providing support. As discussed above, the ABC Coalition proposal would access a subsidy of \$2.2 billion per year for five years to cover 3.8 million higher-cost housing units with an average subsidy of \$48.88/location/month. The CQBAT model shows that a brownfield plan that takes existing infrastructure into account and also covers 3.8 million higher-cost housing units would require only 45-54% of the subsidies included in the ABC Coalition’s proposal (to be discussed in detail in Section 2-C).

⁸ See Wireline Competition Bureau Seeks Comment on Model Design and Data Inputs for Phase II of the Connect America Fund, WC Docket Nos. 10-90, 05-337, Public Notice, DA 12-911 (Jun. 8, 2012) at 8-9.

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These calculations can be further refined, providing greater context for analysis of each the greenfield and brownfield methodology. According to the National Broadband Map and Warren Media data, there are 16.2 million housing units that today are served only by the incumbent local exchange carrier (“ILEC”). Of these housing units, ILECs already provide broadband service meeting the Commission’s benchmark of 4/1 Mbps to 9.2 million housing units (57%).⁹ The majority of these locations have lower cost profiles and should not receive subsidies. However, a subset of these locations have higher-cost profiles and may receive support under the Commission’s previous high-cost regime. ACA agrees these higher-cost locations should continue to receive subsidies to the extent they are required to maintain existing infrastructure. The other 7.0 million housing units (43%) do not have broadband that meets the FCC speed benchmark, i.e. they are truly unserved, although some may have access to broadband service from the incumbent at lower speeds.

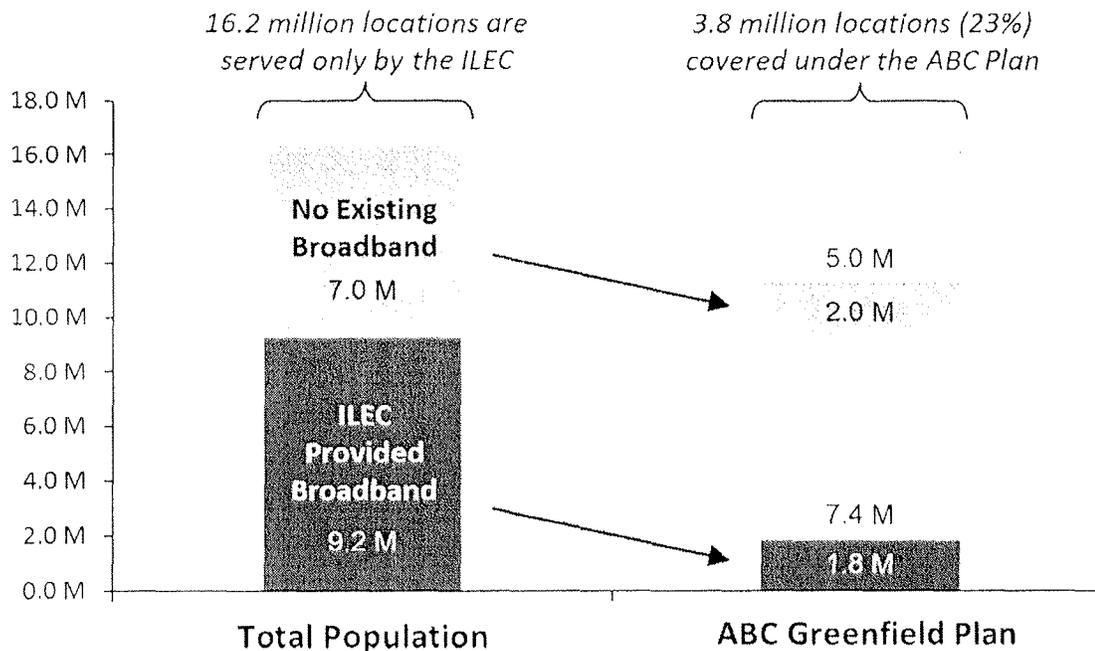
2. The ABC Coalition Proposal (Greenfield FTDD) Uses the CAF Phase II Subsidy to Bring Broadband to 2.0 Million Housing Units and Support Broadband Already Provided to 1.8 Million “Higher-Cost” Housing Units

The ABC Coalition proposal would cover a total of 3.8 million housing units (23%) of the 16.2 million that are served today only by the incumbent by using a greenfield FTDD model with an \$80 cost floor (refer to Figure 1):

⁹ According to the CQBAT model \$473 million annually of support included in the ABC Coalition proposal would be available to price cap incumbents in states where more than 60% of the locations covered already have access to broadband service of at least 4/1 Mbps. For example, ILECs would be eligible to receive annual support of \$95 million in Minnesota where 68% of subsidized locations currently have the required broadband service, and \$8 million in Massachusetts where 77% of subsidized locations currently have the required broadband service.

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Figure 1 – Summary of Coverage in the ABC Coalition’s Greenfield Plan



- 2.0 million (53%) of the 3.8 million housing units covered by the proposal do not have broadband (Figure 2, Quadrant 2).
- The proposal includes subsidies for 1.8 million housing units where the ILEC already provides broadband (Figure 2, Quadrant 4).
- The proposal does not cover 4.6 million housing units that do not have broadband because they are below the cost floor (Figure 2, Quadrant 1).

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Figure 2 – Summary of ABC Coalition’s Greenfield Funding Mechanism

	Lower Cost Locations (Below the Cost Floor)	Higher Cost Locations (Above the Cost Floor)
No Broadband	(1) No Requested Coverage 4.6 Million Housing units	(2) Greenfield & Maintenance Subsidies 2.0 Million Housing units
Existing ILEC Broadband	(3) No Requested Coverage 7.2 Million Housing units	(4) Greenfield & Maintenance Subsidies 1.8 Million Housing units

Note: Approximately 0.65 Million Housing Units exceed the cost ceiling and are not included in the above table.

C. A Brownfield Build Would Use Phase II Support to Enable Deployment of Broadband to an Additional 4.6 Million Unserved Housing Units

If the Commission were to employ a brownfield build, it could (within a \$1.8 billion budget awarded annually for five years) expand broadband coverage nationally to nearly all of the 7 million unserved housing units while providing support to the same served housing units covered under the ABC Coalition proposal as follows (refer to Figure 3):

- Fund the 7.0 million housing units that are unserved by the ILECs. Coverage of the 7.0 million housing units will depend on the CAF size, and cost floor and ceiling that determine subsidy eligibility.
 - 4.6 million of these housing units are not included in the ABC Coalition proposal, but could be served with incentive-based subsidies (Figure 3, Quadrant 1)
 - 2.0 million of these housing units are included in the ABC Coalition proposal and would require a brownfield build and additional maintenance expenses associated with the last mile of the copper loop (Figure 3, Quadrant 2)

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- 0.4 million of these housing units are above the cost ceiling in the model and would not be included in the Phase II program, i.e. would become part of the Remote Areas Fund.
- Continue to support only the subset of the 9.2 million housing units with existing ILEC broadband that have higher-costs and which may require maintenance subsidies to maintain broadband coverage. The ABC Coalition proposal provides the specifics of which housing units with existing ILEC broadband are higher-cost locations that require subsidies to maintain coverage:
 - The ABC Coalition proposal includes subsidies for the 1.8 million housing units with existing ILEC broadband that are above the \$80 benchmark. These higher-cost locations are represented in Figure 3, Quadrant 4 below. ACA agrees that subsidy coverage may need to be maintained for the these 1.8 million higher-cost locations; however, only maintenance and operating expenses would be required since the locations already have existing operational broadband that meets the Commission's broadband speed benchmark.
 - The ABC Coalition did not ask for subsidies for lower-cost housing units with existing ILEC broadband (i.e., housing units below the \$80 cost floor in the ABC Coalition's proposal), and hence ACA assumes that maintenance funding for these locations is not necessary. These locations are represented in Figure 3, Quadrant 3 below. This implies that 7.2 million of the 9.2 million (78%) locations with existing ILEC broadband are economically viable and do not need support to maintain coverage.
 - The remaining 0.2 million housing units are above the cost ceiling in the model and would not be included in the Phase II program, i.e. would become part of the Remote Areas Fund.
 - ACA believes the higher-cost threshold in the ABC Plan is reasonable, as the most expensive 10% of the census block groups with unsupported broadband providers have similar cost characteristics as the census block groups receiving funds in the ABC Coalition proposal:
 - The \$80 cost floor is the threshold that the ABC Coalition uses to define higher-cost locations that require subsidies.

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- Many locations below this threshold have costs that allow for an unsupported provider and approximately 10% of census blocks that do not receive subsidies have average costs above the \$80 floor.

Figure 3 – Summary of Brownfield Funding Mechanism

	Lower Cost Locations (Below the Cost Floor)	Higher Cost Locations (Above the Cost Floor)
No Broadband	(1) Brownfield Incentive Subsidies 4.6 Million Housing units	(2) Brownfield & Maintenance Subsidies 2.0 Million Housing units
Existing ILEC Broadband	(3) No Required Coverage 7.2 Million Housing units	(4) Maintenance Subsidies 1.8 Million Housing units

Note: Approximately 0.65 Million Housing Units exceed the cost ceiling and are not included in the above table.

ACA contends – and submits the CQBAT model shows – that for the Commission’s proposed annual subsidy of \$1.8 billion, new broadband infrastructure can be built and service offered to nearly all of the 7.0 million housing units that lack coverage today, and subsidies can be maintained for the 1.8 million higher-cost locations with existing ILEC broadband.¹⁰ ACA

¹⁰ ACA has worked extensively with the CQBAT and believes it contains inaccurate assumptions which inflate the amount of support per location. For instance, SG&A costs are likely overstated as they are linearly linked to capital expenses. ABC Coalition members, who are large operators with scale, generally have operating leverage for SG&A costs and, as revenues increase, the incremental SG&A expense per dollar of revenue declines. The cost model does not account for this reality. Moreover, the FCC should not provide an incentive for inefficient structures. In addition, as ACA has demonstrated in its comments, the WACC is likely too high given low interest rates and analyst projections for price cap LECs. (See ACA Reply Comments, Appendix II.) Further, the plant mix assumptions should include a greater proportion of aerial plant which is cheaper to build. ACA’s analysis in this section sets aside these concerns, and,

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provides below the details for its approach – brownfield FTTD – which includes maintenance support for copper infrastructure (from the DSLAM to the location). This work is based on information obtained in the FCC’s workshop with subsequent runs of the CQBAT model, and was developed to illustrate the magnitude of certain cost modeling inaccuracies inherent in the ABC Coalition’s proposed greenfield methodology:

- Subsidies for 2.0 million unserved higher-cost housing units with no broadband service would total between \$623 million-\$830 million per year.¹¹ The true subsidy requirement likely falls between these two estimates.
- Subsidies for the 1.8 million housing units with existing ILEC broadband (using a “maintenance only” model) would total an estimated \$362 million per year.¹²

as a result, the subsidy amounts would likely decrease if these concerns are properly addressed.

¹¹ To estimate the brownfield subsidy cost for these 2.0 million housing units that lack existing broadband that meets the FCC speed benchmark, ACA ran two variations of the ABC Coalition proposal in CQBAT:

The first scenario is identical to the ABC Coalition proposal except that it excludes copper CapEx (but maintains maintenance for the amount of copper CapEx included in the ABC Coalition proposal). This scenario would require annual subsidies of \$830 million or \$415/location/year. This scenario likely overstates costs because it includes CapEx for last mile poles and conduit, which already exist in the network. (Note: Subsidy estimates are based on a variation of the ABC Coalition proposal where annual charge factors for copper are set to zero. Coverage and subsidies were initially estimated for the 3.8 million higher-cost housing units based on a \$55/month cost floor and \$175/month cost ceiling, which results in 0.66 million locations above the cost ceiling. To estimate the subsidies for only the 2.0 million locations without existing broadband, required subsidies were scaled at the census block level by the proportion of locations in each census block without existing broadband.)

The second scenario is identical to the ABC Coalition proposal except that it excludes copper, pole, and conduit CapEx (but maintains maintenance for the amount of copper, poles, and conduit CapEx included in the ABC Plan). This scenario would require annual subsidies of \$623 million or \$313/location/year. This scenario likely understates costs because it excludes CapEx for poles/conduit that would be needed to extend fiber to DSLAM locations. (Note: Subsidy estimates are based on a variation of the ABC Coalition proposal where annual charge factors for copper, poles, and conduit are set to zero. Coverage and subsidies were initially estimated for the 3.8 million higher-cost housing units based on a \$47.5/month cost floor and \$138/month cost ceiling, which results in 0.66 million locations above the cost ceiling. Subsidy estimates were scaled using the same approach as the first scenario.)

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These locations should not need any upfront CapEx because they already have ILEC broadband that meets the Commission's broadband performance requirements but would need ongoing maintenance support.

- In sum, based on these more accurate cost modeling approaches, the required subsidy for the 3.8 million housing units included in the ABC Coalition proposal is between \$986M and \$1,193M, or 45-54% of the ABC Coalition's "greenfield" \$2.2B subsidy requirement.
- Assuming a total annual subsidy amount of \$1.8B, there would be \$607M-\$814M remaining. This funding could be used to provide additional subsidy funding to bring broadband to all of the 4.6 million lower-cost housing units where the ILEC does not currently provide broadband service. While the ABC Coalition did not request subsidy funding for these locations, an incentive subsidy could be provided to further the Commission's objective of expanding broadband to unserved locations.
- Since these locations were not categorized as 'Higher-Cost' locations that require support in the ABC Coalition's proposal, they likely have economically viable maintenance costs for the existing copper loop in place for telephone service. Accordingly, if any incentive is provided, the most appropriate model would be a brownfield scenario with no added maintenance costs for the existing copper in the last mile. Based on ACA runs of the CQBAT model, it estimates that one such brownfield scenario can cover all of these 4.6 million housing units for an annual subsidy of \$503M or \$109/location/year.¹³

¹² To estimate the maintenance only subsidy requirement for these 1.8 million housing units, ACA ran a scenario that is identical to the ABC Coalition proposal except that it excludes all CapEx (*e.g.*, copper, poles, conduit, fiber, etc.), but maintains maintenance for the full amount of CapEx included in the ABC Plan. This scenario would require annual subsidies of \$362 million, or \$200/location/year. (Note: Subsidy estimates are based on a variation of the ABC Coalition proposal where all annual charge factors are set to zero. Coverage and subsidies were initially estimated for the 3.8 million higher-cost housing units based on a \$35/month cost floor and \$98.5/month cost ceiling, which results in 0.66 million locations above the cost ceiling. To estimate the subsidies for only the 1.8 million locations with existing ILEC broadband, required subsidies were scaled at the census block level by the proportion of locations in each census block that have existing ILEC broadband.)

¹³ Subsidy estimates are based on a brownfield model in CQBAT. Coverage and subsidies were initially estimated for lower-cost housing units based on a \$6/month cost floor and

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- Combining the estimation approaches described above, the following outcome can be achieved (refer to Figure 4):
 - For an estimated annual subsidy of \$1.5-\$1.7 billion, 100% of all housing units without broadband and 100% of the “Higher-Cost” housing units with and without broadband that were included in the ABC Coalition proposal can be covered (excluding locations above the alternative technology cutoff, as defined in the proposal)

Figure 4 – Summary of Brownfield Funding Mechanism Subsidies: \$1.5B-\$1.7B:

	Lower Cost Locations	Higher Cost Locations
No Broadband	(1) Brownfield Incentive Subsidies 4.6 of 4.6 Million Housing units (100%) Annual Subsidy: \$503M	(2) Brownfield & Maintenance Subsidies 2.0 of 2.0 Million Housing units (100%) Annual Subsidy: \$623M-\$814M
Existing ILEC Broadband	(3) No Required Coverage 0 of 7.2 Million Housing units (0%)	(4) Maintenance Only Subsidies 1.8 of 1.8 Million Housing units (100%) Annual Subsidy: \$362M

Note: Approximately 0.65 Million Housing Units exceed the cost ceiling and are not included in the above table.

\$22.5/month cost ceiling, which excludes all higher-cost locations. To estimate the subsidies for only the 4.6 million locations without existing ILEC broadband, required subsidies were scaled at the census block level by the proportion of locations in that census block without existing broadband.

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In aggregate, 8.4 million locations would be supported, compared with 3.8 million supported under the ABC Coalition proposal (refer to Figure 5).

Figure 5 – Comparison of Subsidies: Brownfield and Other Support Mechanisms:

Plan Metric	Brownfield Scenario				Comparison Cases			
	Higher Cost No Broadband	Higher Cost ILEC Broadband	Lower Cost No Broadband	Overall	ABC Plan	CAF Phase I	RoR Carriers	RoR Converts
Locations Covered	2.0M	1.8M	4.6M	8.4M	3.8M	-	-	-
Annual Subsidy	\$623-\$830M	\$362M	\$503M	\$1,488-\$1,722M	\$2,208M	-	-	-
Annual Subsidy per Location	\$313-\$413	\$200	\$109	\$179-\$207	\$587	-	\$348	\$85
5-Year Subsidy per Location	\$1,566-\$2,074	\$1,001	\$544	\$896-\$1,037	\$2,933	\$775*	\$1,740	\$425

*CAF Phase I provided a one-time subsidy of \$775/location with no subsequent support
 Note: The annual subsidy/subscriber amounts for rate-of-return carriers and “converts” were taken from the Commission’s Connect America Fund NPRM/FNPRM.¹⁵

D. A Brownfield Approach Provides Sufficient Financial Incentives for Price Cap Carriers to Accept Funding

ACA believes there is sufficient evidence to indicate that a brownfield build provides the ABC Coalition ILECs with sufficient support to deliver broadband service to 8.4 million high-cost served and unserved locations. First, ACA’s brownfield approach includes a 9% unlevered rate of return, which is above and beyond their cost of capital. In its Reply Comments in this proceeding,¹⁶ ACA analyzed current market rates, and a 9% return is in excess of the five largest price cap LECs’ cost of capital by 125-400 basis points. Thus, these ILECs should be compensated for their borrowing costs and opportunity costs and will receive an additional return beyond their point of indifference. Additionally, the incentive subsidy structured for the 4.6 million lower-cost housing units where the ILECs do not currently provide broadband service is based on a brownfield model with a cost floor of just \$6. This structure includes subsidy provisions for all housing units, even though they have a significantly lower cost profile than those included in the ABC Coalition proposal. This provides an additional financial incentive for the ABC Coalition ILECs to serve these locations.

¹⁵ See, *In the Matter of Connect America Fund et al.*, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, WC Docket No. 10-90 et al (rel. Feb. 9, 2011) at 58.

¹⁶ See ACA Reply Comments, Appendix II.

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Second, the question of whether the price cap ILECs will have the correct incentive to accept Phase II support also depends on properly establishing the support benchmarks (low-end threshold). Here, ACA accepts the threshold proposed by the ABC Coalition, where 3.8 million higher-cost housing units would be supported.

Third, as ACA indicated earlier in this filing, the CQBAT model “overestimates” the cost of a number of inputs. Once these are properly addressed, support requirements should decline.

Fourth, the Commission should recognize that each of the ILECs in the ABC Coalition has different strategic plans with different drivers for investment. For instance, it is evident from its investment pattern that the largest price cap incumbent, AT&T, prefers investing in its wireless infrastructure, where it believes it can achieve the greater return.¹⁷ Verizon too appears to be favoring wireless investment in rural areas.¹⁸ This is to be expected given the fact these wireless LTE has greater capability and a longer expected useful life than DSL. Thus, ACA believes that if funding established pursuant to a brownfield approach is rejected, it would be for strategic, not financial reasons.

III. CONCLUSION

ACA’s proposed brownfield approach provides a tremendous opportunity for the Commission. As demonstrated by the CQBAT model, it can be used to drive broadband service to virtually all unserved locations in the United States while continuing support for higher-cost locations where ILECs already provide the required broadband service. In contrast, the ABC Coalition’s greenfield build would make inefficient use of billions of dollars of support and would result in first-time service to fewer than one-third of the unserved locations. This presents the Commission with a stark choice.

¹⁷ See e.g., *AT&T Inc. 2011 Annual Report* at 26. Available at: http://www.att.com/Common/about_us/files/pdf/ar2011_annual_report.pdf.

¹⁸ See e.g., Statement of Verizon’s CEO, Lowell McAdam, at the June 21, 2012 Guggenheim Securities Symposium: “In [...] areas that are more rural and more sparsely populated, we have got LTE built that will handle all of those services and so we are going to cut the copper off there. We are going to do it over wireless. So I am going to be really shrinking the amount of copper we have out there and then I can focus the investment on that to improve the performance of it.” Available at: http://www.media-alliance.org/downloads/Verizon_Kill_Copper.pdf.

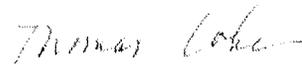
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Finally, the Commission elected to provide the price cap ILECs with a right of first refusal based on the fact that they had existing infrastructure in areas unserved by unsupported providers. A brownfield approach correctly recognizes the existence and value of this infrastructure and consequently does not provide excessive support. Should the Commission opt to use a greenfield approach, there is no reason it should not open access to the support to all potential providers. As demonstrated by the recently held Phase I Mobility Fund action, which was fully subscribed, non-incumbents are ready and willing to use support to bring broadband service to less dense areas.

This letter is being filed electronically pursuant to section 1.1206 of the Commission's rules.

Sincerely,

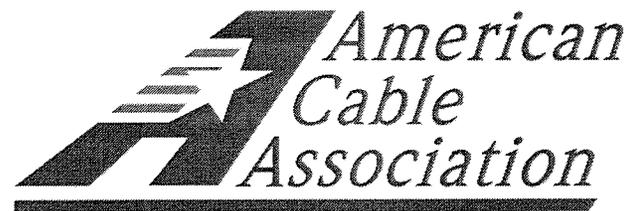


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CAF Phase II Cost Modeling

Overview for the FCC



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There are two approaches being considered to calculate the costs and required subsidies for the CAF Phase II fiber-to-the-DSLAM (FTTD) broadband deployment:

Approach

Applicability

1 Greenfield

- Assume that infrastructure only exists from the network backbone to the central office
- Estimate the cost of building and maintaining all subsequent infrastructure (e.g., copper) from the central office to the end location



Greenfield is generally applicable when:

- The objective is to estimate the entire cost of building a new network
- Existing infrastructure is assumed to eventually become obsolete and money must be accrued to replace it in the far future

2 Brownfield

- Assume that all existing infrastructure (i.e., historical investments) will be maintained
- Estimate the incremental cost to upgrade and operate this infrastructure from the central office to the end location



Brownfield is generally applicable when:

- The objective is to estimate the cost to upgrade existing infrastructure
- The model is intended to measure incremental costs required to complete the upgrade and maintain the existing infrastructure

The brownfield approach is most consistent with required infrastructure investments and should be used in the cost modeling process

Three issues with the brownfield methodology that were previously raised by the ABC Coalition were addressed at the FCC Cost Modeling Workshop

ABC Coalition Issues with Brownfield Model

Issue:	Workshop Findings:	Implication:
<p>1 Brownfield is not consistent with a forward looking cost model¹</p>	<p>CostQuest indicated that brownfield is consistent with a forward looking cost model</p>	<p>The brownfield scenario is consistent with the FCC’s requirement to use a forward looking cost model</p>
<p>2 “[Brownfield] fails to consider the costs associated with the existing infrastructure”²</p>	<p>A brownfield model can be run to calculate operating expenses associated with existing infrastructure by adjusting annual charge factors</p>	<p>The model can be used to accurately estimate the costs of operating expenses</p>
<p>3 “[Brownfield] excludes the stranded costs of those parts of the network that will need to be replaced, such as copper feeder”³</p>	<p>A brownfield model includes the cost of replacing and changing the location of certain plant, repairing material for reuse, and restoring damaged plant</p>	<p>The model can accommodate assumptions regarding parts of the network that will need to be replaced</p>

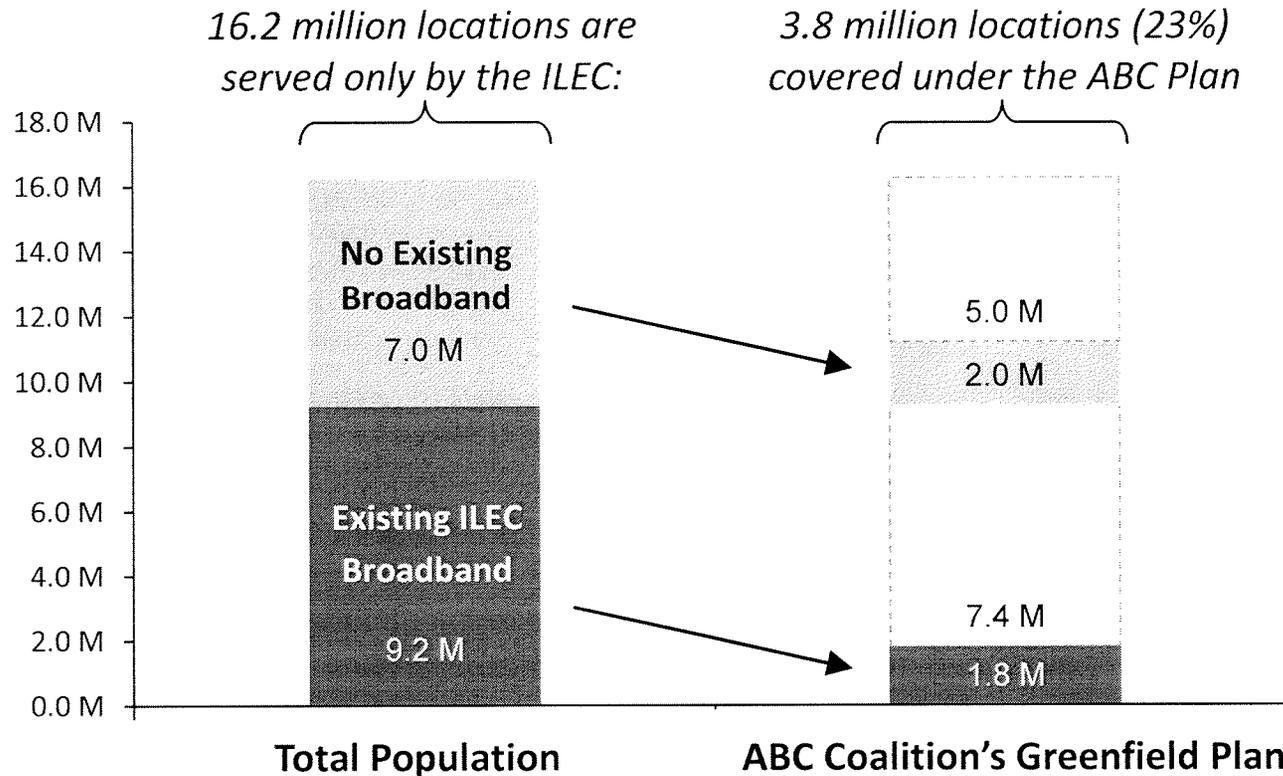
The CQBAT model is capable of calculating the cost and required subsidies for a brownfield broadband deployment

1. ABC Comments, WC Docket Nos. 10-90, 05-337 (July 9, 2012), pp. 3
 2. ABC Comments, WC Docket Nos. 10-90, 05-337 (July 9, 2012), pp. 15
 3. ABC Comments, WC Docket Nos. 10-90, 05-337 (July 9, 2012), pp. 17



The ABC Coalition’s greenfield FTTD plan asks for annual subsidies of \$2.2B per year to build or maintain broadband for 3.8 million housing units

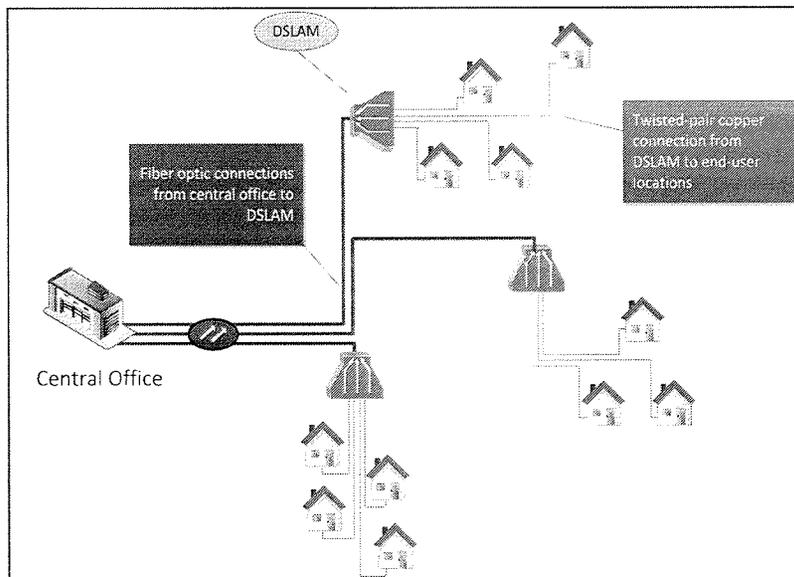
Summary of Coverage in the ABC Coalition’s Greenfield Plan



Only 2 million incremental households would receive broadband under the ABC Plan, while 5 million households without broadband are not covered

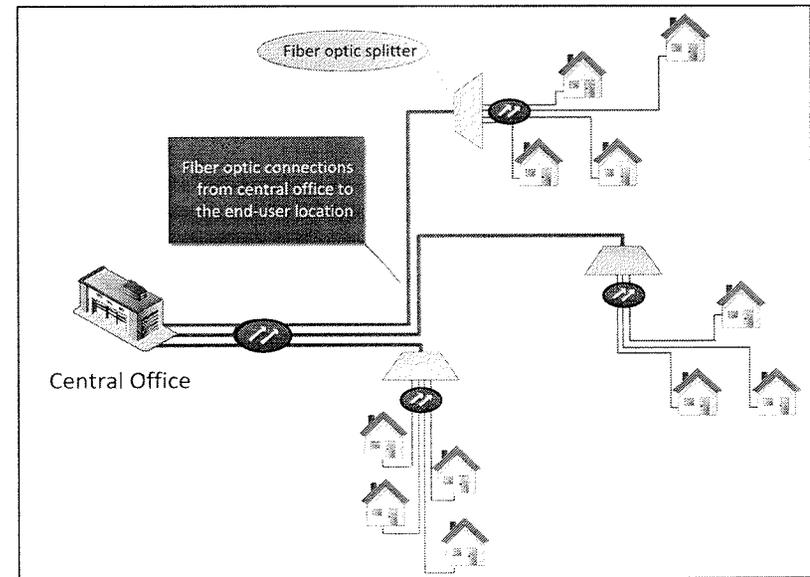
The ABC Coalition’s greenfield Fiber-to-the-DSLAM (FTTD) plan requires nearly the same investment and subsidies as a Greenfield Fiber-to-the-Home (FTTH) deployment

Proposed Greenfield Fiber-to-the-DSLAM



Greenfield FTTD Coverage:	
Annual Subsidy:	\$2.2B
Locations Covered:	3.8M
Monthly Subsidy/Location:	\$48.88

Comparable Greenfield Fiber-to-the-Home



Greenfield FTTH Coverage:	
Annual Subsidy:	\$2.2B
Locations Covered:	3.8M
Monthly Subsidy/Location:	\$49.27

Since subsidy recipients must only meet the 4/1 Mbps speed requirement, the FCC would pay for a greenfield FTTH deployment and would receive brownfield FTTD

A brownfield model that is more accurately aligned with actual costs can provide the same coverage 45-54% of the cost, or 2.2X coverage for 68-77% of the cost

ABC Plan Greenfield FTTD

Brownfield FTTD Scenario

		Lower Cost Locations	Higher Cost Locations						
Locations Without Competitive Broadband	No Broadband	① No Requested Coverage 4.6M Locations No Subsidy	② Greenfield & Maintenance: 2.0M Locations Subsidy: \$1,211M						
	Existing ILEC Broadband	③ No Requested Coverage 7.2M Locations No Subsidy	④ Greenfield & Maintenance 1.8M Locations Subsidy: \$997M						
									
		<table border="1"> <thead> <tr> <th>Lower Cost Locations</th> <th>Higher Cost Locations</th> </tr> </thead> <tbody> <tr> <td> ① Brownfield without Maintenance 4.6M Locations Subsidy: \$503M </td> <td> ② Brownfield & Maintenance 2.0M Locations Subsidy: \$623-814M </td> </tr> <tr> <td> ③ No Required Coverage 7.2M Locations No Subsidy </td> <td> ④ Maintenance Support Only 1.8M Locations Subsidy: \$362M </td> </tr> </tbody> </table>		Lower Cost Locations	Higher Cost Locations	① Brownfield without Maintenance 4.6M Locations Subsidy: \$503M	② Brownfield & Maintenance 2.0M Locations Subsidy: \$623-814M	③ No Required Coverage 7.2M Locations No Subsidy	④ Maintenance Support Only 1.8M Locations Subsidy: \$362M
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The FCC has the option to provide incentive subsidies of \$503M for lower cost locations to increase coverage beyond the locations included in the ABC Plan

The ABC Coalition’s proposal requests subsidies that are significantly greater on a per location basis than would be required using a brownfield approach

Comparison of Subsidies – Brownfield, Greenfield, CAF Phase I and Rate of Return

Plan Metric	Extended Brownfield Scenario	Comparable Brownfield Scenario	Comparison Cases			
			ABC Greenfield Proposal	CAF Phase I Recipients	Rate of Return Carriers	Rate of Return Converts
Locations Covered	8.4M	3.8M	3.8M	-	-	-
Annual Subsidy	\$1.5-\$1.7B	\$1.0-\$1.2B	\$2.2B	-	-	-
Annual Subsidy/Location	\$179-\$207	\$259-\$313	\$587	-	\$348	\$85
5-Year Subsidy/Location	\$896-\$1,037	\$1,297-\$1,564	\$2,933	\$775*	\$1,740	\$425

The ABC Coalition is requesting \$1.0-\$1.2 billion in excess subsidy funding per year

*CAF Phase I provided a one-time subsidy of \$775 per location with no subsequent support

Source: CQBAT, CAF NPRM/FNPRM, CAF Order

— Proprietary —

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The ACA has worked extensively with the CQBAT and believes there are a number of additional modeling issues that result in overstated support estimates

Summary of additional cost modeling issues that need to be resolved:

1 Broadband Map Accuracy	<ul style="list-style-type: none">• CQBAT's broadband map data generally underestimates competitive broadband coverage increasing the risk of subsidy distribution in competitive markets:<ul style="list-style-type: none">○ Many cable companies have not submitted complete coverage to the national map○ Competitive areas with < 35 locations/mile are categorized as eligible for support○ The current map in CQBAT is outdated and needs to be refreshed• A process should be established to ensure competitive markets are appropriately updated
2 SG&A Costs	<ul style="list-style-type: none">• SG&A costs are likely overstated as they are linearly linked to capital expenses in CQBAT• Coalition members, who are large operators with scale, have operating leverage for SG&A costs – as revenues increase, the incremental expense per unit of revenue declines• The FCC should not provide an incentive (i.e., increased subsidies) for inefficient structures
3 Cost of Capital	<ul style="list-style-type: none">• The weighted average cost of capital assumption of 9% is likely too high given low interest rates and analyst projections for price cap LECs• The true cost of capital is likely 100-300 basis points lower
4 Plant Mix	<ul style="list-style-type: none">• The plant mix assumptions should include a greater proportion of aerial plant• Aerial plant is cheaper to build, and would likely be favored by subsidy recipients