NECCC

The Northeastern California Connect Consortium



Revision #2

Appendix E

Work Plan, Project Schedule, and Budget: FY 2012 (Year 1)



Appendix G Work Plan, Project Schedule and BUDGET: FY 2012 (Year 1)

I. Mission, Vision, Strategic Planning Framework, and Goals

A. Mission

The Mission of the **NECCC** is to develop and facilitate the implementation of a broadband infrastructure plan that will provide a cohesive, integrated and robust regional middle-mile, countywide backbone and last-mile community network infrastructures that will interconnect these seven counties (Butte, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Tehama) together for the first time.

B. Vision

The Vision of the **NECCC** is the presence and vigorous use of broadband access, at the **National Broadband Plan** minimum standards (100 Mbps download and 50 Mbps upload), for all individuals living, working and going to school in Northern California, especially in the seven counties within this Consortium.

C. Strategic Planning Framework

Figure 1 below depicts the building blocks and path to achieving access to broadband for all in Northern California. As shown, at the foundation there must be a comprehensive integrated Regional Middle-Mile Fiber-Based Infrastructure across the 16 counties with the capacity needed today and the growth potential for the long-range future.

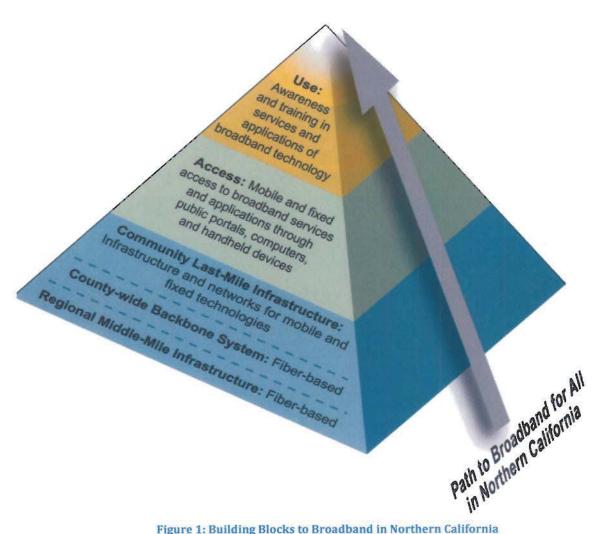


Figure 1: Building Blocks to Broadband in Northern California

As a second tier of this foundation fiber-based infrastructure there needs to be a Countywide Fiber-Based Backbone System that reaches each of the incorporated communities and as many unincorporated communities as possible. Each County Backbone System must be linked into the Regional Middle-Mile Infrastructure at multiple points to provide diversity.

Once the blueprint for this two-tiered foundation infrastructure is known, meaningful deployment of this foundation can begin; planning and deployment of community last-mile infrastructures also can be launched with assurance that end users will ultimately have robust connectivity to the worldwide Internet.

Full and comprehensive access from any location within the seven counties will only be available when the regional and county infrastructures are completed and in place. In the meantime, a wide range of temporary strategies and solutions need to be implemented to maximize access for the greatest number of individuals.

At the apex of the pyramid is the challenge of giving every individual the opportunity to acquire the knowledge and skills needed to effectively gain access to and utilize the data and

information readily available over the worldwide Internet that will enable each person to enhance the quality of his/her life. Once the infrastructure and access barriers are removed the tasks of making individuals aware of and becoming trained in the use of the tools should be easier. In the meantime, training programs need to be made available where access is possible.

While the primary thrust of the **NECCC** is to develop a comprehensive plan for a regional middle-mile infrastructure, countywide backbone systems and last-mile community infrastructures, it will also vigorously pursue expanding access and training to increase adoption.

We have adopted this framework and approach because currently, in the 16 Northern California Counties, there is only a piece-meal scattering of fragmented and limited attempts to deploy broadband. There is no comprehensive regional middle mile infrastructure or a completed countywide backbone system, without which there will be no change in adoption.

Once deployment of a Regional Middle-Mile Infrastructure is completed and countywide backbone systems are in place, last mile providers may then begin offering more choices at higher speeds, with more affordable costs to the end users. Only then will people be in a position to realize the benefits and relevance of broadband, ultimately purchasing monthly subscriptions. Increase in adoption leads to sustainable networks. Thus, our three-year plan is designed to follow the building blocks as depicted in Figure 1, starting with the major focus on the base of the pyramid.

D. Goals

The overarching goal of the **NECCC** is to meet the current and long-term regional middle-mile, countywide backbone systems and community last-mile broadband needs of the 570,174 citizens living in the 23 incorporated communities, 139 unincorporated Census Designated Places and rural areas in the seven counties to be served by the planned infrastructure.

Within this overarching goal is a key objective to directly connect the primary anchor institutions in the seven (7) counties to the countywide backbone and regional middle-mile infrastructures via fiber. Initially, 42 anchor sites will be connected directly by fiber:

- Four (4) Community College Districts and Colleges,
- Nine (9) County Offices of Education sites,
- · One (1) CSU university,
- Seven (7) County and Main Libraries,
- Seven (7) major County Public Safety Answering Point sites, and
- Fourteen (14) Hospital facilities.

A second key objective is to use the regional middle-mile infrastructure to help meet the needs and requirements for the countywide and community last-mile connectivity by local, county, state, and federal agencies, businesses and residences, especially in the unserved and underserved areas in these seven counties. Also, via community last mile connections to the countywide backbone systems, K-12 schools, branch libraries, secondary public safety answering points, and a range of health facilities will enhance their connectivity to their respective anchor institutions in the county.

II. Overall Activities of the Project

There are five major activities in carrying out this effort. Within each activity, there are several tasks to be executed. The following provides a non-exhaustive list of the tasks within each activity.

1. Activity #1: ENSURE COMMUNITY INVOLVEMENT---Deliverable #1

1.1. Engage Community Leadership

- 1.1.1. Meet, engage and seek input from County Supervisors and County Management;
- 1.1.2.Meet, engage and seek input from City, Town, Unincorporated District and Native Tribe Leadership in each county;
- 1.1.3. Meet, engage and seek input from Anchor Site Leadership and staff in each county;
- 1.1.4.Meet, engage and seek input from Community and Business Groups in each county that have been working towards broadband access for their community;
- 1.1.5. Meet and inform community media (newspaper, radio, TV etc) to ensure broad dissemination of the status and progress of the plan.

1.2. Maintain Community Commitment throughout the Life of the Project

- 1.2.1.Conduct first semi-annual in-person "open" briefing meetings in each of the counties:
- 1.2.2.Conduct second semi-annual in-person "open" briefing meetings in each of the counties;
- 1.2.3. Hold first Assembly meeting and semi-annual "open" workshop for the region focused on relevant issues facing this effort;
- 1.2.4. Hold second Assembly meeting and semi-annual "open" workshop for the region focused on relevant issues facing this effort;
- 1.2.5.Hold "open" conference calls to discuss and seek input of specific issues and opportunities, as needed;
- 1.2.6. Maintain web site;
- 1.2.7. Publish first quarter electronic newsletter;
- 1.2.8. Publish second quarter electronic newsletter;
- 1.2.9. Publish third quarter electronic newsletter;
- 1.2.10. Publish fourth quarter electronic newsletter;
- 1.2.11. Issue special reports, as appropriate;
- 1.2.12. Issue news releases, as appropriate;
- 1.2.13. Form ad hoc task forces, as needed.

2. Activity #2: DEVELOP and IMPLEMENT BROADBAND INFRASTRUCTURE PLAN

2.1. Involve Current Telecommunications Providers in Detailed Planning--Deliverable #6

- 2.1.1.Engage Plumas-Sierra Telecommunications and CENIC, two of the ARRA recipients whose middle-mile infrastructure will have major connection points in Northern California. Plumas-Sierra in Susanville and Quincy and CENIC in Palo Cedro (Redding) are key for this development.
- 2.1.2.Meet with current major telecommunications providers in the region (AT&T, Verizon, Frontier, etc.) to learn of their current "middle and last mile" offerings

- and future plans to deploy broadband to the communities they serve; determine their interest in cooperating in this project; and, assess whether or not their assets can be utilized as part of the Conceptual Design.
- 2.1.3.Meet with wireless ISP and Cellular providers to learn of their current offerings and future plans to deploy last-mile broadband capabilities to the communities they serve; determine their interest in cooperating in this project; and, assess whether or not their assets can be utilized as part of the Conceptual Design.
- 2.1.4.Meet with Power Companies and Cooperatives (for Smart Grid opportunities) to determine interest and potential for collaboration and assess whether or not their assets can be utilized as part of the Conceptual Design.
- 2.1.5.Confirm which Telecommunications Providers have assets important to the plan and confirm their willingness to make those assets available as part of the plan.
- 2.1.6. Produce a written report that documents the process and results of Task 2.1.1 through Task 2.2.4.

2.2. Consult and Assess Potential Use of CPUC (+AB 140), ARRA and Caltrans Projects in this Effort---Deliverable #6

- 2.2.1.Identify currently CPUC, ARRA, and Caltrans projects (funded and approved but withdrawn);
- 2.2.2. Meet with Project leaders to learn of their plans and interest in cooperating;
- 2.2.3. Ascertain scope of each project and potential to fit into an overall broadband plan;
- 2.2.4.Confirm which projects have assets important to the plan and confirm their willingness to make those assets available as part of the plan

2.3. Develop Regional Middle-Mile Infrastructure Conceptual Design--Deliverable #2

- 2.3.1.Identify existing potential routes with existing fiber and/or conduits;
- 2.3.2.Identify current middle-mile long-haul fiber providers;
- 2.3.3.Identify interconnection points;
- 2.3.4.Identify all fiber Right to Use (RTU) opportunities;
- 2.3.5. Create preliminary drawings (Basic, topology Network, etc...);
- 2.3.6. Develop preliminary cost estimate for this conceptual design;
- 2.3.7.Review preliminary design and cost estimates with Community Leaders and participating telecommunications providers;
- 2.3.8. Modify preliminary design and costs resulting in the Conceptual Design;
- 2.3.9.Produce a Regional Middle-Mile Infrastructure Conceptual Design in the form of a comprehensive written document with narrative and maps to be endorsed by the UCCC Consortium membership and that can be shared with community leaders and groups, participating telecommunications providers and the general public.

2.4. Prepare an Initial High Level Environmental Assessment (EA)

- 2.4.1.Obtain initial input on draft preliminary conceptual design from agencies that must approve EA- State Office of Historical Preservation, Caltrans, State Fish and Games, Federal Fish and Wildlife, National Forest Services, Bureau of Land and Mines, and Army Corps of Engineers;
- 2.4.2.Based on input and any modifications to conceptual design conduct and produce an initial "unofficial" EA;

- 2.4.3. Review the "unofficial" EA with the appropriate approval agencies;
- 2.4.4. Modify the EA based on feedback from the agencies;
- 2.4.5. Share and discuss the modified initial EA with community leaders and groups, participating telecommunications;
- 2.4.6. Provide results of the report on EA and discussion to the Detailed Design team.

2.5. Develop a Time-Action Plan for the Detailed Design and Environmental Assessment

- 2.5.1. Secure the necessary funding to launch the detailed design phase and environmental assessment;
- 2.5.2. Select a firm to do the detailed design and cost estimate;
- 2.5.3. Select a firm to the "official environmental assessment";
- 2.5.4. Secure and/or facilitate funding to launch one or more middle-mile projects.

NOTE: Execution of these tasks is contingent upon securing the necessary funds. There are three options for funding the detailed design for the Regional Middle Mile Infrastructure. The preferred option is to have facilitated a new entity comprised of the major current providers that already have fiber assets that can be used for this Backbone to pursue securing CASF Infrastructure grant for detailed design and construction. The second option is for the UCCC Consortium to seek funds from CASF and/or Federal sources to do the detailed design. The last (and least preferred, but still viable) option is to find investors willing to take the risk of securing future funding for construction.

The cost of doing a detailed design and the associated environmental assessments for the Regional Middle Mile Infrastructure is projected into the hundreds of thousands of dollars. Therefore, we carefully identified this task and the associated tasks in subsequent years as reaching beyond the funding of this grant. In essence, if we do not secure funding for the detailed design and associated environmental assessments, these tasks and those identified in future years will not be done. However, we point out that the grant funding for this effort in Years 2 and 3 covers all of the other tasks, which are still important to complete in the overall effort.

2.6. Develop a Countywide Backbone System and Community Last-Mile Conceptual Designs for Each County--- Deliverable #3

- 2.6.1.Identify current fiber and last-mile providers in each county;
- 2.6.2. Identify needs for the communities within each county
- 2.6.3. Create preliminary drawings (Basic, topology Network, etc...);
- 2.6.4. Develop preliminary cost estimate for this conceptual design;
- 2.6.5.Review preliminary design and cost estimates with Community Leaders and participating telecommunications providers;
- 2.6.6. Modify preliminary design and costs resulting in the Conceptual Design;
- 2.6.7.Produce a Countywide Backbone and Last Mile System Conceptual Design in the form of a comprehensive written document with narrative and maps for each county to be endorsed by the appropriate county and community organizations and that can be shared widely with community leaders and groups, participating telecommunications providers and the general public.

2.7. Develop a Time-Action Plans for Last-Mile

2.7.1. Pursue the necessary funding to launch priority projects.

2.8. Facilitate Implementation of the Northern California Broadband Plan

- 2.8.1.Based on the outcome of Tasks 2.1.1, 2.1.2, 2.1.4, and 2.1.5 help to form or identify an entity to undertake the lead in the detailed planning and implementation of the Regional Middle-Mile Infrastructure;--- Deliverable #4
- 2.8.2.Based on the outcome of Tasks 2.1.3 and 2.2 identify a lead provider(s) in each county to undertake the leadership in the detailed planning and implementation of the countywide backbone system;--- Deliverable #5
- 2.8.3. Evaluate any proposed projects that could have an impact (positive or negative) on the development on the Regional Middle-Mile Infrastructure;
- 2.8.4. Work with each county planning group to evaluate any proposed broadband projects that could have an impact (positive or negative) on the deployment on broadband within the county.--- **Deliverable #7**

3. Activity #3: DEVELOP, IMPLEMENT and MAINTAIN ACCESS INFORMATION

3.1. Maintain Up-to-date Demand, Supply and Access Information

- 3.1.1. Ascertain the types and levels of service offered by the Internet Service Providers and Wireless Internet Service Providers to residences and businesses, and services planned to be offered in the future;
- 3.1.2. With the assistance of these providers identify potential revenue generating customers;
- 3.1.3. Update key demographic information on each county;
- 3.1.4. Conduct an independent customer survey to verify provider claims;
- 3.1.5. Maintain ongoing set of Broadband Infrastructure maps to track progress of the project through the work of the CSUC, Geographic Information Center.

3.2. Consult and Assist Major Service Entities Develop Access Plans

- 3.2.1.Work with each County Office of Education (COE), through the K12 HighSpeed Network, to update its written long range plan for providing its school districts and schools upgraded access to broadband connections back to the COE and through the COE to CalREN based on the Countywide Backbone System Plan;
- 3.2.2.Work with the County Libraries (LIBRARY), through the NorthNet Library System, to develop a written long range plan for providing their branch libraries access to broadband connections back to the County Library and through CalREN to all the other County Libraries in the NorthNet Library System and statewide;
- 3.2.3. Work with the County Public Safety Answering Points (PSAP), through the Northern Planning Area of California (NPAC), under California's Statewide Interoperability Executive Committee (CalSEIC, to a written develop long range plan for providing all the PSAPs in each county access to broadband connections back to the County PSAP and through this backbone to all the other County PSAPs in the NPAC and ultimately statewide;
- 3.2.4.Work with the California Telehealth Network (CTN) to update its written access plan to connect all the health facilities in each county to the CTN major hub in the county and through CTN to all the major facilities in the region and statewide;
- 3.2.5. Work with all the County and municipal government IT organizations to determine how this infrastructure policies can assist them collectively.--- Deliverable #9

4. Activity #4: DEVELOP AND IMPLEMENT ADOPTION AND TRAINING PLANS AND PROGRAMS

4.1. Update Data on Existing Adoption and Training Programs---Deliverable #8

- 4.1.1. Identify current programs in each county;
- 4.1.2.Identify currently funded ARRA and CETF adoption programs that might be utilized in these counties;
- 4.1.3. Update the assessed need for adoption programs by county;
- 4.1.4. Produce a report that clearly states the need by county.

4.2. Develop Implementation Plans for Adoption Programs

- 4.2.1. Develop Base Level Program applicable to all counties;
- 4.2.2.Develop tailored programs appropriate to various levels of users and groups of users.

5. Activity #5: WORK WITH THE OTHER REGIONAL CONSORTIA TO ENSURE THE DEVELOPMENT OF A COHESIVE NORTHERN CALIFORNIA INFRASTRUCTURE---Deliverable #10

5.1. Share Plans among Consortia as Developed

- 5.1.1.Conduct monthly conference calls;
- 5.1.2. Hold In-Person Meetings on a quarterly basis;
- 5.1.3. Maintain ongoing set of Broadband Infrastructure maps for all 16 counties in Northern California to track progress of all the projects through the work of the CSUC, Geographic Information Center.

5.2. Agree on Major Issues Affecting All Regions

- 5.2.1. Agree on Infrastructure Interconnection points;
- 5.2.2. Agree on transit of traffic;
- 5.2.3. Agree on major policy issues.--- Deliverable #9
- 5.2.4.Produce a written report that reflects the agreement of the four regional consortia of Northern California on: a) the Regional Middle-Mile Infrastructure plan; b) handling transport of traffic across multiple network platforms; and, c) the identification of national, state and county policies and regulations that need to be addressed to enable effective deployment of broadband throughout the 16 counties.

III. Work Plan for FY 2012

The **NECCC** has developed a detailed Work Plan for each of the three years of the project. This **Appendix E** is the yearly work plan for Year 1-FY 2012. The following is a summary of the tasks and deliverables for this year's work plan. The specific tasks within each activity, the timelines and the responsible party (ies) are provided in the Project Schedule for FY 2012, below.

FY 2012 (Year 1) Tasks

. One primary focus of the NECCC over the first year will be to develop the Regional

- Middle Mile Conceptual Design (Activity 2.3) for the broadband infrastructure plan that will provide a cohesive, integrated, and robust regional middle-mile and countywide backbone and last-mile network infrastructure that will interconnect the 16 Northern California counties.
- As an integral part of this development, the current telecommunications providers
 will be engaged to learn of their current middle- and last-mile offerings and future
 plans to deploy broadband to the communities they serve; determine their interest
 in cooperating in this project; and to assess whether their assets can be utilized as
 part of the Conceptual Design (Activities 2.1 and 2.2).
- At the same time, it will be important to assess the environmental issues that will need to be addressed to turn the Regional Middle-Mile Infrastructure Conceptual Design into a real network infrastructure (Activity 2.4).
- By developing a viable Regional Middle-Mile Infrastructure Conceptual Design, the
 NECCC believes the stage will be set to maximize investments in future deployment
 while reducing redundant efforts and lowering costs for deployment as well as costs
 to the end users for services (Activity 2.3).
- A second primary focus of the NECCC over the first year will be to develop a Countywide Backbone System and Community Last-Mile Conceptual Design for each NECCC County (Activity 2.6).
- A third primary focus will be to facilitate the identification and/or creation of
 entities to take the leadership in doing the detailed planning and implementation of
 these conceptual design plans (Activity 2.8).
- Work with special groups-K12, Libraries, Public Safety and Health delivery to develop specific networking plans for these groups across the 16 counties (Activity 3.2)
- While the NECCC intends to give primary attention to developing the conceptual
 designs for the Northern California Broadband Plan, equal effort will go into
 engaging, informing, expanding awareness, gaining support, and securing
 commitment to this effort from all facets of the community (Activities 1.1 and 1.2).
- During the first year, we also will concentrate on updating the status of access in each county (Activity 3.1) and assessing the status of training and adoption programs available across the aforementioned three counties (Activity 4.1).
- Finally, NECCC will collaborate with the other Regional Consortia to make sure all
 parties are committed to the overall Northern California Broadband Plan (Activity 5).

FY 2012 (Year 1) Major Deliverables and Performance Measures

- Deliverable #1 Ensure a widespread awareness, buy-in and commitment to the consortium's mission by conducting consortium and county meetings as per the project schedule and by sharing information over the web and through the quarterly reports (Activity 1);
- Deliverable #2 Produce a comprehensive written Regional Middle-Mile Conceptual Design Plan (Activity 2.3);
- Deliverable #3 Produce a comprehensive written Countywide Backbone Systems and Community Last Mile Conceptual Design Plan for each of the four NECCC Counties (Activity 2.6);
- Deliverable #4 Ensure the formation of an entity to take the lead in planning and developing the Regional Middle-Mile Infrastructure (Activity 2.8.1);
- Deliverable #5 Ensure the identification of an entity to take the lead in planning and deploying broadband in each of the NECCC counties (Activity 2.8.2);
- Deliverable #6 Develop a report identifying currently available last-mile capabilities in each county and evaluate their potential to meet the Conceptual Design (Activity 2.1 & 2.2);
- Deliverable #7 Prioritize the unmet last-mile access needs in each county (Activity 2.8.4);
- **Deliverable #8** Issue a report assessing the availability of adoption programs in each county (Activity 4.1);
- Deliverable #9 Work with county and municipal governments to adopt policies and regulations that will promote deployment and use of broadband (Activity 3.2.5 & 5.2.3); and,
- Deliverable #10 Produce a joint written report with other regional consortia to ensure there is a Regional Middle-Mile infrastructure Plan ready for implementation throughout Northern California (Activity 5).

NECCC will measure its performance against these tasks and deliverables in the Work Plan on a quarterly basis using the Chart 2.1.

Chart 2.1 FY2012 (Year 1) Performance Measures: Outcome Metrics

DELIVERABLES	Projected Completion Date	1st Qtr 2012 % Achieved	2Qtr 2012 % Achieved	3Qtr 2012 % Achieved	4Qth 2012 % Achieved
Deliverable #1. Ensure a widespread awareness, buy-in, commitment to consortium's mission Activity I	12-31-12				
Deliverable #2. Produce Regional Middle-Mile Infrastructure Conceptual Design Plan Activity 2.3	7-31-12				
Deliverable #3. Produce Countywide Backbone System and Community Last-Mile Plan for each county Activity 2.6	11-30-12				

Deliverable #4. Ensure formation of Entity to lead Regional Middle Mile Planning and Deployment Activity 2.8.1	6-30-12		
Deliverable #5 Ensure identification of Entity(ies) to plan and deploy CWBS-CLM Plan for each county Activity 2.8.2	9-30-12		
Deliverable #6. Develop report identifying existing installed fiber and evaluate its availability Activity 2.1 & 2.2	3-31-12	×	
Deliverable #7 Prioritize the unmet LM access needs in each county Activity 2.8.4	12-31-12		7
Deliverable #8 Issue a report assessing the availability of adoption programs in each county Activity 4.1	12-31-12		A
Deliverable #9. Work with county governments to adopt policies/regulations that promote infrastructure deployment and use of broadband (adoption) Activity 3.2.5 and 5.2.3	12-31-12		9
Deliverable #10. Produce joint report w/other reg. consortia to ensure integrated Regional Middle Mile Infrastructure throughout Northern CA Activity 5	12-31-12		

> Overall goal is to have each of these deliverables completed no later than end of Year 1; some deliverables must come first and will be completed well before end of Year 1.

> Most deliverables will involve multiple tasks. Therefore, for each quarter we will report the percentage of progress. In some instance we plan to complete the tasks an produce the deliverable in less than a year..

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NECCC Project Schedule FY 2012 (Year 1) Revision #2

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