



Source: WA STATE DNR

## Chapter 9

### Communication Resources Asset Class

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# Executive Summary

The Communication Resources Asset Class consists of various leases and lease types for communication infrastructure sites throughout the State of Washington. The table below provides a brief summary of the Communication Resources Asset Class and a conclusion on the Trust Value for each subgroup and the whole asset class based on the following extraordinary assumptions.

We assume that all communication sites on state trust lands adhere to proper zoning regulations outlined in local general plans. If not fully compliant, we assume that each property is legally non-conforming to the proper regulations and standards. For the purpose of this analysis, we assume that the ownership interest is non-transferable resulting in the land not being able to be sold. We relied upon information provided by the Trust Manager for all specific data regarding data files, leasing activities and financials, and size and ownership information. We assume the accuracy of all information provided is sufficient for the purposes of this valuation.

Importantly, the value appraised is Trust Value, which is defined earlier in this report. This value type is applicable to all asset classes and subject to specific laws, regulations, or management policies that restrict the use, marketability, or sale of these asset classes.

<b>Communication Resources Asset Class Executive Summary</b>			
	<b>Radio/TV/Other Leases</b>	<b>Cellular Leases</b>	<b>Total / Average</b>
Lease Count	362	60	422
Stabilized Gross Revenues	\$3,500,000	\$1,300,000	\$4,800,000
Operating Cost 30% Deduct	(\$1,050,000)	(\$390,000)	(\$1,440,000)
Trust Net Operating Income	\$2,450,000	\$910,000	\$3,360,000
Capitalization Rate	9.00%	6.50%	8.15%
<b>Value Indication (Rounded)</b>	<b>\$27,200,000</b>	<b>\$14,000,000</b>	<b>\$41,200,000</b>
<b>Concluded Trust Value</b>	<b>\$27,200,000</b>	<b>\$14,000,000</b>	<b>\$41,200,000</b>
<b>Concluded Value per Lease</b>	<b>\$75,138</b>	<b>\$233,333</b>	<b>\$97,630</b>

# Introduction

The Communication Resources Asset Class includes 103 wireless telecommunication sites with 422 lease agreements.

## INTRODUCTION

Washington's state trust lands provide ideal locations for communication towers, particularly the hilltops and mountain tops located throughout many parts of the state.

State trust lands include more than 100 wireless telecommunication sites in diverse and prime locations to serve the large population centers of the Puget Sound lowlands, Spokane, and the Tri Cities. In addition, sites that provide ideal coverage for rural and urban populations are located across the state.

The Washington State Department of Natural Resources (the "Trust Manager" or "Trust Management") leases sites for new communication facilities and for co-locating within state trust land facilities. The 3 million acres of state trust lands offer many different types of opportunities for private and public entities to establish new communications sites and expand existing sites.<sup>1</sup>

This asset class consists of various leases and lease types for communication infrastructure sites. Generally, these sites are located on mountain tops or in areas with topographic relief that allow for unobstructed sight lines. These sites are used for microwave beams; emergency communication radio repeaters; private radio repeaters; and television (TV), radio, cellular, and digital telephone antennas. It is typical for multiple leases (i.e., contracts) to be negotiated for one mountain top site.

It is also common for a tower company to lease state land, construct and/or operate the communication tower on that land, and then lease space on the tower to wireless service providers. Since a percentage of the rent paid by subtenants is passed on to DNR, this type of lease often generates more revenue than other communication leases.

Conversations with the Trust Manager suggest that the communication sites program is striving to move less towards constructing and owning improvements on communication sites and more towards ground lease relationship only. Additionally, the program is striving to move from a rental structure dependent on fixed rates based on the height of improvements to a rental structure based on a percentage of revenue method.

## Communication Resources

This asset class consists of various leases and lease types for communication infrastructure sites. Generally, these sites are located on mountain tops or areas with topographic relief that allows for unobstructed sight lines. These sites are used for microwave beams; emergency communication radio repeaters; private radio repeaters; and TV, radio, cellular, and digital telephone antennas.

<sup>1</sup><https://www.dnr.wa.gov/programs-and-services/product-sales-and-leasing/communications-towers>

Of the large portfolio of state trust land assets owned by the state, the Communication Resources Asset Class represents the smallest in geographical size. As of FY 2018, the total acreage of the asset class comprised approximately 91 acres spread across 103 communication sites.

Approximately 68 communication sites (66 percent) are located west of the Cascade mountain range, and the remaining 35 sites (34 percent) are located east of the mountains.

As a general note, all dollar amounts reported in this chapter are nominal and have not been adjusted for inflation. Additionally, we note that all years referenced are fiscal years—not calendar years. The fiscal year for state trust lands begins on July 1 and ends on June 30.

**Subgroups.** Communication sites are typically located on mountain tops, prominent ridges or hills and transportation corridors used as sites for communication antennas. In general, state trust lands with communication sites are used for cellular communication, microwave, TV, and FM radio broadcasting.

For purposes of analysis and discussion, the Communication Resources Asset Class is divided into two subgroups:

### 1. Radio, TV, and Other Leases

- a. Leases for radio, TV, or any other type of non-cellular communication or broadcasting use.
- b. Rental rates for Radio, TV, and other non-cellular lease types are generally, though not always, lower than those negotiated for leases with cellular communication uses.

### 2. Cellular Leases

- a. Leases for cellular communication usage, many of which include large wireless telecommunications carriers as tenants (i.e., Verizon, AT&T).
- b. Typically, Cellular Leases attract higher lease payments due to the greater quantity of data that can be transferred and the larger number of recipients this transmission type can reach.
- c. We acknowledge that areas of state trust lands are leased to tower companies who own/operate towers that may further be subleased to large wireless telecommunication carriers. However, these lease types have not been included in this subgroup as they are not direct to the carriers and sublease data is less available.

The majority of current leases are for general uses that fall into the Radio, TV, and Other Leases subgroup.

The total number of leases exceeds the total number of sites because multiple leases or contracts are often located at the same sites. The Trust Manager manages a total of 422 leases across 103 sites. In FY 2018, the Communication Resources Asset Class received revenue from a total of 362 different contracts. The Trust Manager confirmed that the remaining 60 contracts did not generate revenue in FY 2018 for one of the following reasons:

1. The contract closed or expired by FY 2018, with the last payment received in FY 2017 or earlier. The Trust Manager explained that data entry errors may result in incorrect lease end dates that extend past the actual expiration dates.
2. The contract expired in FY 2017 and was extended into FY 2018, but the first payment was not collected until FY 2019.



3. The contract is a perpetual, no-cost, or low-cost easement that DNR granted to a governmental entity in the past. DNR no longer grants these types of easements to governmental agencies.

The site and lease counts associated with revenue reported in FY 2018 have been summarized by subgroup in the following table:

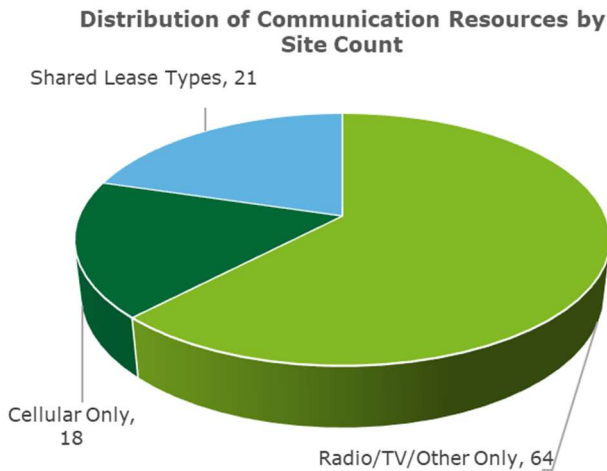
**Communication Resources Subgroup Site Count**

FIGURE 1

Communication Resources	Lease Count	Site Count*
Radio/TV/Other Leases	362	85
Cellular Leases	60	39
<b>Totals</b>	<b>422</b>	<b>103</b>

\*Represents the number of sites with each lease type present. 21 sites share leases of both types resulting in 103 total sites.

FIGURE 2



Of the 103 sites associated with FY 2018 leases, the majority (64 sites) were leased for radio, TV, and other uses, 18 sites were leased for cellular use only, and 21 sites were leased for both cellular and radio, TV, and other uses.

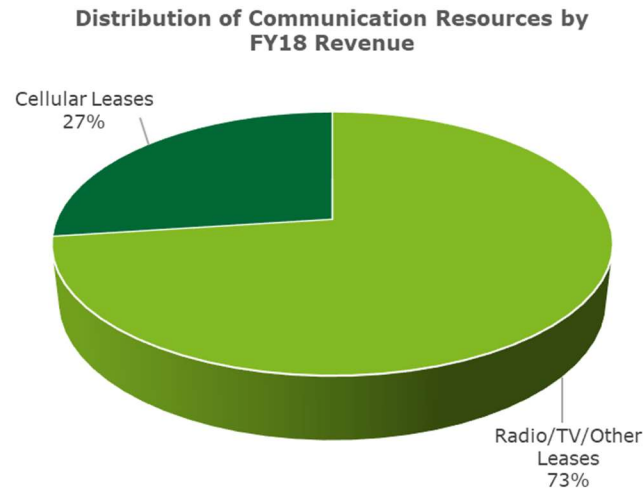
The following table and chart highlight the allocation of gross FY 2018 revenue (rounded) between subgroup types.

**Communication Resources Subgroup Revenue**

FIGURE 3

Communication Resources	Lease Count	Gross Revenue (FY18)
Radio/TV/Other Leases	362	\$3,500,000
Cellular Leases	60	\$1,300,000
<b>Totals</b>	<b>422</b>	<b>\$4,800,000</b>

FIGURE 4



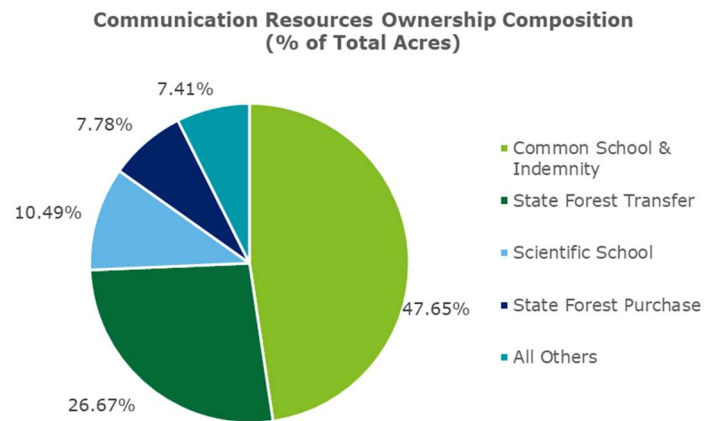
While cellular leases only comprise roughly 14 percent of the total lease count, they accounted for 27 percent of the gross revenue received in FY 2018. Leases for radio, TV, and other uses brought in the majority of gross revenue at 73 percent.

**Communication Resources Asset Class Ownership.**

The Trust Manager manages and operates state trust lands owned by the State of Washington for the benefit of designated trust beneficiaries. To be concise, this report uses the term “ownership” or “ownership interests” to describe the amount or percentage of gross revenue or land managed by the Trust Manager on behalf of specific trust beneficiaries, even though the land is owned by the State of Washington and not the trust beneficiaries.

The following charts present the trust beneficiaries’ ownership interest in the Communication Resources Asset Class based on acreage and gross revenue in FY 2018.

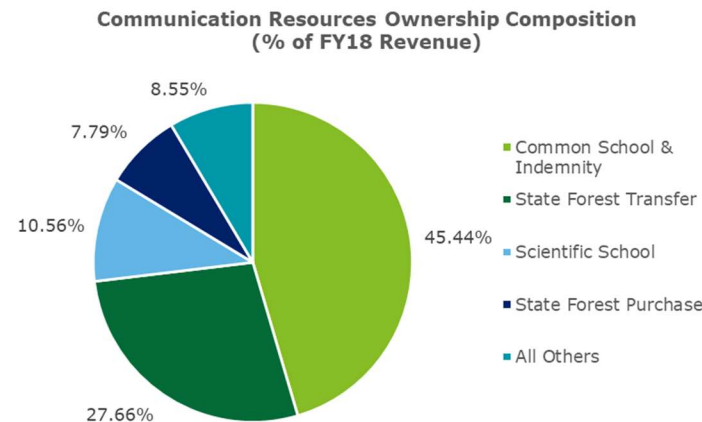
FIGURE 5



The largest ownership interest is held by the Common School and Indemnity Trust, which supports statewide public school (K-12) construction and other designated programs. The beneficiary ownership interest in state trust lands are the result of federal land grants to Washington at the time statehood was granted. The following chart highlights the acreage by ownership interest.

The following chart highlights the ownership interests by revenue received.

FIGURE 6



The second largest interest is held by the State Forest Transfer Trust, which received approximately 27.7 percent of FY 2018 gross revenue for this asset class. Next, the Scientific School Trust holds an interest in 10.5 percent of the total acreage and received a similar percentage of FY 2018 gross revenue. All other trusts hold little or no interest in the asset class.

# Physical Description

In FY 2018, the total acreage of the Communication Resources Asset Class was approximately 91 acres across 103 sites in six management regions.

FIGURE 7

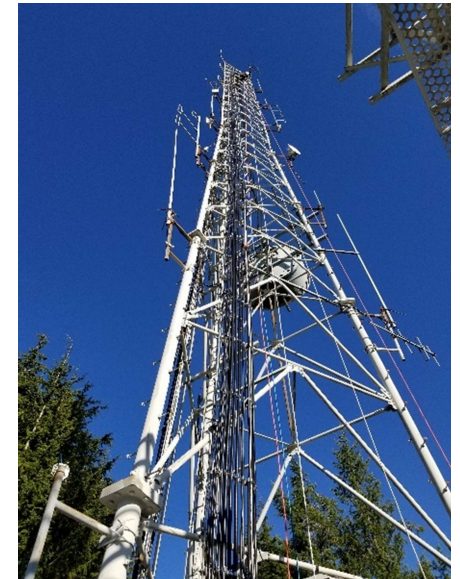
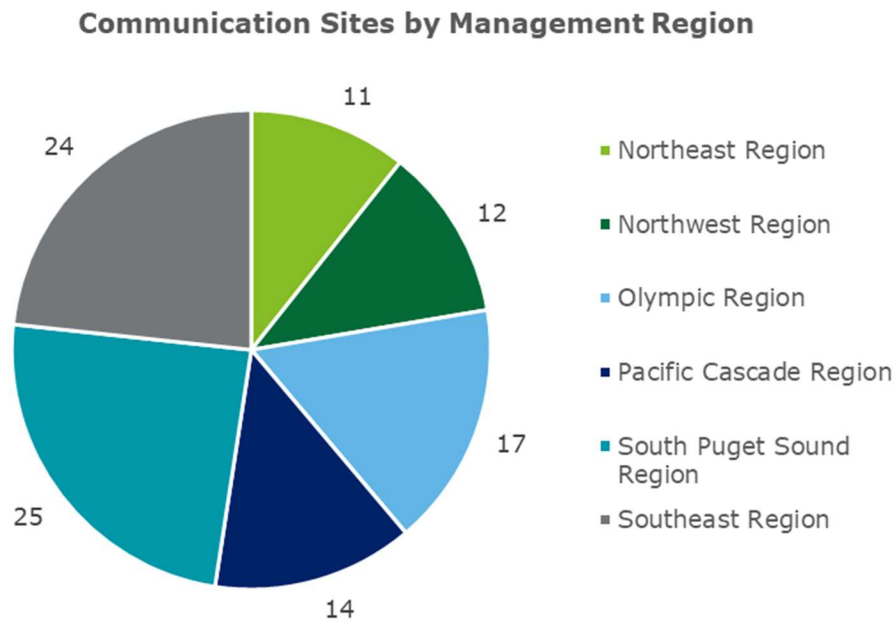


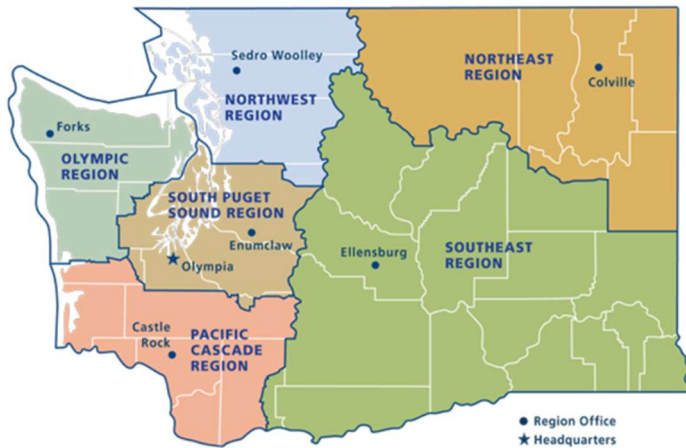
IMAGE SHOWS A COMMUNICATION TOWER LOCATED AT THE GOLD MOUNTAIN COMMUNICATION SITE ON STATE TRUST LANDS. SOURCE: WA STATE DNR



As shown in the previous figure, communication sites leased on state trust lands are spread throughout the six management regions of the state. The largest number of sites (25) are located in the South Puget Sound region which includes Olympia and most of the greater Seattle/Tacoma metro areas. Approximately 24 sites serve the Southeast region. The following map<sup>2</sup> outlines the boundaries of the six management regions in Washington as classified by the Trust Manager.

### Map of Trust Management Regions

FIGURE 8



Generally, state trust lands leased for communication uses are elevated on mountain tops or located in areas with topographic relief that allows for unobstructed sight lines.

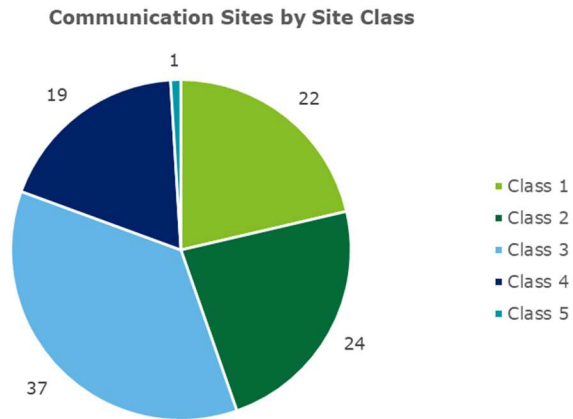
Based on population density, road access, topographic advantage, traffic density of serviced areas, and supply of comparable sites, the Trust Manager categorizes communication sites into five site classes. Following is a summary of each class:

- **Class 1:** A site that serves a high population density, brings communications to a broad geographic area, and/or has road access with commercial and standby power available.
- **Class 2:** A site that has the same physical attributes as a Class 1 site, except it does not serve a high population density or it has some limitations serving a broad geographic area.
- **Class 3:** A site with road access, but it serves a smaller population density or geographic area than Class 2 sites.
- **Class 4:** A remote site with limited road access, and power may or may not be available.
- **Class 5:** A site used only by county Emergency Management Services (EMS), for counties with fewer than 5,000 people.

<sup>2</sup> Map sourced from <https://www.dnr.wa.gov/about/dnr-regions-and-districts>

The following chart displays the 103 sites leased in the Communication Resources Asset Class separated by site class.

FIGURE 9

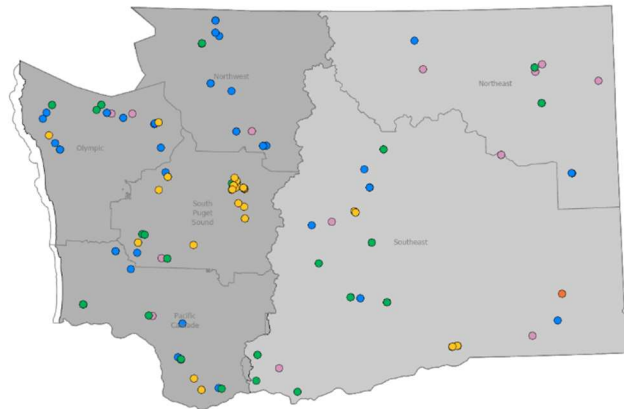


The following maps are presented to display the locations of communication sites by site class designation, as identified by color scheme:

- Class 1: *Orange*
- Class 2: *Green*
- Class 3: *Blue*
- Class 4: *Pink*
- Class 5: *Red*

### All Communication Sites by Site Class Designation

FIGURE 10



Conversations with the Trust Manager revealed there is a continual process in place to convert actual records data into spatial files in the GIS database. As such, note that the number of sites shown on maps created in the GIS database do not tie directly to the counts obtained from the FY 2018 data provided by the Trust Manager.

The majority of trust-owned communication sites are categorized as Class 3 sites. In fact, 83 sites are categorized as Class 1, Class 2, or Class 3, which means approximately 81 percent of all communication sites are serviced by average or above average road access.

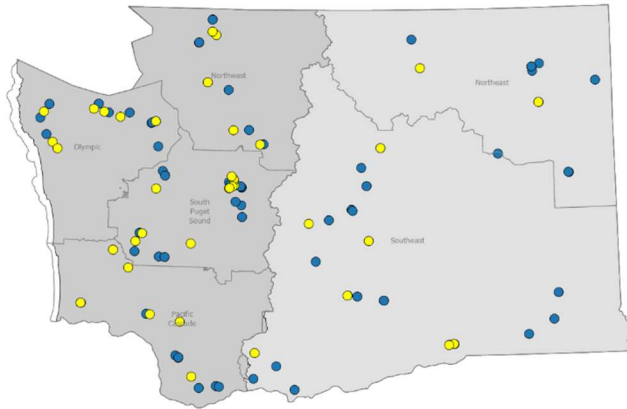
Of the 422 leases for communication sites on state trust lands in FY 2018, 395 were located at Class 1, Class 2, or Class 3 sites, while the remaining 27 leases were located at sites designated as Class 4 or Class 5.

The following sequence of maps are presented to display the location of communication sites designated by subgroup. While communication sites are spread throughout the state, the heaviest concentrations are in the northwest area near more populated areas. The highest number of leases are found in Clallam and King counties, with 49 leases and 48 leases, respectively.

In the following map, communication sites with Cellular Leases are identified by a light yellow dot, while sites with radio, TV, and all other non-cellular lease types are identified by blue dots.

**Map of All Communication Sites by Lease Type**

FIGURE 11



**Radio, TV, and Other Leases**

In FY 2018, the majority of the 361 leases for radio, TV, or other non-cellular uses were located at Class 1 or Class 2

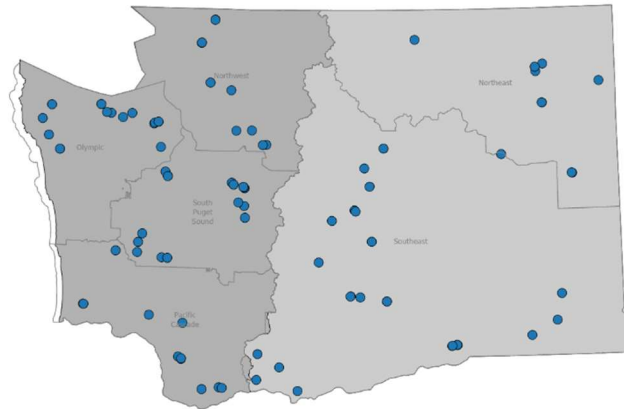
communication sites. A more detailed split of the number of Radio, TV, and Other Leases by site class follows:

- Class 1 – 134 leases
- Class 2 – 128 leases
- Class 3 – 74 leases
- Class 4 – 23 leases
- Class 5 – 2 leases

The following map highlights sites where Radio, TV, and Other Leases are located throughout the state.

**Map of Radio, TV, and Other Leases**

FIGURE 12



**Cellular Leases**

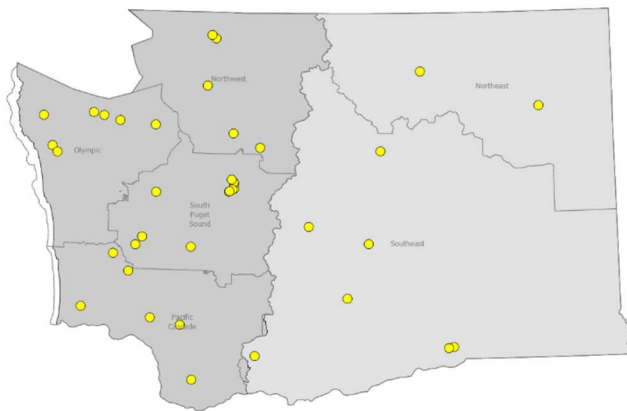
In FY 2018, the majority of the 52 leases for cellular uses were also located at Class 1 or Class 2 communication sites. A more detailed split of the number of Cellular Leases by site class follows:

- Class 1 – 21 leases
- Class 2 – 16 leases
- Class 3 – 22 leases
- Class 4 – 2 leases
- Class 5 – 0 leases

The following map highlights where sites with Cellular Leases are located throughout the state. Note that 21 sites with Cellular Leases share leases with the Radio, TV, and other subgroup.

### Map of Cellular Leases

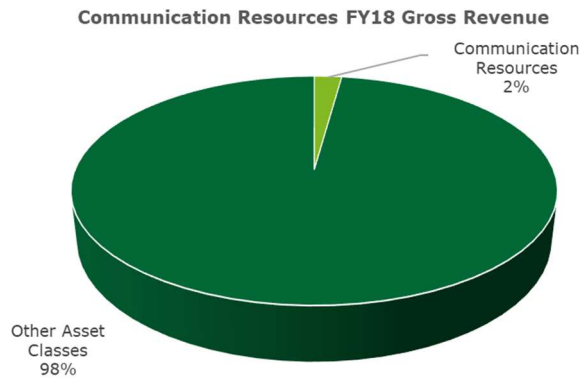
FIGURE 13



# Operational History

The Communication Resources Asset Class generally produces more than \$4.5 million in gross annual revenue.

FIGURE 14



## COMMUNICATION RESOURCES ASSET CLASS REVENUE 2007 TO 2018

For the scope of this project, we analyzed the operational history of each asset class. Operating information has been provided to the analysts for the past 12 fiscal years. Revenue amounts were not adjusted for inflation and are presented in this report in nominal values, not real values.

The chart below displays the total gross revenue<sup>3</sup> (before the operating cost percentage deduction) received from

communication site leases from 2007 to 2018 in nominal (not real) values.

FIGURE 15



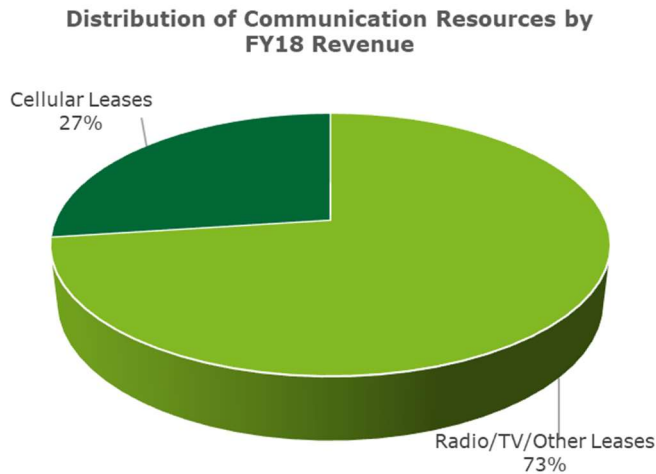
The revenue above was not stacked to show the relative portions of Cellular Leases versus Radio, TV, and Other Leases because the Trust Manager’s accounting system does not track historical revenue to this level of detail.

However, we analyzed and categorized FY 2018 revenue based on the relative portions of Cellular Leases versus Radio, TV, and Other Leases. The following chart shows that Cellular Leases accounted for 27 percent of gross revenue.

<sup>3</sup> Gross revenues exclude sub-sources 6, 3045, 4005, 5022, 5250, 6022, and 9088 as they are not included in reported operating cost percentage deduction totals.



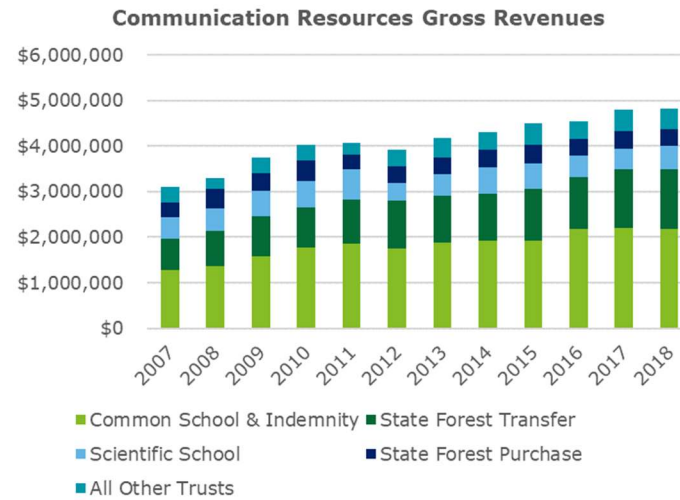
FIGURE 16



Gross revenue for the Communication Resources Asset Class grew from \$3.1 million to \$4.8 million between 2007 and 2018. This represents a compound annual growth rate of 4.07 percent. The compound annual growth rate is defined as the annual rate of growth required for the beginning balance to grow to its ending balance.

**Ownership Composition.** The following chart highlights the revenue received by trust beneficiaries with the largest ownership by percentage of revenue for this asset class.

FIGURE 17



**OPERATING COST PERCENTAGE DEDUCTION**

As gross proceeds are received, an operating cost percentage deduction is applied and paid to the Trust Manager. From the trust beneficiary ownership position, there are no outflows of funds to operate and maintain the asset class; the Trust Manager budgets for actual costs and capital expenditures and pays these costs directly from the operating cost percentage deduction received during the year.

The operating cost percentage deduction is legislatively set and typically ranges between 25 percent and 31 percent of total gross revenue, depending on the management account associated with each trust ownership. Historical data reported in this analysis reflects actual blended rates deducted. We have used an estimated assumption of 30 percent for the operating cost percentage deduction of this asset class which has been applied in the direct capitalization method.

**Operating Cost Percentage Deduction versus Direct Operating Expenses.** The operating cost percentage deduction is different than actual operating expenses and capital expenditures incurred to operate and manage the assets in the Communication Resources Asset Class.

When the total operating cost percentage deduction for all asset classes exceeds actual operating costs and capital expenditures for the year, the excess is held in reserve for future years when the operating cost percentage deduction does not cover actual costs. The reserve balances are reported by fund and held in separate accounts—the Resource Management Cost Account, Forest Development Account, and the Agriculture College Trust Management Account.

The Resource Management Cost Account is held in the State Treasury and created and used solely to defray the costs and expenses incurred by the Trust Manager to manage and administer state trust lands, including state-owned aquatic lands, as well as make and administer leases, sales, contracts, licenses, permits, easements, and rights of way as authorized (RCW 79.64.020).

The Forest Development Account was created by RCW 79.64.100, and it is held in the State Treasury. Primarily, the Forest Development Account is used to make interest and principal payments on bonds issued by the Trust Manager, but the state legislature may also appropriate funds from the account to enable the Trust Manager to carry out forest management activities on state forestlands or reimburse the Resource Management Cost Account for expenditures required to manage state forestlands.

The third account is the Agriculture College Trust Management Account. This account does not retain an operating cost percentage deduction, but the Trust Manager receives a direct appropriation from this account,

as determined by the state legislature, to conduct management work. Trust beneficiaries retain all gross revenue.

The reserve balances for all asset classes as of June 30, 2018 were approximately \$12.6 million (Resource Management Cost Account) and nearly \$4 million (Forest Development Account). Over the last 10 years, the Resource Management Cost Account reserves reached a high of more than \$17 million at the end of FY 2014 and a low of \$800,000 at the end of FY 2009. The Forest Development Account reserves reached a high of \$24 million at the end of FY 2011 and a low of just under \$4 million at the end of 2018.

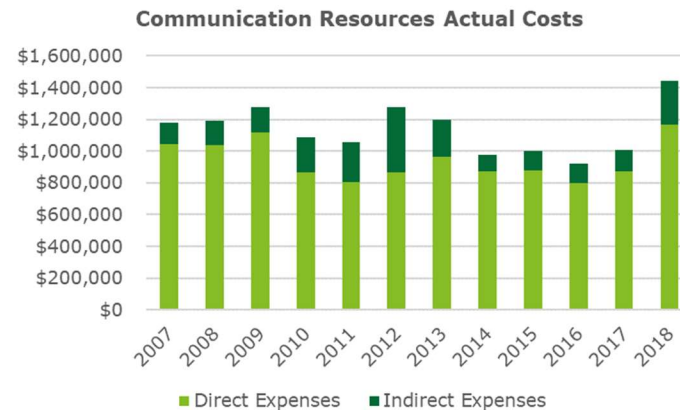
However, note that these are snapshots as of the end of fiscal years. In reality, fund balances constantly change across a much wider range throughout each year. On a few occasions, reserves have dipped down to only a couple weeks of operating expenses on a few occasions.

The following chart presents the dollar amounts of the historical operating cost percentage deduction from 2007 to 2018 for the Communication Resources Asset Class. The operating cost percentage deduction is proportionate to the gross revenue produced by the asset class each year—it rises and falls along with trust earnings and may not reflect increases or decreases in the Trust Manager’s actual costs. These dollar amounts include both portions of revenue distributed to the Trust Manager from communication sites and incidental revenue from trespassing fines, non-federal conservation programs, Initial Incident Report (IIR) restitutions, power charges, and other assessments. The split expense amounts for each subgroup are not readily available within the current accounting system utilized by the Trust Manager.

FIGURE 18



FIGURE 19



### ACTUAL COSTS

The following is a discussion of the actual costs incurred by trust beneficiaries and paid by the Trust Manager from funds received as a result of the operating cost percentage deduction.

The following chart highlights the historical actual costs incurred by the Trust Manager, which are split between direct and indirect expenses. The Trust Manager’s accounting system does not record costs at the subgroup level.

**Direct Expenses.** Direct expenses include all costs directly related to managing communication sites, as well as allocations of general costs.

Currently, direct expenses include all costs directly related to managing lands, including:

- Resource and leasing management
- Project, sales, and planning management

The allocations of general costs are related to:

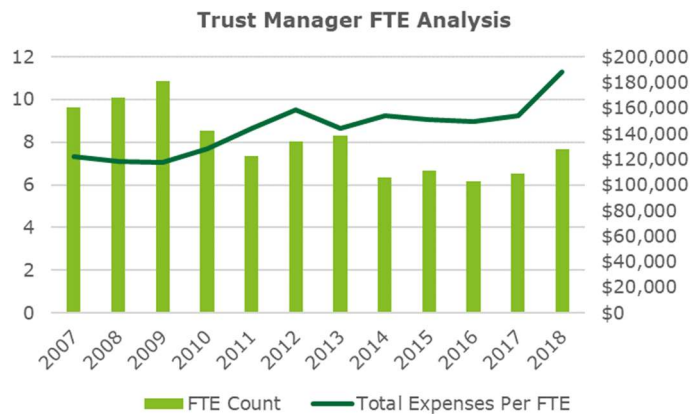
- Uplands
  - Examples include environmental analysis, state lands training, and law enforcement
- Engineering and general services
  - Examples include resource mapping, surveying, and record keeping
- Infrastructure for state trust lands
  - Examples include communication infrastructure costs

**Indirect Expenses.** Indirect expenses include all overhead costs allocated to the Trust Manager for:

- Administrative and agency support
- Adjustments
- Legal services
- Strategic investments
- Other administrative payments

As seen in the following full-time employee analysis, the Trust Manager typically retained approximately seven full-time employees for the Communication Resources Asset Class over the last four fiscal years. The total actual costs paid by the Trust Manager have ranged from \$150,000 to \$188,000 per full-time employee over that same period. These costs include all direct and indirect expenses, including salaries, as well as benefits and overhead.

FIGURE 20



**NET CASH FLOW FROM 2014 TO 2018**

Trust beneficiaries pay a portion of the gross revenue (i.e., operating cost percentage deduction) to the Trust Manager for operating expenses and capital expenditures. These costs include direct and indirect expenses. The cash flows net of the operating cost percentage deduction are then distributed to the appropriate funds by ownership.

The following table summarizes the net cash flows distributed to the trust beneficiaries over the past five fiscal years for this asset class. These dollar amounts include both portions of revenue distributed to the Trust Manager from communication sites and incidental revenue from trespassing fines, non-federal conservation programs, IIR restitutions, power charges, and other assessments. These cash flows indicate the Communication Resources Asset Class provides trust beneficiaries net cash flows with \$3.0 million to \$3.4 million per year.

FIGURE 21

	2014	2015	2016	2017	2018
<b>Total Annual Gross Revenue</b>	<b>\$4,311,955</b>	<b>\$4,502,407</b>	<b>\$4,550,528</b>	<b>\$4,792,742</b>	<b>\$4,809,193</b>
Operating Cost % Deduct	(\$1,268,431)	(\$1,313,013)	(\$1,405,243)	(\$1,443,728)	(\$1,434,592)
% of Revenue	29.42%	29.16%	30.88%	30.12%	29.83%
<b>Revenue Distributed to Trusts</b>	<b>\$3,043,524</b>	<b>\$3,189,394</b>	<b>\$3,145,284</b>	<b>\$3,349,014</b>	<b>\$3,374,601</b>
<b>% of Revenue</b>	<b>70.58%</b>	<b>70.84%</b>	<b>69.12%</b>	<b>69.88%</b>	<b>70.17%</b>

# Property Taxes and Zoning

The State of Washington is exempt from paying direct real property taxes for communication sites; however, tenants are not.

## PROPERTY TAXES

Property taxes are a local government's main source of revenue. Most localities tax private homes, land, and business property based on the property's value.

Lands owned by the state are exempt from property tax obligations under the state constitution. However, because private lessees of state land receive the benefit of governmental services, the legislature imposes a leasehold excise tax on these private lessees under RCW 82.29A.

Leasehold excise tax is paid by the lessee to the Trust Manager when rent is paid, and the Trust Manager remits the payment to the Department of Revenue. Land that is not leased does not pay property taxes or leasehold excise tax. Generally, the leasehold excise tax on leased land is most often less than what property taxes would be for the same land.

## ZONING

We assume that all communication sites in the Communication Resources Asset Class adhere to the proper zoning regulations outlined in local general plans. If not fully compliant, we assume that each property is legally non-conforming to the proper zoning regulations and development standards.



IMAGE SHOWS THE JUMP OFF JOE COMMUNICATION SITE LOCATED ON STATE TRUST LANDS. SOURCE: WA STATE DNR



# Market Analysis

The wireless telecommunications carriers, radio broadcasting companies, and TV broadcasting companies continue to grow, despite challenges.

## COMMUNICATION RESOURCES MARKET OVERVIEW

The entire market analysis section is based on information and data sourced from IBISWorld, a trusted industry research firm. The different industry sectors discussed in the market overview are national overviews in the United States that include the state of Washington. The three relevant industry sectors discussed in this section are the Wireless Telecommunications Carriers Industry, Radio Broadcasting Industry, and TV Broadcasting Industry.

### Wireless Telecommunications Carriers Industry Performance (National Overview)

According to IBISWorld, the wireless telecommunications carrier industry includes service providers that deliver cellular mobile phone, paging, wireless Internet, and wireless video services. The industry operates and maintains switching and transmission facilities to provide direct communications through the airwaves.

Over the past five years, there have been rapid developments in mobile devices. The number of households that only maintain wireless telephone connections has increased significantly during this period. Additionally, as technology transitions to fourth-generation wireless data services and the long-term evolution standard, the industry is changing to primarily deliver broadband connectivity.

Revenue for the US wireless telecommunications carriers industry is projected to grow at an annualized rate of 3.2 percent to approximately \$331 billion by 2024. This growth is fueled by the expansion of mobile devices that use data services and increases in the average revenue per user.

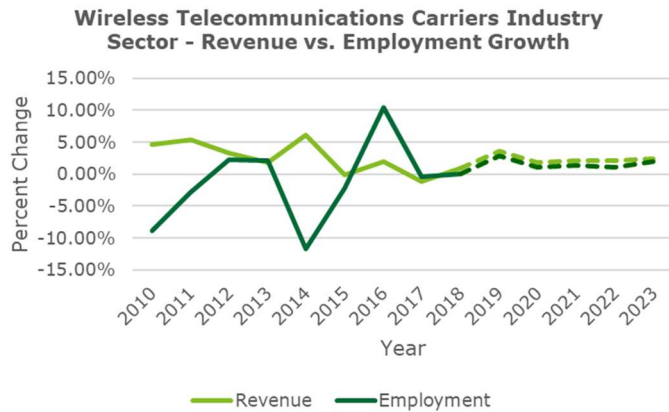
The major companies in this industry are AT&T Inc., Verizon Wireless, Deutsche Telekom, and Sprint Corporation.<sup>4</sup> Combined, these companies comprise approximately 67 percent of the industry's market share.

The following chart displays historical and projected revenue and employment growth in this industry between 2010 and 2023.

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<sup>4</sup> Before Deutsche Telekom (T-Mobile) and Sprint merger in 2020.

FIGURE 22



Between 2009 and 2018, revenue growth in the sector increased by a compound annual growth rate of 2.5 percent, while employment decreased over this same period at an average annual rate of 1.4 percent. The projected nationwide annual growth rates between 2018 and 2023 are 2.4 percent for revenue and 1.65 percent for employment.<sup>4</sup>

**Radio Broadcasting Industry Performance (National Overview)**

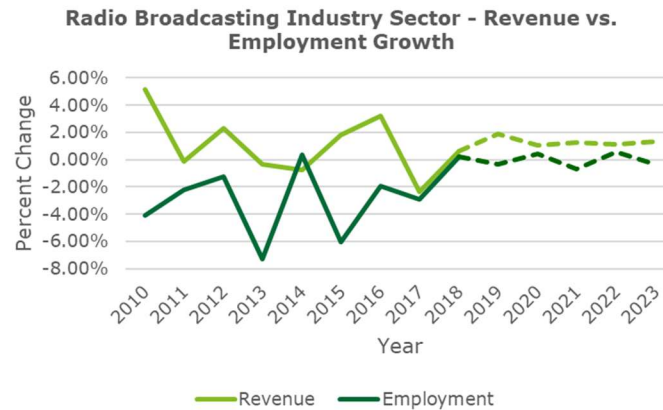
Additional national data were compiled and analyzed for the radio broadcasting industry. According to IBISWorld, this industry includes broadcasting stations, networks, and syndicates that transmit audio programming through AM, FM, and satellite radio channels.

Advertising is the main revenue stream for the radio broadcasting industry, but over the last five years, the industry has struggled to keep its audience and the advertising revenue the audience generates has plummeted. Consumers are moving away from radio in favor of digital media platforms. As a result, many companies are shifting their advertising budgets away from radio broadcasting and toward digital media platforms.

While struggling to stay relevant, the industry has been able to maintain its presence as satellite radio has been successful. The company with the highest percentage of market share in the industry is Sirius XM Radio Inc.

The following chart displays historical and projected revenue and employment growth in this industry sector between 2010 and 2023.

FIGURE 23



<sup>4</sup> Data sourced from "Wireless Telecommunications Industry Report," IBISWorld, July 2018.

Between 2009 and 2018, revenue growth in the sector increased by a compound annual growth rate of 1.05 percent to reach revenue of \$20.2 billion in 2018. Employment decreased over this same period at an average of -2.83 percent annually. The projected nationwide annual growth rate between 2018 and 2023 is 1.32 percent annually for revenue and -0.08 percent annually for employment.<sup>5</sup>

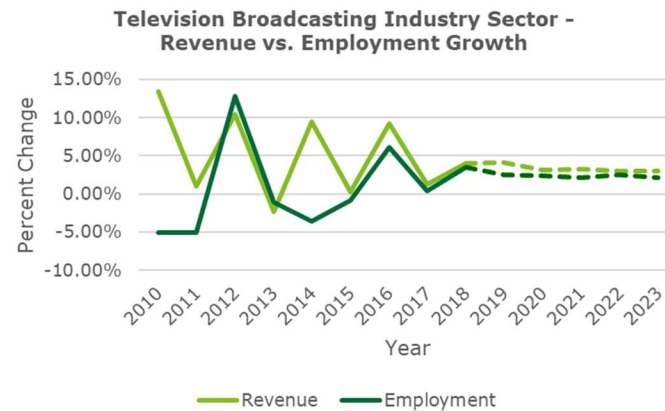
### TV Broadcasting Industry Performance (National Overview)

Additional national data were compiled and analyzed for the TV broadcasting industry. According to IBISWorld, this industry includes TV broadcasters that operate studios and facilities that deliver audiovisual content to the public via over-the-air transmission. This industry excludes cable and satellite TV operators that only provide online content.

Over the past five years, the TV broadcasting industry has grown due to increases in overall advertising expenditures by companies, even though traditional TV viewership is in decline. The industry is expected to continue growing over the next five years, although competition for advertising dollars will remain fierce over this period and fluid consumer viewing habits will require adjustments by broadcasters.

The following chart displays historical and projected revenue and employment growth in this industry sector between 2010 and 2023.

FIGURE 24



Between 2009 and 2018, revenue growth in the sector increased by a compound annual growth rate of 5.05 percent to reach revenue of \$61.1 billion in 2018. Employment remained fairly stagnant over this same period, only increasing at an average of 0.62 percent annually. The projected nationwide annual growth rate between 2018 and 2023 is 3.27 percent annually for revenue and 2.32 percent annually for employment.<sup>6</sup>

<sup>5</sup> Data sourced from "Radio Broadcasting Industry Report," IBISWorld, May 2018.

<sup>6</sup> Data sourced from "Television Broadcasting Industry Report," IBISWorld, August 2018.

# Methodology

The income approach was the valuation methodology selected for this study.

## Methodology

The income approach is the basis for the valuation of this asset class because the properties currently produce annual income through lease agreements and the receipt of future cash flows is expected.

The Trust Manager's data files were the principal source of market and value information (i.e., annual gross lease revenue, direct and indirect expenses, and other financial information) and include lease activity obtained in the ordinary course of the management of assets.

Due to the nature of the cash flow stream this asset class produces through its negotiated leases, the income approach was the methodology utilized. Adequate quantities of market data existed to use the income approach.

The flowchart that follows displays the steps taken in the valuation analysis for the Communication Resources Asset Class.

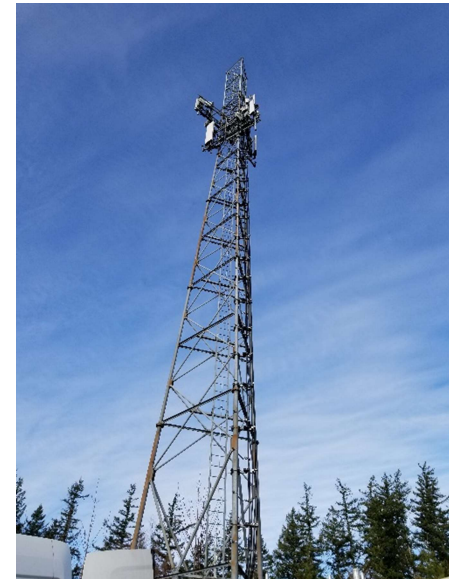
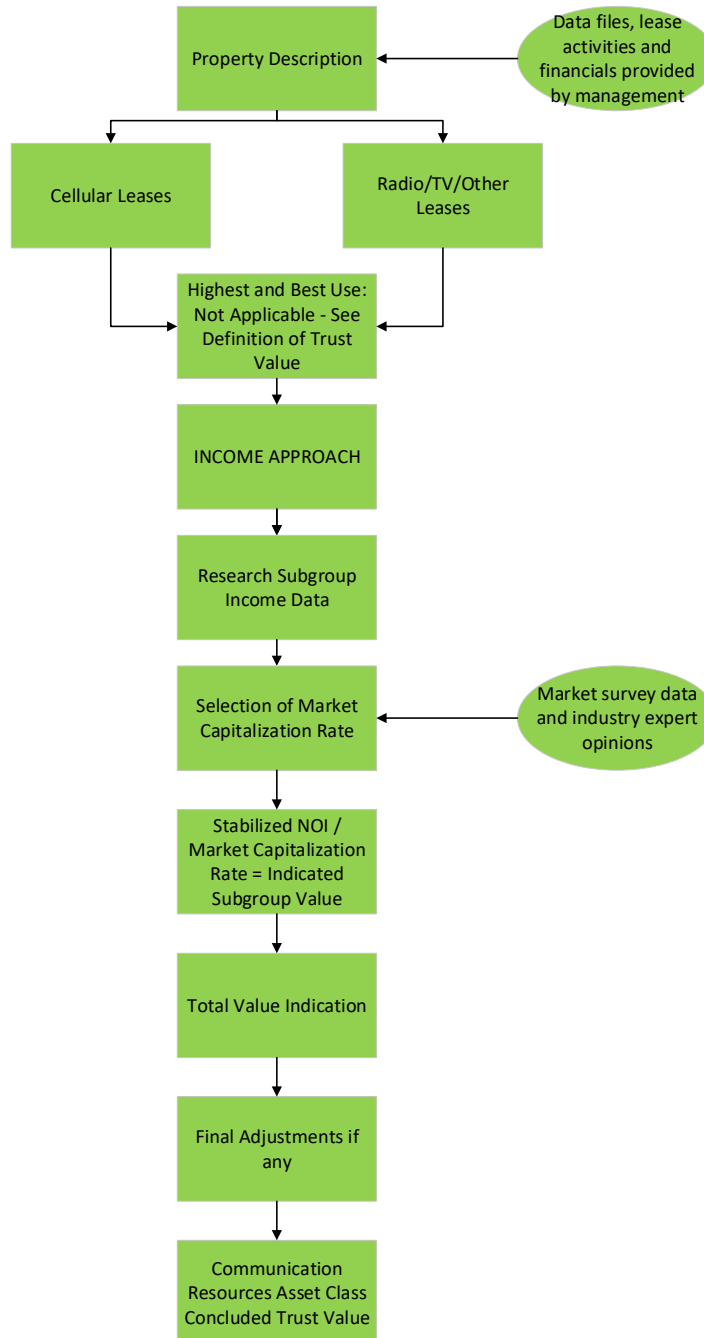


IMAGE SHOWS A COMMUNICATION TOWER LOCATED AT THE SUMMIT LAKE COMMUNICATION SITE ON STATE TRUST LANDS. SOURCE: WA STATE DNR

### Communication Resources Asset Class Valuation Flowchart

FIGURE 25





### Trust Value Analysis

We evaluated the Trust Value of the Communication Resources Asset Class by using the approach described below:

#### Income Approach

The income approach involves a set of procedures through which an appraiser derives a value indication for an income-producing property by converting its anticipated benefits (i.e., cash flows and reversion) into property value using one of the following methods:

- *Discounted Cash Flow Method:* The annual cash flows for the holding period and the reversion are discounted at a specified yield rate. The discounted cash flow method was not used in this analysis.
- *Direct Capitalization Method:* One year's income expectancy is capitalized at a capitalization rate that reflects a specified income pattern, return on investment, and change in the value of the investment. The direct capitalization method was used in this analysis.

An overall capitalization rate is defined as a ratio of one year's net operating income provided by an asset to the value of the asset and is used to convert income into value when using the income capitalization approach.<sup>7</sup> Further discussion regarding this rate can be found in the earlier chapter that focuses on rates of return.

The leased nature of the Communication Resources Asset Class results in stabilized annual income and cash flows into perpetuity. Since ownership limitations for this asset class result in a lack of near-term reversion of this asset class,

the direct capitalization method is considered most relevant, and thus, it has been utilized in this analysis.

#### Extraordinary Assumptions

We assume that all communication sites on state trust lands adhere to the proper zoning regulations outlined in local general plans. If not fully compliant, we assume that each property is legally non-conforming to the proper regulations and development standards.

As previously discussed in the chapter regarding restrictions and burdens, the Trust Manager's ability to sell, exchange, or transfer state trust lands is limited by statute. For the purpose of this analysis, we assume that the ownership interest is non-transferable resulting in the land not being able to be sold.

We relied upon information provided by the Trust Manager for all specific data regarding data files, leasing activities and financials, and size and ownership information. We assume that all information provided by the Trust Manager is accurate and sufficient for the purpose of this valuation.

#### Hypothetical Conditions

None noted.

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<sup>7</sup> Definition sourced from the *Sixth Edition of the Dictionary of Real Estate Appraisal*.

# Income Approach

The direct capitalization method was used to estimate the Trust Value of the Communication Resources Asset Class.

For the purposes of the valuation analysis in this report, the Communication Resources Asset Class has been divided into two subgroups:

- Radio, TV, and Other Leases
- Cellular Leases

## ESTIMATED NET CASH FLOW

As has been highlighted in the “Operational History” section of this chapter, total gross revenue received for leases contracted under the Communication Resources Asset Class total more than \$4.5 million annually. We estimated a stabilized revenue for the asset class based on analyzing historical averages and trends while acknowledging volatility and potential growth where applicable.

We segregated the stabilized gross revenue estimate of \$4.8 million for each subgroup based on each subgroup’s revenue percentage allocation from FY 2018.

We also estimated an expected stabilized operating cost percentage deduction of 30 percent based on historical deductions averaging near this blended rate. The following table summarizes the estimated income stream for each subgroup.

FIGURE 26

Communication Resources Asset Class - Stabilized Income Summary			
	Radio/TV/Other Leases	Cellular Leases	Total
Stabilized Gross Revenues	\$3,500,000	\$1,300,000	<b>\$4,800,000</b>
Operating Cost % Deduction	(\$1,050,000)	(\$390,000)	<b>(\$1,440,000)</b>
% of Revenues	30%	30%	<b>30%</b>
Trust Net Operating Income	\$2,450,000	\$910,000	<b>\$3,360,000</b>

## CAPITALIZATION RATE SELECTION

Conversations with market participants suggested that a lower rate of return would be appropriate for Cellular Leases as most rents in this subgroup are paid by large wireless telecommunications carriers (i.e., AT&T and Verizon) with high credit ratings and strong demand for this type of communication site.

A higher rate of return is required for leases with Radio, TV, and Other uses or leases with government uses. The majority of leases at state trust communication sites were found to have such uses.

A capitalization rate of 9 percent was selected and applied to the net cash flows for the Radio, TV, and Other Leases subgroup. A capitalization rate of 6.5 percent was selected and applied to the net cash flows for the Cellular Leases subgroup. For further discussion about how these capitalization rates were determined, please reference the earlier chapter of this report that focused on rates of return.

**DIRECT CAPITALIZATIONS**

The capitalization rate conclusions were then applied to the relevant stabilized revenue streams estimated for each subgroup to derive a preliminary Trust Value indication for this asset class. The direct capitalization calculations are presented for each subgroup.

**Radio, TV, and Other Leases.** The capitalization calculations for Radio, TV, and Other Leases are shown in the following table:

FIGURE 27

<b>Direct Capitalization - Radio/TV/Other Leases</b>			
Total Leases			362
Stabilized Gross Revenues			\$3,500,000
Operating Cost % Deduction	30%		(\$1,050,000)
Revenue Distributed to Trusts			\$2,450,000
Capitalization Rate			9.00%
Indicated Value			\$27,222,222
<b>Value Indication (Rounded)</b>			<b>\$27,200,000</b>
<b>Value per Lease</b>			<b>\$75,138</b>

The value indication for Radio, TV, and Other Leases was \$27,200,000 (rounded), which equates to an average of approximately \$75,100 per lease.

**Cellular Leases.** The capitalization calculations for Cellular Leases are shown in the following table:

FIGURE 28

<b>Direct Capitalization - Cellular Leases</b>			
Total Leases			60
Stabilized Gross Revenues			\$1,300,000
Operating Cost % Deduction	30%		(\$390,000)
Revenue Distributed to Trusts			\$910,000
Capitalization Rate			6.50%
Indicated Value			\$14,000,000
<b>Value Indication (Rounded)</b>			<b>\$14,000,000</b>
<b>Value per Lease</b>			<b>\$233,333</b>

The value indication for Cellular Leases was \$14,000,000 (rounded), which equates to an average of approximately \$233,300 per lease.

**Income Approach Summary.** The following table combines the total indicated values from the direct capitalization calculations for each subgroup into a total indicated value for the asset class.

FIGURE 29

<b>Communication Resources Value Indication</b>	
Lease Count	422
Radio/TV/Other Leases	\$27,200,000
Cellular Leases	\$14,000,000
<b>Trust Value Indication (Rounded)</b>	<b>\$41,200,000</b>
<b>Value Indication per Lease</b>	<b>\$97,630</b>

# Value Conclusion

The concluded Trust Value of the Communication Resources Asset Class is \$41,200,000.

## COMMUNICATION RESOURCES ASSET CLASS VALUE CONCLUSION

Using the income approach, the indicated values for each subgroup—Cellular Leases and Radio, TV, and Other Leases—were combined to represent the total value indication for the Communication Resources Asset Class.

This results in a concluded Trust Value of \$41,200,000 for the asset class.

FIGURE 30

Communication Resources Value Conclusion	
Lease Count	422
Radio/TV/Other Leases	\$27,200,000
Cellular Leases	\$14,000,000
<b>Trust Value Indication</b>	<b>\$41,200,000</b>
<b>Concluded Trust Value (Rounded)</b>	<b>\$41,200,000</b>
<b>Trust Value per Lease</b>	<b>\$97,630</b>

## INDIVIDUAL TRUST VALUES SUMMARY

The concluded Trust Value for the Communication Resources Asset Class was calculated for each trust. Specifically, the concluded Trust Value was allocated based on each individual trust's percentage of gross revenue for the asset class in FY 2018. The following table reflects the concluded value for each trust.

FIGURE 31

Communication Resources Individual Trust Values		
Trust	Trust Value	%
Common School and Indemnity	\$18,722,516	45.44%
State Forest Transfer	\$11,393,860	27.66%
Scientific School	\$4,350,308	10.56%
State Forest Purchase	\$3,211,128	7.79%
CEP & RI	\$1,479,080	3.59%
Agricultural School	\$933,592	2.27%
Capitol Grant	\$781,152	1.90%
Other [1]	\$328,364	0.80%
<b>Total</b>	<b>\$41,200,000</b>	<b>100%</b>

[1] Other includes the Community Forest Trust, King County Pollution Control District, and other trust ownerships not in scope for this project.