

Gunnison County Metropolitan Recreation District  
**Television Service Information Packet**



**TELEVISION SYSTEM OVERVIEW:** Met Rec’s over-the-air television service provides Denver DMA TV channels via satellite downlink and terrestrial translator network. From the Met Rec Studio in Gunnison, equipment is used to combine signals into a format that can be transmitted over TV channels and transmitted to W Mountain. From W Mountain, TV signals are distributed in a daisy chain fashion, relaying from one translator site to the next. Met Rec maintains twelve translator sites throughout Gunnison and Saguache Counties.

## How does the translator system work?



A map of Met Rec’s 12 translator sites.



Met Rec receives signals at our Gunnison Studio using large, outdoor satellite dishes



Equipment is then used to combine the signals into a format that can be transmitted over TV channels



The re-configured signals are transmitted to W Mountain



From W Mountain, TV signals are distributed in a daisy chain fashion, relaying from one site to the next

**BACKGROUND:** In 2020, Met Rec completed its [Operations Strategic Plan](#) (Plan). The Plan outlines five focus areas, each critical to ensuring the sustainable operation of the over-the-air television service.

An important element of the Plan is the need to **plan for long-term signal delivery**, and in particular, the need to prepare and plan for the roll-out of the new ATSC 3.0 video transmission standard.

***What is ATSC 3.0?***

The Advanced Television Systems Committee (ATSC) is an international group made up of broadcasters, TV manufacturers and tech companies, tasked with deciding what over-the-air TV signals should look like.

ATSC 3.0 is the new standard for over-the-air channels. It is expected to bring improved viewing experience with higher audio and video quality and transmission for reception on fixed and mobile devices.

***What ATSC 3.0 means for Met Rec***

While the roll-out date of ATSC 3.0 has not yet been announced, Met Rec is tracking its progress and ensuring that new equipment purchases will accommodate the updated video transmission standard. The new standard requires Met Rec to purchase new translators for all translator sites.

**Our Operations Strategic Plan states:**

With the impending implementation of ATSC 3.0 video transmission standard, Met Rec needs to develop a strategy that will allow it to roll-out the new standard with minimal impact to capital replacement needs. All newly purchased equipment should allow for remote control and be ATSC 3.0 compliant to the greatest amount possible.

***Information about the translator system has been compiled in this packet to inform public discussion and input.***

Translator Site	Gunnison Studio	W Mountain	Jack's Cabin
<b>Capital Outlay Costs</b> <i>(estimate for 10 yr. life span)</i>	<b>\$234,000</b> (New and old Broadcast equipment)	<b>\$38,580.00</b> (3 Translators, purchased in 2020) <b>\$13,000.00</b> (1 Translator)	<b>\$65,000.00</b> (5 Translators @ approx. \$13,000 ea.)
<b>Site Lease Cost</b>	Met Rec owned facility	<b>\$319.00</b> (Western Colorado University, 5% annual increase)	<b>\$0</b> (USFS administered)
<b>Utilities Cost</b> <i>(annual average)</i>	<b>\$3,215.00</b>	<b>\$2,856.00</b>	<b>\$0</b> (GCEA provides electrical service and usage in exchange for co-location at site)
<b>Contract Labor</b> <i>(annual average)</i>	<b>\$5,030.00</b> (Broadcast Engineer)	<b>\$5,030.00</b> (Broadcast Engineer)	<b>\$5,030.00</b> (Broadcast Engineer)
<b>Re-build Needs</b>	Satellite dish installation & reconfiguration	New generator Site re-wiring Tower reconfiguration (~\$150,000.00)	Site re-wiring
<b># Household Respondents to TV Viewership Survey (2005)*</b>	N/A	319	16
<b># Household Respondents to TV Viewership Survey (2016)</b>	N/A	240	15
<b># Household Respondents to TV Viewership Survey (2020)</b>	N/A	207	5
<b>Telecommunication Services Available in Area**</b>	<b>Internet Providers:</b> Spectrum, Century Link, Internet Colorado, XtreamInternet, IC Connex <b>Satellite TV Providers:</b> Dish, Direct TV <b>Mobile Internet Providers:</b> AT&T, Verizon, T-Mobile	<b>Internet Providers:</b> Spectrum, Century Link, Internet Colorado, XtreamInternet, IC Connex <b>Satellite TV Providers:</b> Dish, Direct TV <b>Mobile Internet Providers:</b> AT&T, Verizon, T-Mobile	<b>Satellite Internet Providers:</b> HughesNet, Viasat <b>Satellite TV Providers:</b> Dish, Direct TV <b>Mobile Internet Providers:</b> AT&T, Verizon, T-Mobile
<b>Optimization Opportunities***</b>	N/A	<i>Currently hosts omnidirectional antennas. Consider antenna changes to optimize coverage to Gunnison area.</i>	<i>Currently hosts one-directional antennas.</i>
<b>Multi-Users</b>	<b>CBTV 10:</b> Facility space for CBTV 10 broadcast equipment. <b>KBUT:</b> KBUT Radio broadcast on Met Rec Channel Guide	<b>Colorado Public Radio:</b> Facility and tower space provided for FM translator service and satellite receiver to downlink their signal. <b>Colorado Central Telecom:</b> Microwave relay stations on Monarch a W Mountain to bring redundant highspeed data service to Gunnison. <b>KBUT Radio:</b> Facility and Tower space provided for FM translator service. <b>GCEA:</b> Facility and tower space used for Radio Communication equipment.	<b>KBUT Radio:</b> Facility and tower space provided for FM translator service. <b>GCEA:</b> Facility and tower space used for Radio Communication equipment.

Translator Site	CB South	Mt. CB <i>(serves Mt. CB and Town of CB)</i>	Monarch
<b>Capital Outlay Costs</b> <i>(estimate for 10 yr. life span)</i>	<b>\$50,000.00</b> (5 Translators @ approx. \$10,000 ea.)	<b>\$65,000.00</b> (5 Translators @ approx. \$13,000 ea.)	<b>\$24,917.00</b> (3 Translators, purchased in 2020)
<b>Site Lease Cost</b>	<b>\$3,000.00</b> (Private Lease)	<b>\$12,500.00</b> (Private Lease, \$500 annual increase)	<b>\$0</b> (USFS administered)
<b>Utilities Cost</b> <i>(annual average)</i>	<b>\$1,566.00</b>	<b>\$0</b> (paid by KBUT as part of co-location agreement)	<b>\$60.00</b> (Generac Mobil) <i>Electric paid by Colorado Central Telecom as part of co-location agreement</i>
<b>Contract Labor</b> <i>(annual average)</i>	<b>\$5,030.00</b> (Broadcast Engineer)	<b>\$5,030.00</b> (Broadcast Engineer)	<b>\$5,030.00</b> (Broadcast Engineer)
<b>Re-build Needs</b>	Site re-wiring	Site re-wiring	Site re-wiring Re-install generator
<b># Household Respondents to TV Viewership Survey (2005)*</b>	9	33	N/A (relay site)
<b># Household Respondents to TV Viewership Survey (2016)</b>	53	45	N/A (relay site)
<b># Household Respondents to TV Viewership Survey (2020)</b>	38	37	N/A (relay site)
<b>Telecommunication Services Available in Area**</b>	<b>Internet Providers:</b> Century Link, Spectrum, XstreamInternet, Internet Colorado <b>Satellite TV Providers:</b> Dish, Direct TV <b>Mobile Internet Providers:</b> AT&T, Verizon, T-Mobile	<b>Internet Providers:</b> Century Link, Spectrum <b>Satellite TV Providers:</b> Dish, Direct TV <b>Mobile Internet Providers:</b> AT&T, Verizon	N/A
<b>Optimization Opportunities***</b>	<i>Currently hosts one-directional antennas.</i> Modification to antenna propagation pattern to cover areas from CB South through Stallion Park and south of Skyland could be achieved by adding radiators and increase power to have licensed ERP across the multiple radiators.	<i>Currently hosts one-directional antennas.</i> Modification to antenna propagation pattern to cover additional areas could be achieved by adding radiators and increase the power to have licensed ERP across the multiple radiators.	Currently hosts one-directional antennas.
<b>Multi-Users</b>	None	<b>KBUT Radio:</b> Facility and tower space provided for FM translator service.	<b>Colorado Central Telecom:</b> Microwave relay stations on Monarch and W Mountain to bring redundant highspeed data service to Gunnison.

Translator Site	Sargents	Parlin	Waunita	Pitkin
<b>Capital Outlay Costs</b> <i>(estimate for 10 yr. life span)</i>	<b>\$45,000.00</b> (3 Translators @ approx. \$15,000 ea.)	<b>\$65,000.00</b> (5 Translators @ approx. \$13,000 ea.)	<b>\$45,000.00</b> (3 Translators @ approx. \$15,000 ea.)	<b>\$30,000.00</b> (2 Translators @ approx. \$15,000 ea.)
<b>Site Lease Cost</b>	<b>\$0</b> (USFS administered)	<b>\$0</b> (BLM administered)	<b>\$0</b> (USFS administered)	<b>\$0</b> (Town of Pitkin)
<b>Utilities Cost</b> <i>(annual average)</i>	<b>\$1,043.00</b>	<b>\$1,623.00</b>	<b>\$0</b> (Solar Site)	<b>\$995.00</b>
<b>Contract Labor</b> <i>(annual average)</i>	<b>\$5,030.00</b> (Broadcast Engineer)	<b>\$5,030.00</b> (Broadcast Engineer)	<b>\$5,030.00</b> (Broadcast Engineer) <b>\$1,000.00</b> (Solar Equipment Service)	<b>\$5,030.00</b> (Broadcast Engineer)
<b>Re-build Needs</b>	Site re-wiring	Site re-wiring	Site re-wire	Site re-wire
<b># Household Respondents to TV Viewership Survey (2005)*</b>	8	7	34	
<b># Household Respondents to TV Viewership Survey (2016)</b>	6	7	0	14
<b># Household Respondents to TV Viewership Survey (2020)</b>	3	3	4	7
<b>Telecommunication Services Available in Area**</b>	<b>Satellite Internet Providers:</b> HughesNet, Viasat <b>Satellite TV Providers:</b> Dish, Direct TV	<b>Satellite Internet Providers:</b> HughesNet, Viasat <b>Internet Providers:</b> XtreamInternet	<b>Satellite Internet Providers:</b> HughesNet, Viasat	<b>Satellite Internet Providers:</b> HughesNet, Viasat
<b>Optimization Opportunities***</b>	<i>Currently hosts two-directional antennas.</i>	<i>Currently hosts three-directional antennas.</i>	<i>Currently hosts two-directional antennas.</i>	<i>Currently hosts two-directional antennas.</i>
<b>Multi-Users</b>	None	<b>XtreamInternet:</b> ISP for Wood Product Signs (Parlin-based business) and surrounding residents	None	None

Translator Site	Gateview	Sapinero	Powderhorn
<b>Capital Outlay Costs</b> <i>(estimate for 10 yr. life span)</i>	<b>\$45,000.00</b> (3 Translators @ approx. \$15,000 ea.)	<b>\$20,000.00</b> (2 Translators @ approx. \$10,000 ea.)	<b>\$45,000.00</b> (3 Translators @ approx. \$15,000 ea.)
<b>Site Lease Cost</b>	<b>\$80.00</b> (Private Lease, \$400 for 5-year lease, increases \$25 every 5 years)	<b>\$0</b> (National Park Service)	<b>\$0</b> (BLM administered)
<b>Utilities Cost</b> <i>(annual average)</i>	<b>\$859.00</b>	<b>\$986.00</b>	<b>\$788.00</b>
<b>Contract Labor</b> <i>(annual average)</i>	<b>\$5,030.00</b> (Broadcast Engineer)	<b>\$5,030.00</b> (Broadcast Engineer)	<b>\$5,030.00</b> (Broadcast Engineer)
<b>Re-build Needs</b>	Site re-wire	New Tower (~\$5,000) Site re-wire	Site re-wiring
<b># Household Respondents to TV Viewership Survey (2005)*</b>	N/A (relay site)	2	3
<b># Household Respondents to TV Viewership Survey (2016)</b>	N/A (relay site)	0	4
<b># Household Respondents to TV Viewership Survey (2020)</b>	N/A (relay site)	6	2
<b>Telecommunication Services Available in Area**</b>		<b>Satellite Internet Providers:</b> HughesNet, Viasat <b>Mobile Internet Providers:</b> AT&T, Verizon, T-Mobile	<b>Satellite Internet Providers:</b> HughesNet, Viasat
<b>Optimization Opportunities***</b>	<i>Currently hosts two-directional antennas.</i>	<i>Currently hosts one-directional antennas.</i>	<i>Currently hosts two-directional antennas.</i>
<b>Multi-Users</b>	None	None	None

**\*# Household Respondents to TV Viewership Survey:** These values represent the number of households that responded to Met Rec Television viewership surveys. The Television Viewership Survey reports can be viewed [here](#) on the Met Rec website.

**\*\*Telecommunication Services Available in Area:** These are lists based off resident feedback and service provider information. They are intended to provide an overview of available services but do not represent all available services or the level of service reliability in the area(s).

**\*\*\*Optimization Opportunities:** Optimization of existing translator sites could entail increasing the broadcast pattern to cover additional areas. Most Met Rec translator sites currently only support one or two directional antennas. Therefore, increasing signal strength would require raising the Effective Radio Power (ERP) and/or adding antenna elements. Raising ERP would only be effective where terrain shielding is not an issue. The addition of antenna elements and raising the ERP both require FCC license modifications.