

BTOP Comprehensive Community Infrastructure Project Plan and Build-out Timeline

Please complete the Project Plan and Build-out Timeline templates below. Note that these templates may be modified by applicants in order to provide the most effective presentation of the data for their specific project. Applicants should ensure, however, that they provide at least as much detail as the provided templates require.

For system stability reasons, it is recommended that you provide these documents in PDF format when submitting a copy of your application on an appropriate electronic medium, such as a DVD, CD-ROM, or flash drive. There is no need to provide this instruction page.

PROJECT PLAN

- Use the following table to list the major network build-out phases and milestones that can demonstrate that your entire project will be substantially complete by the end of Year 2 and fully complete by the end of Year 3. This is to be done at the aggregate level (combining all proposed funded service areas.)
- Indicated how the milestones listed below will demonstrate these completion objectives. The applicant should consider such project areas as: a) network design; b) securing all relevant licenses and agreements; c) site preparation; d) inside plant deployment; e) outside plan deployment; f) deployment of business & operational support systems; g) network testing; f) network operational. The applicant may provide any other milestones that it believes showcase progress.
- Project inception (Year 0) starts at the date when the applicant receives notice that the project has been approved for funding.
- In the table, provide any information (e.g., facts, analysis) to: a) demonstrate the reasonableness of these milestones; b) substantiate the ability to reach the milestones by the quarters indicated.

Time Period	Quarter	Milestones	Support for Reasonableness/Data Points
Year 0	-	<ul style="list-style-type: none"> • Select LTE system vendor • Finalize project plan and resource assignments • Complete FCC requirements for Public Safety waiver • Apply for any permits required for tower work and ADCOM 911 expansion • Complete required MOUs/IGAs 	<ul style="list-style-type: none"> • As we have interviewed three LTE vendors, we will be in position to move quickly in signing a contract. • FCC requires that the PSST lease be signed by August 2010
Year 1	Qtr. 1	<ul style="list-style-type: none"> • Sign contracts for LTE system equipment • Work with LTE vendor to finalize network design • Perform existing tower capacity analysis • Begin tower work at ADCOM 911site • Begin tower work at West site • Complete equipment room expansion • Continue development of fiber network • Begin installation of initial fiber aggregation points • Identify additional ADCOM LTE access sites • Begin ADCOM 911 equipment room expansion • 	<ul style="list-style-type: none"> • The primary goal will be to get all major facilities updated to handle the additional load/equipment. • As soon as an LTE vendor is selected it we will work to identify all additional sites to begin site preparation work. • We plan to begin the core IP network work as soon as possible since much of it can be done without the LTE equipment. This will allow us to implement the wireless network quickly once the equipment is ready.

	Qtr. 2	<ul style="list-style-type: none"> • Complete ADCOM 911 equipment room upgrade • Perform electrical system upgrade and UPS rebalancing • Upgrade Firewall and IPS/IDS on core network • Complete IGAs/MOUs for all participating agencies • Begin Ladybird and Justice center tower work • Begin 6th avenue fiber installation • Begin West fiber installation • Receive LTE hardware from vendor 	<ul style="list-style-type: none"> • As most building/site improvements do not involve major construction, we anticipate quick completion of the critical sites/buildings. • The fiber installation process is expected to take the longest so our goal is to begin the construction as soon as all sites are identified. •
	Qtr. 3	<ul style="list-style-type: none"> • Implement County Campus and Brighton fiber aggregation points • Complete ADCOM and Cherokee tower hardening • Begin Ladybird and Justice Center tower hardening • Begin microwave licensing • Install LTE access sites at ADCOM 911, West and Ladybird • Begin LTE Core installation (ADCOM 911 and DIA) • Begin site preparation at additional LTE access points • Finalize 6th avenue fiber run • Complete Cherokee fiber installation • Implement Cherokee fiber aggregation point 	<ul style="list-style-type: none"> • Based on initial vendor timelines, we expect equipment to be received by the 3rd quarter of the project. • We will begin microwave licensing in order to ensure all required licenses are ready once site development begins.
	Qtr. 4	<ul style="list-style-type: none"> • Complete Ladybird and Justice tower work • Begin Dorothy tower hardening • Receive microwave licensing • Begin microwave backhaul installation • Complete LTE Core installation • Install initial UE (user devices) in vehicles • Install LTE access sites at Justice Center and Hoyt sites • Begin initial LTE network testing • Begin network link between Adams County, Denver and Jefferson County and Thornton PSAPs 	<ul style="list-style-type: none"> • Based on vendor estimates, we will begin installing initial end-user devices during this quarter. We will use these initial installations to gauge initial performance and refine the network design. •
	Qtr. 1	<ul style="list-style-type: none"> • Begin rolling out UEs to Adams County Sheriff and 	<ul style="list-style-type: none"> • We anticipate the beginning of the second year will see

		<p>Commerce City Police</p> <ul style="list-style-type: none"> • Complete new fiber build out • Complete Dorothy tower hardening • Finalize network link between Adams County, Denver and Jefferson County 	the first mass rollouts of end-user devices.
	Qtr. 2	<ul style="list-style-type: none"> • Begin rolling out UEs to Northglenn Police, Brighton Police • Begin rolling out UEs to South Adams Fire and North Washington Fire 	<ul style="list-style-type: none"> • ADCOM 911 plans a staged rollout of all users in order to manage and gauge initial network load.
	Qtr. 3	<ul style="list-style-type: none"> • Complete UE rollout to Adams County Sheriff and Commerce City PD • Begin UE rollout to Southwest Adams Fire, Greater Brighton Fire, Bennett Fire and North-Metro Fire 	<ul style="list-style-type: none"> • We estimate that all primary sites will be in place by this point (28-31 out of 36). An estimated 5-8 sites will remain to be developed based on initial testing.
	Qtr. 4	<ul style="list-style-type: none"> • Complete UE rollout to Brighton Police and Northglenn Police • Complete UE rollout to South Adams Fire and North Washington Fire 	<ul style="list-style-type: none"> •
Year 3	Qtr. 1	<ul style="list-style-type: none"> • Complete UE rollout to Southwest Adams Fire, Greater Brighton Fire, Bennett Fire and North-Metro Fire • Complete initial LTE access tests • Begin identification of additional LTE access site locations for required capacity or coverage 	<ul style="list-style-type: none"> • As soon as all agencies have end-user devices installed we will begin official testing to identify network deficiencies and modify network design as required.
	Qtr. 2	<ul style="list-style-type: none"> • Begin final LTE site installation 	<ul style="list-style-type: none"> • The sites identified in this installation will be those reserved for capacity planning once a baseline is determined and 'hot spots' are identified through usage.
	Qtr. 3	<ul style="list-style-type: none"> • Complete final LTE access site installation • Begin final coverage, throughput and load testing 	<ul style="list-style-type: none"> •

	Qtr. 4	<ul style="list-style-type: none">• Complete system coverage, throughput and load testing	<ul style="list-style-type: none">• Final vendor testing will take place and all required sign-offs will occur.

