Thurston County Habitat Conservation Plan
Economic Study

April 2021

Prepared for:

THURSTON COUNTY
WASHINGTON
SINCE 1852

Final Report

ECONorthwest
ECONOMICS · FINANCE · PLANNING

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Acknowledgements

ECONorthwest staff prepared this report for Thurston County. We received assistance and valuable input from Thurston County staff including Christina Chaput, Jennifer Davis, and Jennica Machado; Troy Rahmig of ICF; and Michael Cade from EDC. In addition, this report benefited from input and insights provided by property owners and developers in Thurston County: Chad Steinbrecher of Kaufman Construction and Development, Jessica Jackson of PSE, Mark Steepy of KPFF, Derek Vetter, Jan Tveten, Larry Weaver, Steve Chamberlain, and Steve Mclain. We appreciate their willingness to share their experiences with us. Any statements nonfactual in nature constitute the authors' current opinions, which may change as more information becomes available. The authors are solely responsible for any errors or omissions.

Definition of Terms and Acronyms

Congressional Budget Office (CBO): A federal agency that provides nonpartisan budget and economic policy data.

Conservation Easement: A permanent protection of habitat on a parcel of land, independent from the landowner and binding over time even with ownership transaction.

Critical Areas Ordinance: In Thurston County, the Washington State Growth Management Act requires protection of key habitat areas, as well as other important and sensitive natural areas (known collectively as "critical areas"). Thurston County maintains regulations to limit use and development in these areas via the ordinance.

Economic Development Council (EDC): A group of stakeholders who identify economic opportunities within and around Thurston County to expand local economic development.

Endangered Species Act (ESA): A 1973 federal law is intended to protect fish, wildlife, and plant species that are at risk of extinction. This objective is generally accomplished through identification and protection of habitat for listed species at risk. The law has provisions to allow implementation of Habitat Conservation Plans to allow issuance of an incidental take permit for habitat, generally through use of habitat mitigation.

Feasibility: In this report, refers to the financial feasibility of a development project. More specifically, this means that a hypothetical development project will earn enough money (from rents or sales prices) to cover the costs to operate and construct the building(s) and can pay the interest on loans and returns to investors.

Functional Acres (FxAc): A measure equivalent to one acre of high-quality gopher habitat. It is defined as follows: functional acres = habitat value x habitat area impacted.

Habitat Avoidance / Take Avoidance: A strategy for ESA compliance that does not require a Habitat Conservation Plan. Each development activity must conduct site surveys and avoid any loss or degradation of habitat for ESA-listed species.

Habitat Conservation Plan (HCP): A plan allowed under the ESA whereby areas for species-specific habitat conservation and restoration are designated and protected over a permit term. HCPs are used in mitigation for allowance of development in other areas under an ITP.

Housing Action Team (HAT): A Thurston County team driving policy for regional housing-related issues.

Incidental Take Permit (ITP): A permit issued by the USFWS that allows activities that could result in take including habitat effects for ESA-listed species, upon implementation of an HCP.

Indian Gaming Regulatory Act (IGRA): A 1988 Act of Congress to regulate the conduct of gaming on Indian Lands.

Institute for Applied Ecology (IAE): A department within the University of Washington that performs ecological research.

Joint Base Lewis-McChord (JBLM): A military base in eastern Thurston County under the jurisdiction of the Department of Defense. The DoD and JBLM consult directly with USFWS regarding actions on their land.

Mitigation: Any action to offset effects of activities elsewhere. In this case, it refers to other activities to replace habitat lost due to development activity, generally at a different location but with equivalent habitat function.

Mitigation Bank: Areas that provide an existing stock of habitat mitigation that can be purchased in lieu of direct mitigation efforts by a developer.

Mitigation Fee / Fee in-lieu: In this report, refers to the price that a development must pay to receive an ITP when choosing to impact land and not mitigate on site. The report typically refers to these values on a per-acre basis.

Mazama Pocket Gopher (MPG): *Thomomys mazama*. A species, four of whose nine subspecies were listed as Threatened under the state and federal ESA in 2014. Three of the listed subspecies are native to Thurston County.

Office of Financial Management (OFM): Washington's state budget and revenue office.

Olympia Pocket Gopher (OPG): *Thomomys mazama* spp. *pugetensis*. A subspecies of the MPG.

Oregon Spotted Frog (OSF): *Rana pretiosa*. A species listed as Threatened under the federal ESA and Endangered under the state ESA in 2014.

Oregon Vesper Sparrow (OVS): *Pooecetes gramineus*. A species listed as a candidate for listing under the state ESA.

Prairie Species: Listed species that rely on prairie habitats. Includes the three MPG subspecies, OVS, and TCB.

Prototype: An example building (e.g., commercial, residential) that was informed by the interviews with property owners and the physical assumptions of which were based on comparable properties found throughout Thurston County.

Regional Housing Council (RHC): A Thurston County council to promote equitable access to safe and affordable local housing.

Real Estate Excise Tax (REET): A 0.25% tax on the value of a real estate transaction.

Residual Land Value (RLV): An estimate of the underlying value of the land based on 1) the property's income from rental or sales revenue, 2) the cost to build as well as to operate the building, 3) the financing requirements needed to attract capital for the project, and 4) the cost of the land, which we assumed was equal to the real market value as determined by the county assessor. In other words, it is the residual budget that developers have remaining after all the other development constraints have been analyzed.

Taylor's Checkerspot Butterfly (TCB): *Euphydryas editha taylori*. A species listed as Endangered under the state and federal ESA in 2013.

Tenino Pocket Gopher (TPG): *Thomomys mazama* spp. *tumuli*. A subspecies of the MPG.

Thurston Regional Planning Council (TRPC): A regional council of governments in Thurston County, which carries out regionally focused plans and studies on topics such as transportation, growth management, and environmental quality (https://www.trpc.org/).

Urban Growth Area (UGA): The area around a city or town that has been approved to receive future growth.

U.S. Fish and Wildlife Service (USFWS): The federal agency with jurisdiction over enforcing the U.S. Endangered Species Act for terrestrial species and approving HCPs under Section 10 of the ESA.

Yelm Pocket Gopher (YPG): *Thomomys mazama* spp. *yelmensis*. A subspecies of the MPG.

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Executive Summary

In 2014, the U.S. Fish and Wildlife Service listed the Mazama pocket gopher (MPG) as threatened under the Endangered Species Act (ESA). The MPG is found in Thurston County and depends on the prairie habitat found there. However, land development disturbs prairie habitat and the ESA-protected species that depend on it.[1] Since 2014, landowners must demonstrate that they are not harming the MPG and its habitat before they can develop their land. This requirement can be costly in terms of both direct expense and time, making development more difficult or even infeasible.

To make ESA compliance easier for landowners, Thurston County has been developing the Thurston County Habitat Conservation Plan (HCP) in coordination with U.S. Fish and Wildlife Service (USFWS). The HCP would provide an avenue for developers of land in unincorporated Thurston County to comply with ESA requirements without the effort, complexity, and potential cost of individually led HCPs or take avoidance strategies. ES Figure 1 shows the areas of prairie habitat that the county's HCP would cover and the types of development that could occur on those lands.

Habitat Conservation Plan: This is a plan allowed under the ESA whereby areas for species-specific habitat conservation and restoration are designated and protected over a permit term, in mitigation for allowance of development in other areas under an incidental take permit.

Take Avoidance: This is the strategy for ESA compliance without an HCP where each development activity must conduct site surveys and avoid any loss or degradation of habitat for ESA-listed species.

ECONorthwest prepared an economic analysis to better understand how Thurston County's HCP would affect the economy of the county. The findings of that analysis are summarized in this Executive Summary and detailed in an accompanying report. The analysis compares two states of the world: one assuming the status quo, and one assuming the county's HCP is approved and enacted. It provides insights into three questions the county wanted to answer before adopting the HCP:

1. For current and future landowners in unincorporated Thurston County, how would a county-led HCP change the **costs associated with developing their land**? Similarly, for developers seeking to invest in new developments in unincorporated Thurston County, how would a county-led HCP change the costs of developing land?
2. For the county and its taxpayers, how would a county-led HCP that potentially changes the **development patterns** in the county lead to **changes in assessed value in the aggregate land base, and associated property tax collections**, over the 30-year permit term?

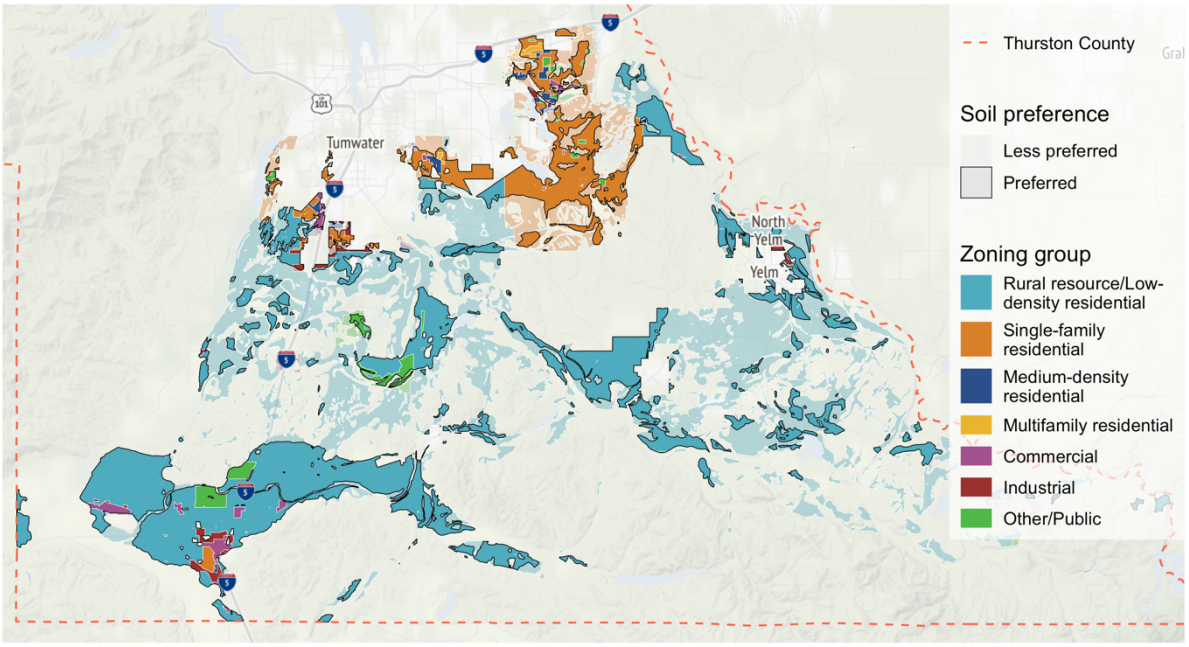
The economic analysis does not assess—and is not intended to assess—the economic impacts of the ESA listings themselves, together or individually.

[1] In addition to the MPG, the Taylor's Checkerspot Butterfly and the Oregon Vesper Sparrow also depend on prairie habitat in Thurston County and are listed or being considered for listing under the state and federal ESAs. The HCP also covers impacts to the Oregon Spotted Frog, which lives in riparian and wetland habitats in Thurston County.

3. For local and state government entities and the citizens of Thurston County, by potentially changing development patterns, how might a county-led HCP **change the trajectory of the local economy** over the 30-year permit term?

To answer these questions, ECONorthwest developed a model to estimate development feasibility across different types of development that incorporated ESA-compliance costs under the two states of the world (ES Figure 2). Cost reductions can change the financial feasibility of development projects and may result in more development occurring in the county, all things equal. This could lead to increases in county revenue from property and sales tax collections, changes in employment, and overall improvements in the long-term trajectory of the economy. The rest of this summary describes the findings of ECONorthwest's analysis for each of these categories of effects.

ES Figure 1. Prairie Habitat Areas Covered by the County-Led HCP and Zoning in Those Areas
Source: ECONorthwest, with data from Thurston County GIS



ES Figure 2. Summary of Incremental Effects of Adopting a County-Led HCP
Source: ECONorthwest Analysis

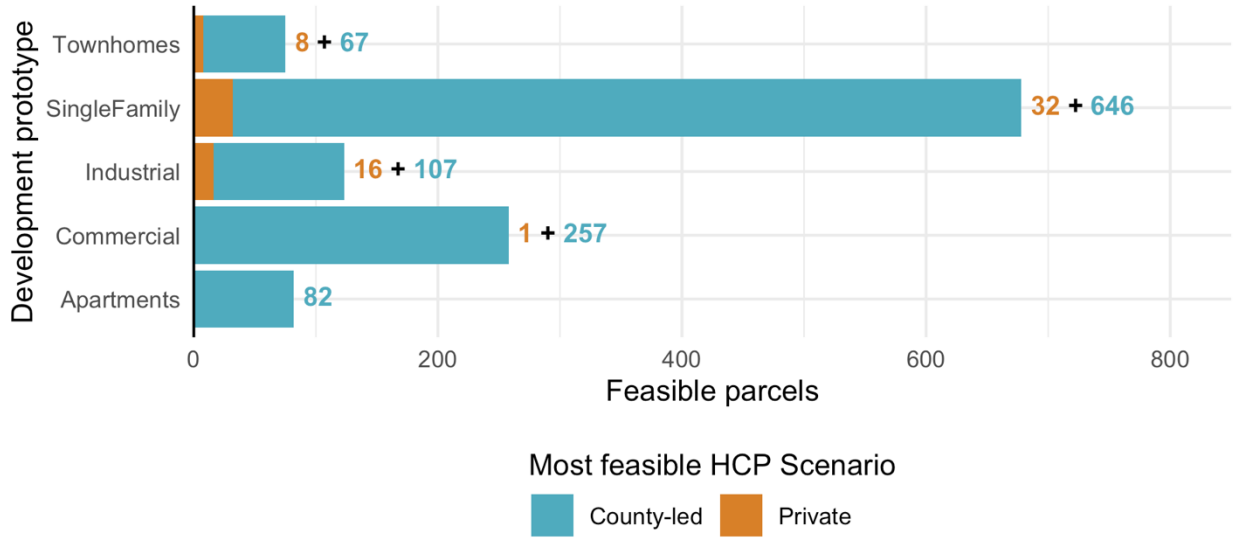
	Indicator	Data
Question 1: Changes in Feasibility of Development	Parcels with increased financial feasibility under county-led HCP, compared to status quo.	1,159 parcels Highest in the northeastern part of the permit area; lowest in the northwestern part of the permit area
	Average increase in financial feasibility, as defined by the residual land value.	14.4% (average for all types of development); ranges from 5.5% – 18.6% depending on development type.
	Increase in feasibility of accessory structures	More landowners would be able to realize improvements on their property, increasing the value of their property.
Question 2: Changes in Tax Revenues	Changes in Property Tax Collections	$5.57 million total over 30 years (About $186,000 per year on average)
	Changes in Sales Tax Collections	$1.94 million total over 30 years (About $65,000 per year on average)
Question 3: Changes in the Local Economy	Employment associated with increased construction spending under county-led HCP compared to status quo.	1,400 jobs over the permit term
	Additional housing units under county-led HCP compared to status quo.	270 over the permit term
	Additional induced income related to additional household income under county-led HCP compared to status quo.	$6 million over the permit term
	Additional commercial and industrial development likely, which would result in additional economic activity.	Increase (unquantified)
	Quality of life effects related to consolidated conservation spaces and protected open space.	Positive addition to quality of life for some people.

Question 1: For current and future landowners in unincorporated Thurston County, **how would a county-led HCP change the costs associated with developing their land?** Similarly, for developers seeking to invest in new developments in unincorporated Thurston County, **how would a county-led HCP change the costs of developing land?**

Answer: The county-led HCP reduces the overall cost of ESA compliance for most landowners and makes more parcels financially feasible to develop. This has the potential to increase development in unincorporated Thurston County over the 30-year permit term, compared to the status quo.

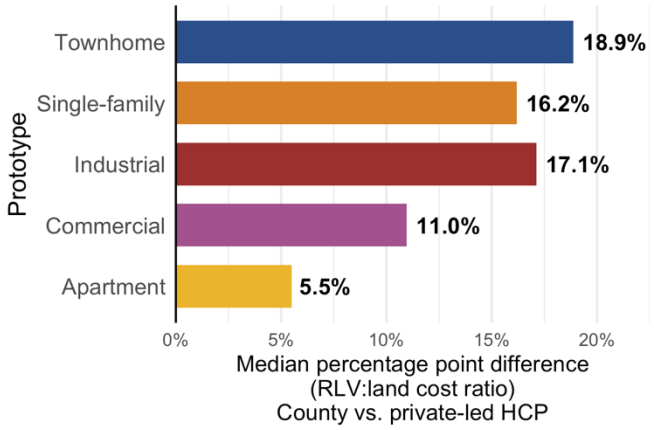
The county-led HCP reduced the costs of developing land and increases the financial feasibility of development, resulting in more parcels that develop. For all development types across unincorporated Thurston County, the pro forma results indicate the majority of parcels are more feasible under the county-led HCP (ES Figure 3). The few parcels that are more feasible under the status quo (indicated in orange) are concentrated in the northern portion of the county, southwest of Tumwater and Olympia.

ES Figure 3. Chart of Incremental Effects of Adopting a County-Led HCP
Source: ECONorthwest Analysis



Financial feasibility is estimated by the amount a developer has left over after all hard and soft costs are accounted for. This is known as the "residual land value" (RLV). A higher RLV means that a developer has more flexibility to pay for land and tolerate uncertainty and risk. On average, across all parcels, the county-led HCP results in a property developer being able to pay 14.1 percentage points more for land. The percent is slightly higher for residential development and slightly lower for commercial development (ES Figure 4).

ES Figure 4. Average magnitude of increased feasibility for developers under county-led HCP
Source: ECONorthwest Analysis



Differences in costs between the county-led HCP and the status quo are likely to grow over time, making the county-led HCP even more advantageous for developers from a cost perspective. Market demand for mitigation land is likely to increase as demand for development increases and appropriate parcels become scarcer. In aggregating mitigation responsibility and restoration opportunities, the county will likely be in a better position to minimize potential market-driven cost escalation. Sensitivity testing shows that as the cost of mitigation increases under the status quo by 50 percent—not an unreasonable expectation—all parcels become more financially feasible under the county-led HCP.

The incremental cost savings between the county-led HCP and the status quo are likely to be most fully realized for those developments and businesses operating closest to the margin of financial viability. Therefore, the differences between scenarios will likely be most pronounced for activities facing overall challenges to long-term resiliency, such as affordable housing and locally owned businesses development. The social outcomes of these cost savings might be more pronounced for the most vulnerable members of Thurston County, resulting in equity and diversity benefits in addition to economic benefits.

Question: For the County and its taxpayers, how would a county-led HCP lead to changes in assessed value in the aggregate land base and associated property tax collections over the 30-year permit term?

Answer: Because it makes development on average more feasible and more likely to occur on sites with covered species habitat—all else equal—the county-led HCP would lead to more developments being financially feasible and implemented, and therefore lead to higher total property and sales tax collections within the 30-year permit term.

The results of the economic impact modeling indicate the county-led HCP produces a net increase in property taxes totaling about $4.9 million (in 2021 dollars) relative to the status quo which, when combined with the real estate excise tax, results in a total expected increase to the county of about $5.5 million (in 2021 dollars) over the permit term.

Similarly, the increased development activity results in more materials sold and labor employed for building relative to the status quo scenario. This greater level of construction activity increases sales tax revenue. Over the course of the permit term, the increase in sales tax revenue relative to the status quo scenario is expected to total $1.9 million (in 2021 dollars).

With property taxes and sales taxes combined, modeling estimates that the county could see tax revenues incrementally increase by a total of approximately $7.5 million over the course of the HCP permit period with the county-led HCP relative to the status quo. Additional fiscal effects could arise from economic activity following new development, including new household spending, new employment, and income-generating opportunities from developed commercial and industrial land.

Question: For local and state government entities and the citizens of Thurston County, **how might a county-led HCP change the trajectory of the local economy over the 30-year permit term?**

Answer: A county-led HCP would likely lead to higher feasibility and greater likelihood of development over the 30-year permit term (relative to the status quo). This outcome would bring additional employment opportunities and produce other incrementally greater effects on economic activity that improve quality of life in Thurston County.

More development would directly support greater levels of employment in construction and related industries. In Thurston County, every million dollars spent in residential construction supports about twelve jobs, directly and through re-spending. This means additional construction spending over the permit term could support about 1,400 jobs. About half of these are related to increased feasibility of single-family residential development.

More housing would lead to more households, and more household-related consumption. Over the permit term, the increased feasibility of single-family development could result in an additional 270 housing units available, compared to development under an individually led HCP. For every million dollars of household income in Thurston County, household spending supports an additional $279,000 of income generation. This translates to about $6 million in induced labor income over the 30-year permit term from new households.

More commercial and industrial development would support additional employment and income-generation opportunities. Increasing the feasibility of commercial and industrial development could potentially lead to additional employment and income generation opportunities in the county. It is impossible to predict what types of businesses may ultimately choose to develop or expand in Thurston County, but the effect would be positive.

Conservation activities under the county-led plan could produce higher amenity benefits. The amount of land set aside for species of concern increases under both the status quo and county-led HCP options if implemented. The amount and distribution of protected land would likely be different depending on scenarios. The county-led HCP has the potential to generate

larger, more contiguous conservation spaces with more value to residents and species because it is a coordinated strategy.

1. Introduction and Background

Thurston County has developed the Thurston County Habitat Conservation Plan (county-led HCP) in coordination with U.S. Fish and Wildlife Service (USFWS). The HCP would provide an avenue for developers to comply with Endangered Species Act (ESA) requirements without the effort, complexity, and potential cost of individual HCPs or take avoidance strategies.

This report describes and analyzes how implementing the HCP would affect the economy of Thurston County. It presents the results of an economic analysis that compares economic conditions in two states of the world: one assuming status quo, and one assuming the county-led HCP is approved and enacted. It does not assess—and is not intended to assess—the economic impacts of the ESA listings themselves, together or individually.

To understand how the HCP would affect the economy of Thurston County, this report addresses the following questions:

- For current and future landowners in unincorporated Thurston County, how would a county-led HCP change the **costs associated with developing their land**? Similarly, for developers seeking to invest in new developments in unincorporated Thurston County, how would a county-led HCP change the costs of developing land?
- For the County and its taxpayers, how would a county-led HCP that potentially changes the **development patterns** in the County lead to **changes in assessed value in the aggregate land base, and associated property tax collections** over the 30-year permit term?
- For local and state government entities and the citizens of Thurston County, by potentially changing development patterns, how would a county-led HCP **change the trajectory of the local economy** over the 30-year permit term?

Endangered Species Act Compliance

Congress passed the ESA in 1973 to protect species at risk of extinction and their habitats. Species are categorized as "endangered" or "threatened." Endangered species are in danger of extinction throughout all or a significant portion of their range. Threatened species are likely to become endangered within the foreseeable future.[2] The ESA prohibits harming listed endangered or threatened species. Unlawful actions that could result in a "take" under the ESA include those that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.[3] "Take" has been broadly defined to also include any actions that harm the species through habitat modification or degradation that significantly

[2] USFWS. 2020. "Endangered Species Act: Overview." Updated January 2020. Retrieved from https://www.fws.gov/endangered/laws-policies/

[3] USFWS. 2017. "ESA Basics." Retrieved from https://www.fws.gov/endangered/esa-library/pdf/esa_basics.pdf

impairs essential behavior patterns, including breeding, feeding, and sheltering.[4] The USFWS administers the ESA for terrestrial (land-based) species. This includes listing species under the ESA and taking actions to protect them, including enforcing the "take" provisions under the ESA. In addition, the Washington Department of Fish and Wildlife has an effort to list and recover species native to the state. This "state status" does not affect federal listing of a species or federal protection requirements.

Developing land where ESA-listed species are known to live often raises issues under the ESA. Landowners must minimize overall species take, and issues of compliance are often identified through the local development permitting process.

Landowners often comply with the ESA by avoiding harm to species or degradation of their habitat, an activity known as "take avoidance". In situations where take avoidance is impossible if development proceeds, landowners may work with USFWS to implement protection measures, which are documented and legally binding in an HCP. If deemed adequate to avoid harming the species survival, the USFWS may agree to the HCP and issue an "incidental take permit" (ITP) allowing a landowner to proceed with development. The HCP is a legal document that details the landowner's responsibilities to "minimize and mitigate" the effect of their actions on the species.[5] It establishes a series of habitat conservation and restoration actions the landowner would implement and provides administrative and financial assurance that the agreed upon restoration or mitigation actions will be implemented over a designated permit timeframe. Mitigation can take many forms including payment into a conservation fund, preservation of existing habitat, enhancement or restoration of a degraded habitat, or restrictions to land use and access.[6] Once the ITP is issued, the HCP becomes a binding lawful agreement. Therefore, an HCP provides a mechanism for developing designated habitat for ESA-listed species by ensuring sufficient habitat will be available elsewhere to ensure the species' long-term survival.

An HCP provides a mechanism for developing designated habitat for ESA-listed species by ensuring sufficient habitat will be available elsewhere to ensure the species long-term survival.

Thurston County's Proposed Habitat Conservation Plan

Landowners planning to develop in Thurston County contend with several recent species listings which require compliance with the ESA. Exhibit 1 lists these species and their status under the federal and state ESAs.

In 2014, USFWS officially listed the Mazama pocket gopher (MPG) as threatened under the ESA. Three subspecies of the MPG are only found in Thurston County: the Olympia (OPG), Yelm (YPG), and Tenino (TPG). Each subspecies lives in a different region of Thurston County (see Exhibit 2 for a map of habitat extent). MPG habitat is limited by the kind of soil it can live

[4] 50 C.F.R. § 17.3.

[5] USFWS. 2011. "Habitat Conservation Plans Under the Endangered Species Act." Retrieved from https://www.fws.gov/endangered/esa-library/pdf/hcp.pdf

[6] Ibid.

in, and its distribution is patchy across Thurston County. It was designated as threatened because of the historical loss, fragmentation, and degradation of suitable habitat due to prairie conversion to other uses, including residential and commercial development.[7]

Several other species that are dependent on prairie habitat are also listed or have the potential to be listed in Thurston County: the Taylor's Checkerspot Butterfly (TCB) was listed as endangered in 2013,[8] and the Oregon Vesper Sparrow (OVS) is under review for ESA listing and may be listed in the future.[9] In addition to these prairie species, in 2014 USFWS listed as threatened the Oregon Spotted Frog (OSF), which lives in wetland areas throughout the Pacific Northwest, including Thurston County (see Exhibit 3 for a map of habitat extent).

Exhibit 1: ESA Listed Species in Thurston County
Source: Thurston County HCP Draft (2019)

Common Name	Scientific Name	Federal Status	State Status
Olympia Pocket Gopher	*Thomomys mazama* spp. *pugetensis*	Threatened	Threatened
Tenino Pocket Gopher	*Thomomys mazama* spp. *tumuli*	Threatened	Threatened
Yelm Pocket Gopher	Thomomys mazama spp. yelmensis	Threatened	Threatened
Taylor's Checkerspot Butterfly	*Euphydryas editha taylori*	Endangered	Endangered
Oregon Vesper Sparrow	*Pooecetes gramineus*	Under Review	Candidate
Oregon Spotted Frog	*Rana pretiosa*	Threatened	Endangered

[7] Washington Fish and Wildlife Office. n.d. "Federally Protected Subspecies of Mazama Pocket Gopher in Washington." Retrieved from https://www.fws.gov/wafwo/articles.cfm?id=149489588

[8] Washington Fish and Wildlife Office. n.d. "Taylor's Checkerspot Butterfly." Retrieved from https://www.fws.gov/wafwo/articles.cfm?id=149489588

[9] USFWS. n.d. "Oregon Vesper Sparrow (*Pooecetes gramineus* ssp. *affinis*)." ECOS Environmental Conservation Online System. Retrieved from https://ecos.fws.gov/ecp/species/5141

Exhibit 2: Mapped Extent of Prairie Species for County-Led HCP
Source: Thurston County HCP Draft (2019)

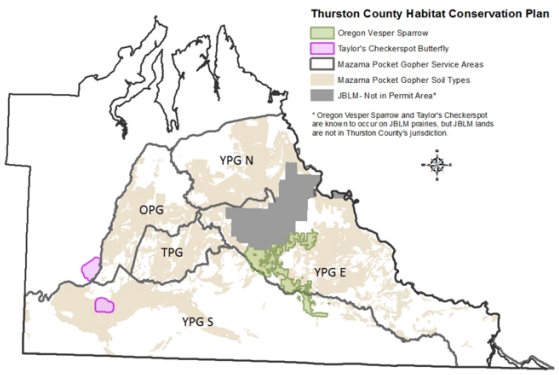
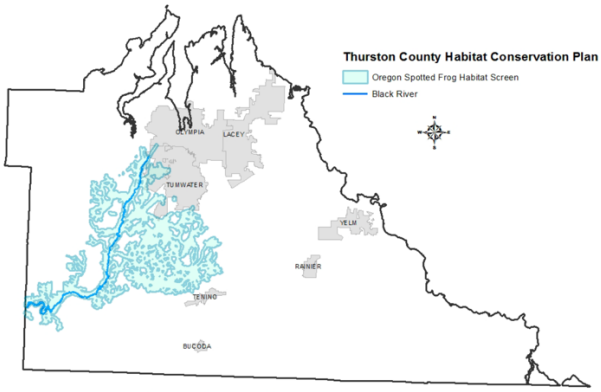


Exhibit 3: Habitat Screen of Oregon Spotted Frog for County-Led HCP
Source: Thurston County HCP Draft (2019)



USFWS works with landowners of all types to ensure compliance with the federal ESA. However, in areas where the primary developers are private citizens and small businesses, the extensive process of drafting an HCP and seeking an ITP can become a barrier to development. In situations where the potential presence of a listed species is widespread and land disturbance may result in a take, such as with the listed species in Thurston County, compliance with the ESA can lead to constraints on local economic development.

Leading up to and following the official listing decisions in Thurston County, landowners have expressed concerns about ESA compliance. Many landowners do not have the time or resources (including both knowledge and finances) to navigate the federal HCP/ITP process, which is required before Thurston County will grant a permit for development. Furthermore, the volume of applications that the USFWS would need to review if all developers who wanted to develop drew up an HCP could outweigh USFWS's ability to review them in a timely manner.

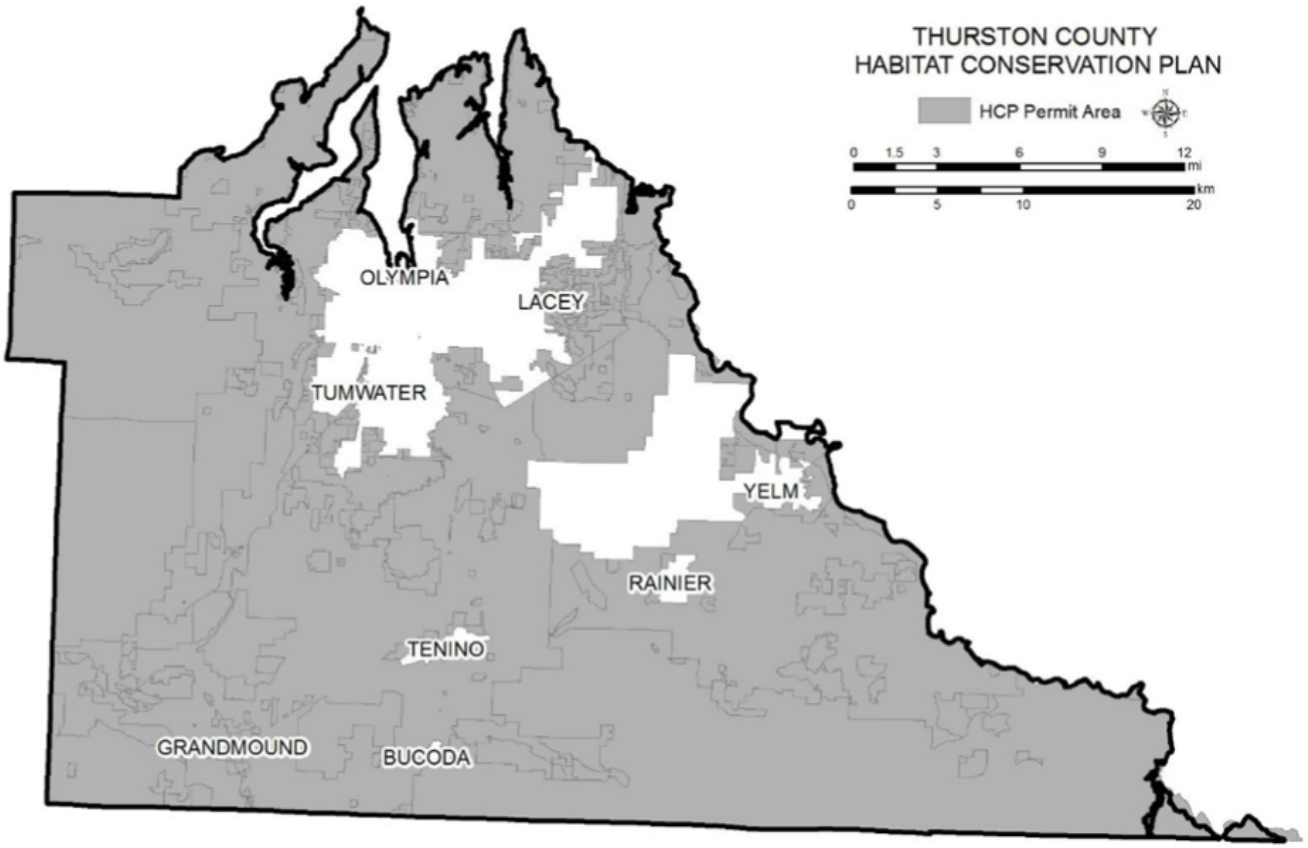
To address these barriers to development and ensure the long-term health of the covered species within its jurisdiction, Thurston County has worked with USFWS to develop an HCP that it could extend to all potential public and private development in unincorporated Thurston County that requires ESA compliance (see Exhibit 4).[10] Under this "county-led" HCP, the county, rather than individual landowners, would receive an ITP from the USFWS and be responsible for mitigating impacts to species within its boundaries. Landowners would pay a permit fee to the county depending on which species are potentially impacted and the quality and quantity of land they are developing.[11] The permit fee would fund the mitigation measures

[10] Thurston County has jurisdiction over reviewing and approving development according to its land use plan in unincorporated areas of the county. Other local governments and entities within Thurston County, including the City of Tumwater and Port of Olympia, are developing their own HCPs with USFWS for similar reasons.

[11] Potential development projects in critical habitat areas face more strict constraints, and generally these areas are avoided to all extents practicable.

the county would be required to implement and manage over the permit term and in perpetuity.

Exhibit 4: County-Led HCP Permit Area
Source: Thurston County HCP Draft (2019)



Economic Analysis

Thurston County's primary goal in pursing an HCP and receiving an ITP from USFWS is to streamline the ESA regulatory process for private and public developers in unincorporated Thurston County. One expected outcome of implementing a county-led HCP and a coordinated conservation effort for the covered species is that landowners in Thurston County would be able to proceed with development projects with fewer regulatory and financial obstacles. This would lead to more development and economic growth within Thurston County, which would enhance the local economy.

This report evaluates the potential effects of implementing the county-led HCP on the feasibility of development, and the resulting effects on economic indicators relevant to the county, including property value and associated tax collections, employment opportunities, and long-run economic growth.

Analysis Framework

To evaluate the economic effects of a county-led HCP, the economic analysis compares it to a scenario consistent with the current situation, under which each landowner is responsible for developing their own ESA compliance strategy.

Under both scenarios, landowners are responsible for adhering to state and federal ESA requirements. Within this context, each landowner or potential developer in Thurston County that would like to develop on land associated with ESA-listed species faces a set of decisions for ESA compliance. The decision constraints vary depending on the nature of the developer and the desired development (i.e., a large corporation developing single-family housing faces different constraints than an individual landowner seeking to build an accessory dwelling on their own property).

The consolidated county-led HCP would change key variables for potential property developers in the decision process, including the cost of compliance and time required to achieve compliance. The assumptions for each scenario are thoroughly described in Section 3, but are detailed briefly below:

- **Individual HCP Compliance (status quo)**: If a property developer decides to pursue development in unincorporated Thurston County on a parcel that contains habitat for listed species, they must demonstrate compliance with the state and federal ESA before Thurston County grants a development permit.[12] If ESA compliance requires authorization from USFWS to take listed species, the landowner must submit an ITP application to the USFWS and engage in a process with USFWS to develop an HCP. This process currently takes eighteen months or longer, even for simple development proposals.
- **County-led HCP Compliance:** With a countywide HCP/ITP in place, if a developer decides to pursue development in unincorporated Thurston County on a parcel that contains listed species habitat, they will have the option to apply for a development permit from Thurston County and pay a fee that corresponds to the amount and type of habitat the development would disturb. The County would take on responsibility for ESA compliance under the terms of its HCP, and landowners would develop according to the terms of their permit with the County.

To assess these scenarios, we conducted a series of analyses. Initially we compiled information about the costs associated with each scenario through key-informant interviews, discussions with Thurston County staff, and professionals involved in HCP development. We then developed a spatial model that allowed us to assess the feasibility of different types of development in Thurston County. By varying the costs associated with each scenario for

[12] Thurston County does not currently allow a landowner to subdivide a parcel to remove affected portions, nor will it grant a permit for development even if the landowner intends to avoid affected habitat areas. Thus, under Thurston County's current policy, an HCP would be required for all parcels with any habitat present.

different development types, we were able to estimate how much development of different types would be likely under a given set of assumptions.

The output of the spatial model—acres of feasible development by type (i.e., residential, commercial)—served as an input to an economic model that estimated associated changes in property value, property taxes, sales taxes, and construction-related employment. This analysis, along with interviews with local economic development officials and our knowledge of the regional economy, supported our findings related to the long-term economic implications of implementing a county-led HCP.

2. Overview of the Study Area

Unincorporated Thurston County—the area that would be covered by the county-led HCP—is the study area for this economic analysis (see Exhibit 4). The county-led HCP/ITP would apply to all of Thurston County except within the limits of incorporated cities, on tribal lands, or on lands under federal control including national wildlife refuges, national forests, or under the control of the Department of Defense (such as Joint Base Lewis-McChord [JBLM]).[13]

This section provides an overview of the land use and economic conditions in the study area as context for the economic analysis.

Land Use

Exhibit 5 shows the land cover by type in Thurston County. Almost half of Thurston County is forested area (46.5 percent). Forested areas are by definition not generally consistent with the type of prairie habitats used by the species covered by the HCP, however forested riparian areas may provide habitat for the OSF. Forested areas dominate the western portion of the county and are mixed throughout the southern and eastern parts of the county. High concentrations of forest are located in JBLM.

About one-third of Thurston County is grass and agricultural land (32.4 percent). Uncultivated land in this category is likely to contain soils and prairie habitats that support the MPG, OVS, and TCB. This land use type is distributed throughout the central, eastern, and southwestern portion of the County (shown in yellow in Exhibit 5).

About 13 percent of Thurston County is developed. Developed areas, shown in red in Exhibit 5, are concentrated in the northern and eastern portions of the county. Highest density development is present within the incorporated areas of Olympia, Lacey, and Tumwater, which would not be covered by the County's HCP. Areas of lower-density development are located near Yelm (to the east), Rainier, Tenino, and Bucoda (central), and Grand Mound/Rochester (southwest). The Grand Mound/Rochester area is a focal point of current planning to facilitate future development, because of its proximity to I-5 and US-12. Regional development patterns are described in more detail below.

Wetlands, which also support the OSF, make up about 6 percent of Thurston County's land area. The remaining area in Thurston County (about 1.5 percent) is open water.

[13] Thurston County Community Planning and Economic Development Department (Thurston County CPED). 2020. *Draft Thurston County Habitat Conservation Plan.* July 23. Accessed at https://www.thurstoncountywa.gov/planning/planningdocuments/Thurston_County_HCP_DRAFT_2020_07_23.pdf

Exhibit 5. Land Cover Type in Thurston County
Source: Thurston County CPED (2019), with data from Homer et al (2015)

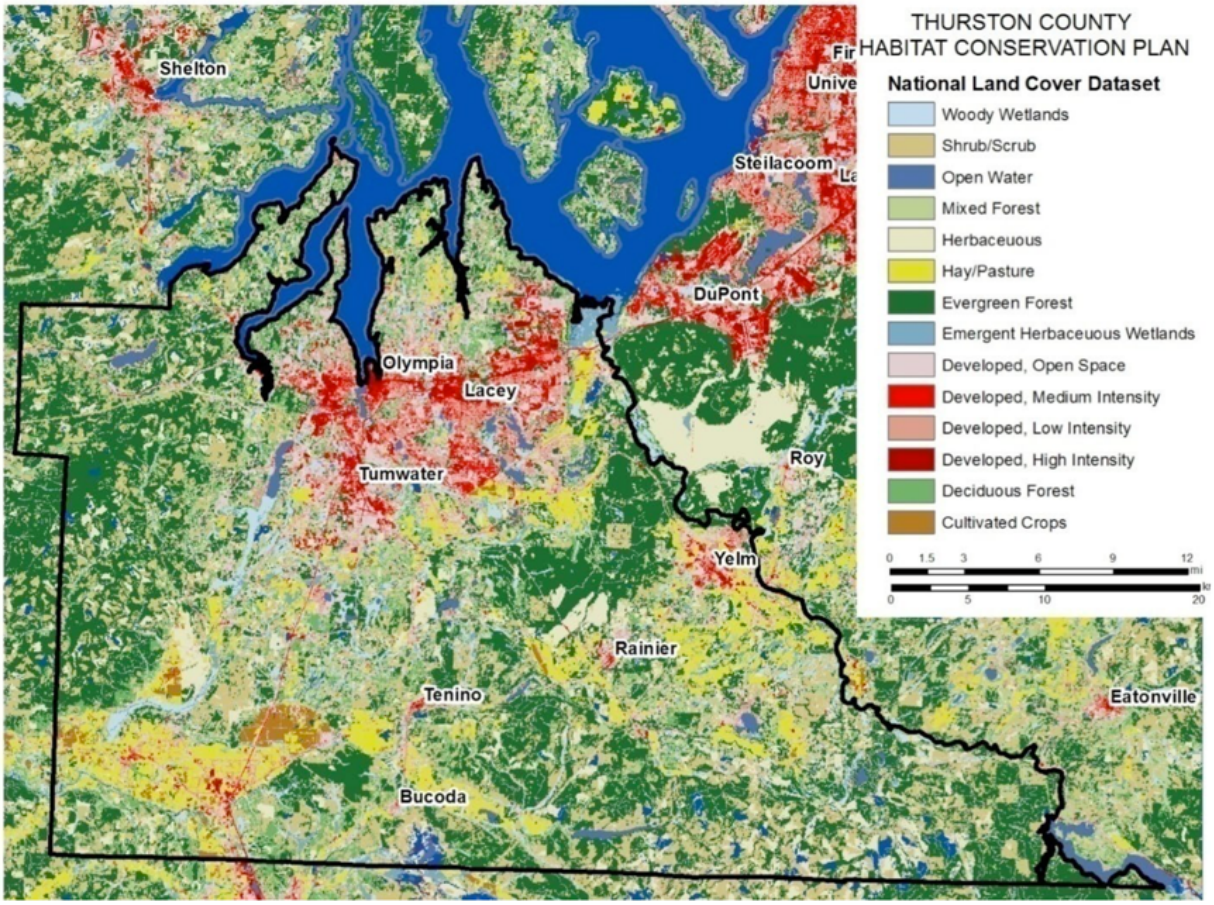
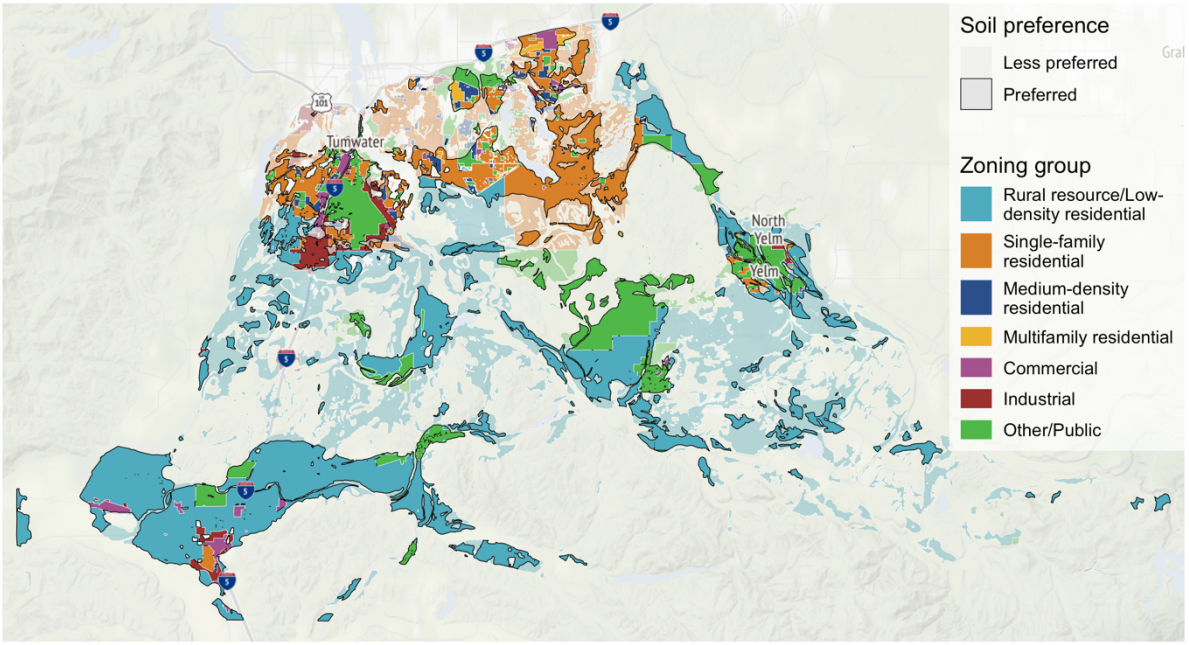


Exhibit 6 shows the relationship between county zoning, grouped into broad categories, and habitat areas for covered gopher species. The gophers' most preferred soil areas, depicted in the map with opaque colors and a dark outline, are generally found on land that is zoned for single-family residential and rural resource/rural residential uses. In the northern areas of Thurston County, the preferred soils tend to be found in predominantly single-family zoned areas, as these zones are typically clustered along the more urbanized I-5 corridor.

Exhibit 6. Overlay of Prairie Soils and County Zoning
Source: ECONorthwest, with data from Thurston County GIS



Population

Thurston County's population was about 280,000 in 2018. Driven in part by the broader rapid population growth of the Puget Sound region, Thurston County's population increased by 10 percent between 2010 and 2018.[14] Much of the growth over the last decade occurred in Lacey, which is adjacent to nearby military installations. The least growth occurred in unincorporated Thurston County, but its growth was still positive. Looking ahead, the Washington State Office of Financial Management (OFM) estimates that Thurston County as a whole will continue to see population growth, increasing by 26 percent to 370,700 in 2040, at an average annual growth rate of about 1 percent.[15]

[14] Thurston Regional Planning Council. 2020. Population Estimates and Forecast: Thurston County Cities, Urban Growth Areas, and Reservations, 2010-2045. Retrieved from https://www.trpc.org/480/Population-Housing-Employment-Data

[15] Washington Office of Financial Management. 2017. "Projections of the Total Resident Population for Growth Management, 2017 GMA Projections, 1-Year Intervals, Medium Series." Retrieved from https://www.ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/growth-management-act-county-projections

Exhibit 7. Current Population and Population Change Between 2010 and 2018
Source: Thurston Regional Planning Council (2020) using Small Area Population Estimates and Population and Employment Forecast (2018)

Geographic Area	2010	2018	Percentage Change
Thurston County	252,264	281,700	10%
Incorporated	171,141	195,440	12%
Unincorporated	80,300	86,260	6%

Note: Incorporated Thurston County includes cities, UGAs, and reservations.

Residential Development

Housing demand in Thurston County is largely driven by regional population growth, both in Thurston County and north and south along the I-5 corridor. Demand for housing in Thurston County is influenced by its relative median home price compared to other counties. As Exhibit 8 shows, Thurston County remains more affordable than King County. Continuing to provide affordable housing becomes more challenging as costs of development increase.

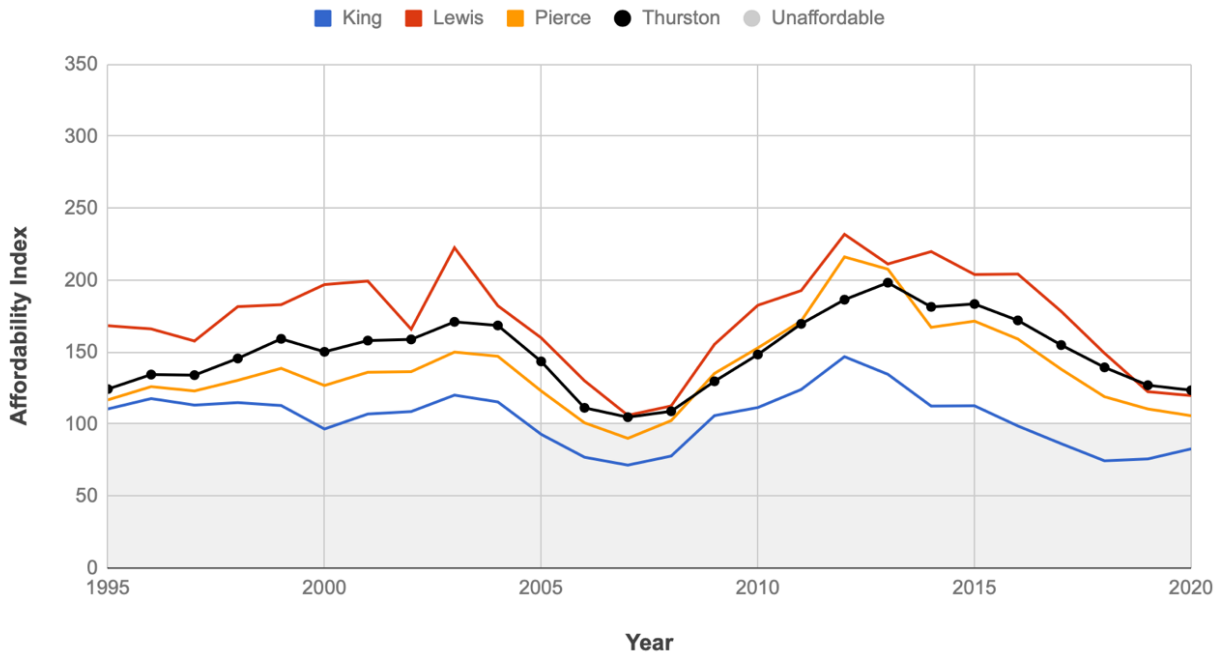
Unincorporated Thurston County has a projected population growth of 4.6 percent over the next 20 years. A projected 24,000 additional units will be needed to accommodate this growth. In addition, the county flags a growing cost burden among both renters and homeowners. Furthermore, Thurston County expects an estimated 38 percent of current and future households will be low income by 2040.[16]

The Regional Housing Council (RHC) administers existing funding programs and assesses when funding should be diverted for a regional response to homelessness and affordable housing. Thurston County also has an Affordable Housing Program to assist the development and preservation of low-income households, defined as households at or below 50 percent of the local median income. Funding is offered for capital projects, rental assistance, and operations and maintenance.

Finally, Thurston County's Housing Action Team (HAT) provides strategies to address four key issues: homelessness, development incentives, rental housing, and senior housing.

[16] Thurston County. 2019. "Chapter 4: Housing." *Thurston County Comprehensive Plan.* Adopted November 2019. Available at: https://www.thurstoncountywa.gov/planning/planningpcagenda/CompPlan%20Chapter%204_HOUSING_Sept018_DRAFT_PC09252018_Clean%20Version.pdf

Exhibit 8. Home Affordability Index, 1995-2020



"Home prices influence where people choose to live. When home prices in Thurston County are lower than neighboring counties, people may choose to live in Thurston County and commute out of county for work. For 2012-2016, nearly 27% of workers living in Thurston County traveled out of the county for work. Of those, more than half worked in Pierce County (See Commutes by Destination)."
– Thurston Regional Planning Council

About 65 percent of existing housing units in Thurston County are single family, 24 percent are multifamily, and 11 percent are manufactured homes. Median home sale price has been steadily increasing in Thurston County and the surrounding region since 2012.

In 2020, the median home sale value in Thurston County was $378,900, up 14 percent from 2019. In 2020, 5,219 homes were sold. Three-bedroom homes accounted for 54 percent of all home sales, and four-bedroom homes accounted for 27 percent of all home sales. TRPC shows that homes in Lacey, Tumwater, and Yelm sold the fastest, indicating a higher demand in those areas.

In 2020, almost 1,400 homes were permitted in Thurston County. Of these, single-family homes made up 49 percent of permitted, multifamily units made up 45 percent, and manufactured homes made up 6 percent. The vast majority of residential permits were issued within incorporated areas; only 295 (about 20 percent) were permitted in unincorporated Thurston County, while an additional 235 were permitted outside cities but within UGAs.

Regional Economy

Throughout much of the 20th century, Thurston County's natural resources played an important role in the local economy. Mining and timber were the major industries through the 1920s. Once Olympia was established as the capitol of Washington in 1927, employment in the government sector grew, eventually outpacing lumber industry employment in the 1950s.[17] In recent decades, the county's accommodation and food services and arts, entertainment, and recreation sectors has grown. The passage of the Indian Gaming Regulatory Act (IGRA) under the Reagan administration led to a gaming presence in the county.[18] In 1995, the Chehalis Tribe opened Lucky Eagle Casino followed by the Red Wind Casino opened by the Nisqually Tribe in 1997.[19] Tribal casinos now hold two positions in Thurston County's top five employers. Today, government at the local, state, and federal levels continues to be the county's largest source of employment.

In 2018, 154,519 people were employed (part time and full time) in Thurston County. The majority of employees (39,855) work in the government sector.[20] The county's five largest private employers are Providence St. Peter Hospital (2,849 employees), Safeway (1,024 employees), Walmart (1,002 employees), Nisqually Red Wind Casino (760 employees), and Lucky Eagle Casino (688 employees).[21]

Exhibit 9 shows the major sectors and their share of employment in Thurston County. Aside from government, employment is heavily concentrated in health care and social assistance, retail, and accommodation and food services. "All other" includes any sector making up less than five percent of employment in Thurston County.

[17] Vleming, J. 2020. "Thurston County profile." Updated February 2020. Retrieved from https://esd.wa.gov/labormarketinfo/county-profiles/thurston

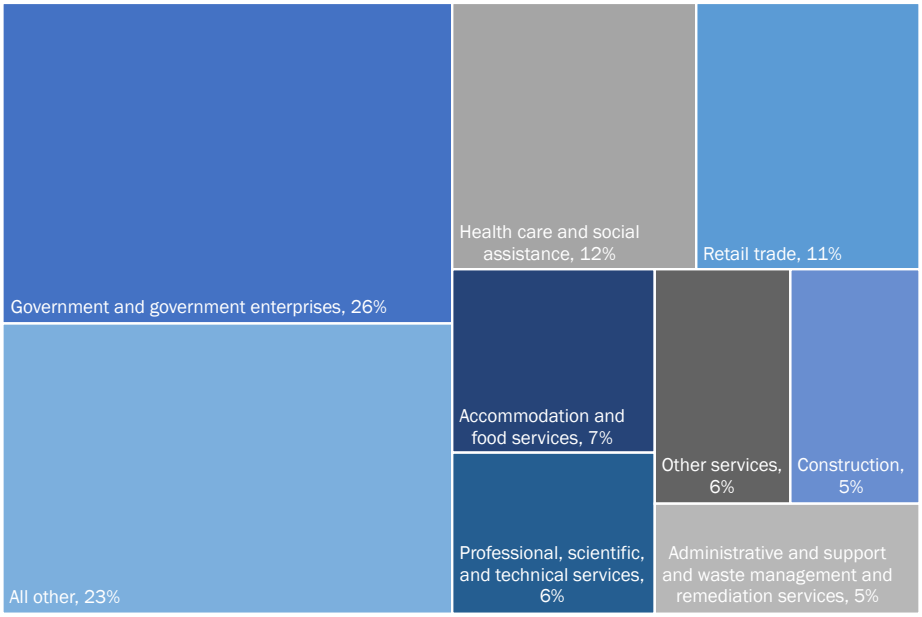
[18] Washington State Gambling Commission. 2020. "Tribal Gambling." Retrieved from https://www.wsgc.wa.gov/tribal-gaming#:~:text=Report%20a%20Violation,Tribal%20Gaming,for%20certain%20types%20of%20gaming

[19] 500 Nations. 2020a. "Lucky Eagle Casino." Retrieved from https://www.500nations.com/casinos/waLuckyEagle.asp#:~:text=LUCKY%20EAGLE%20CASINO,12888%20188th%20Avenue&text=Lucky%20Eagle%20Casino%20opened%20June,Olympia%20on%20Hwy%2012%20West and 500 Nations. 2020b. "Red Wind Casino." Retrieved from https://www.500nations.com/casinos/waRedWind.asp

[20] U.S. Bureau of Economic Analysis. 2018. "Regional Data GDP and Personal Income CAEMP25N Total Full-Time and Part-Time Employment by NAICS Industry (Number of Jobs), Thurston County." Retrieved from https://www.bea.gov/data

[21] Thurston Regional Planning Council. 2020a. "Major Private Employers (2018)." Retrieved from https://www.trpc.org/425/Private-Employers

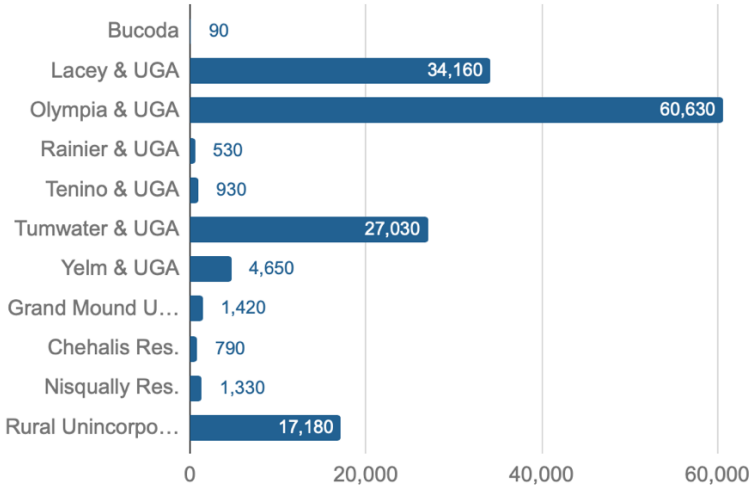
Exhibit 9. Employment by Sector in Thurston County
Source: ECONorthwest, with data from U.S. Bureau of Economic Analysis (2018)



Note: "All other" sectors includes: real estate and rental and leasing (4%); finance and insurance (3%); manufacturing (3%); transportation and warehousing (3%); arts, entertainment, and recreation (2%); educational services (2%); wholesale trade (2%); farm (1%); forestry, fishing, and related activities (1%); information (1%); management of companies and enterprises (1%); mining, quarrying, and oil and gas extraction (<1%); and utilities (<1%). "Other Services" is a sector (NAICS 81-Other Services) comprised of miscellaneous services, including equipment repair; dry-cleaning and laundry; personal care; death care; pet care, etc.

Data from the Thurston Regional Planning Council (TRPC) show the distribution of employment throughout Thurston County (Exhibit 10). Almost 80 percent of total employment is located in the county's urban areas of Olympia, Tumwater, and Lacey. About 10 percent of employment occurs in unincorporated Thurston County. Another 5 percent occurs within the smaller incorporated areas and their UGAs.

Exhibit 10. Employment Distribution in Thurston County, 2017
Source: Thurston Regional Planning Council



Employment Growth and Forecast

From 2010 to 2018, employment across all sectors in Thurston County grew by 20 percent (Exhibit 11). The greatest increases were in transportation and warehousing (60 percent), administrative and support and waste management and remediation services (43 percent), information (41 percent), construction (41 percent), and mining, quarrying, and oil extraction (36 percent). The only sector to exhibit job losses over this time period was wholesale trade (-2 percent).

Exhibit 11. Total Employment and Employment Trends, 2010 to 2018
Source: U.S. Bureau of Economic Analysis, "Regional Data GDP and Personal Income CAEMP25N Total Full-Time and Part-Time Employment by NAICS Industry (Number of Jobs), Thurston County," Accessed July 16, 2020.

Geographic Area	2010	2018	Percentage Change	Average Annual Growth Rate
Thurston County	128,661	154,519	20%	2%

Unemployment in the study region tends to follow the statewide trend, but experiences less dramatic swings, largely due to a robust workforce in healthcare and public administration. Throughout 2019, the annual average unemployment rate was 4.6 percent in Olympia and 4.9 percent in Thurston County. Since 2012, the average annual unemployment rate in Thurston County has exceeded the statewide average. It is only in recent years (since 2016) that Olympia's average annual unemployment rate is greater than Washington's.

The COVID-19 pandemic has had a dramatic effect on the region's local labor force, impacting businesses and employees across almost all sectors. The shock to the national and regional labor force is well outside historical averages, which increases the uncertainty around projections of population and employment growth in the region. Nationally, the unemployment rate reached its highest level since the Great Depression, ending the longest period of economic growth in United States' history.

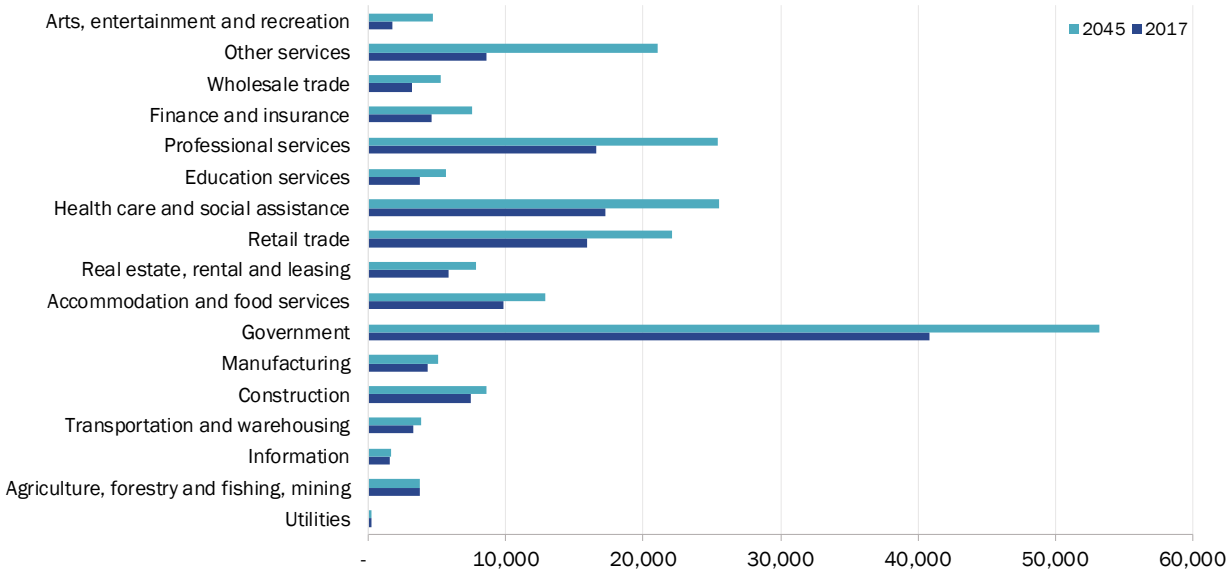
The Congressional Budget Office (CBO) forecasts that the economic expansion that began in summer 2020 will continue and the national unemployment rate will gradually decline through 2026; the number of people employed will return to the pre-pandemic level in 2024. However, these projections are subject to a high degree of uncertainty as the national and global effects of the pandemic and monetary and fiscal policy are yet to be determined. Additionally, it is unknown at this time how financial markets will react to sizeable increases in public debt and deficits.[22]

The employment forecast for Thurston County through 2045 suggests that government will remain the largest employment sector, followed by healthcare and social assistance, professional services, and retail trade (Exhibit 12). This is largely consistent with the sector's

[22] Congressional Budget Office. 2021. *The Budget and Economic Outlook: 2021 to 2031.* February. Accessed at https://www.cbo.gov/system/files/2021-02/56970-Outlook.pdf

importance today. The sector expected to grow the most between 2017 and 2045 is arts, entertainment, and recreation, which may more than double, although it remains a small proportion of County employment despite the growth. "Other services," which is a catch-all category that covers a wide range of service businesses, including machinery repairing, religious activities, dry-cleaning and laundry, personal care services, and pet care, is also expected to grow substantially, likely in part driven by expected steady growth in residential populations and household income (Thurston Regional Planning Council 2019).

Exhibit 12. Employment Forecast for Thurston County, 2017 to 2045
Source: ECONorthwest, with data from Thurston Regional Planning Council 2019



Note: Industries ordered by expected growth rate

Commercial and Industrial Development

Commercial development in Thurston County is focused on light manufacturing, assembly, and distribution. There is little industrial land, and it is encumbered by a lack of infrastructure and inadequate zoning. The nearby city of Tacoma has available space, putting it in competition with unincorporated Thurston County.

Thurston County has an estimated 3,806 acres of commercially zoned land and 14.2 million square feet of commercial improvements. It has 4,895 acres of industrially zoned land and 19 million square feet of industrial improvements. The average commercial rent is $12.49 per square foot per year. The county reported 6,335 employer establishments with a total 75,226 employees in 2018.

Thurston County shares a regional market for industrial and commercial development with neighboring Pierce and Lewis Counties. A 2015 market profile showed accommodations and food services are a potentially underserved sector which could benefit from additional

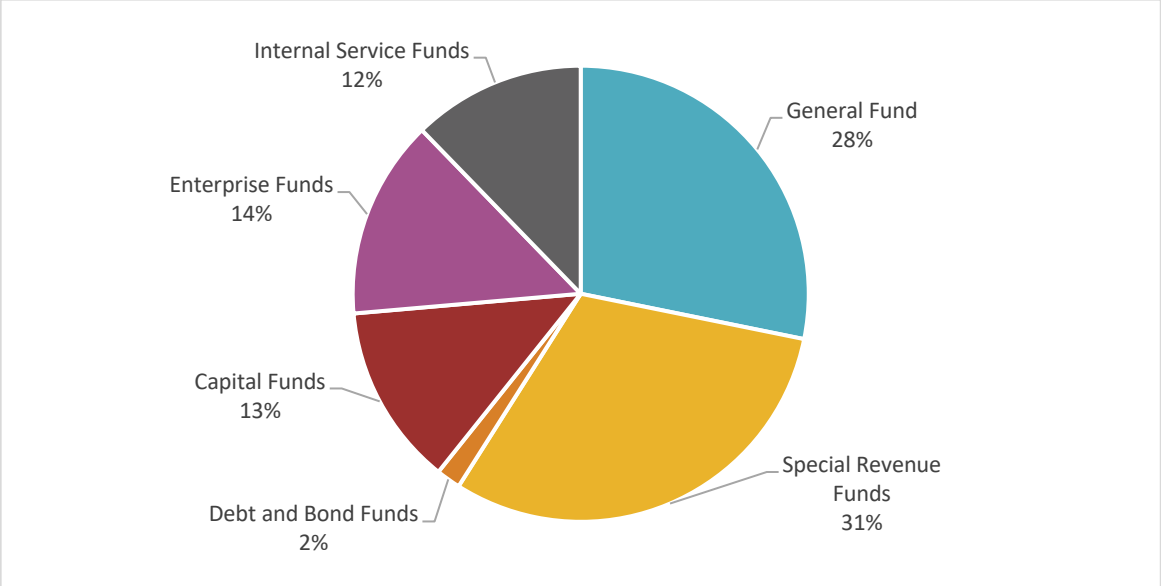
employers.[23] Similarly, tourism and recreation have potential for growth. Industrial uses abound more in Pierce County than neighboring Thurston County, and development in the county had rebounded slower than other counties following the Great Recession.

We interviewed one member of the EDC's Board of Directors who noted that their caseload dropped "precipitously" after ESA listings occurred. This could be due to uncertainty on the part of developers trying to understand and navigate the new process. It could also be the result of developers being unable or unwilling to move forward with the USFWS HCP process given the costs and uncertainties involved.

Thurston County Government Revenue

Over one-third of Thurston County's operating revenue come from taxes (38 percent in 2020). The remaining 62 percent of revenues come from direct charges for goods and services (25 percent in 2020; e.g., solid waste, storm and surface water utility, land use and permitting, and water/wastewater utilities), intergovernmental revenue transfers (20 percent in 2020), and other funding sources (17 percent in 2020).[24] Of the almost 40 percent fulfilled by tax revenue collections, the biggest source is property taxes. Sales and use tax revenue collected on goods and services sold in the county also contribute to Thurston County's revenue (Exhibit 13).

Exhibit 13: Thurston County Total Revenues, 2021 Budget
Source: Thurston County (2021)



[23] Community Attributes Inc. 2015. *New Market Industrial Campus Market Profile.* Accessed at https://www.trpc.org/DocumentCenter/View/2313/Market-Profile-for-New-Market-Industrial-Campus-and-Tumwater-Center-April-2015?bidId=

[24] Thurston County. 2021. *2021 Thurston County Preliminary Budget.* Accessed at https://www.thurstoncountywa.gov/bocc/boccbudgetdocuments/2021PreliminaryBudgetBook.pdf

Of the total revenue collected from property taxes in Thurston County, about 19 percent goes to the county. This is divided into the general fund, road fund, emergency services (EMS), and conservation futures. Washington's state constitution limits the amount property taxes on an individual parcel can increase each year by 1 percent, calculated on the previous year's assessment (i.e., not on the increasing value of property).[25]

Thurston County's operating revenue goes to pay for services that residents and businesses in the county depend on, and that contribute to the public safety, economic productivity, and overall quality of life. In 2020, about 25 percent of the operating expenditures went to law and justice. Almost the same percent went to economic vitality, a category that includes services such as transportation, noxious weed control, and fair and lake management districts. Expenditures on health and human services comprised 20 percent of total expenditures. The remaining budget was spent on government administration, legislative priorities (e.g., conservation futures, tourism promotion, and historic preservation).[26]

[25] MSRC. 2021. *Property Tax in Washington State.* Accessed at

[26] Thurston County. 2021. *2021 Thurston County Preliminary Budget.* Accessed at https://www.thurstoncountywa.gov/bocc/boccbudgetdocuments/2021PreliminaryBudgetBook.pdf

3. Methodology and Assumptions

This section details the assumptions and methodology for the economic analysis.

Objectives of the Analysis

The objective of this economic analysis is to provide information for decision makers and stakeholders in Thurston County to understand the economic implications of adopting the county-led HCP. It also helps to clarify the potential economic outcomes of continuing under the status quo. It does not assess—and is not intended to assess—the economic impacts of the ESA listings themselves, together or individually.

Within this context, the economic analysis provides information to help understand the economic outcomes from several perspectives:

- For current and future landowners in unincorporated Thurston County, how would a county-led HCP change the costs associated with developing their land? Similarly, for developers seeking to invest in new developments in unincorporated Thurston County, how would a county-led HCP change the costs of developing land?
- For the County and its taxpayers, how would a county-led HCP that potentially changes the development patterns in the County lead to changes in assessed value in the aggregate land base, and associated property tax collections, over the permit term?
- For local and state government entities and the citizens of Thurston County, how might a county-led HCP change the trajectory of the local economy over the permit term?

Approach

The answers to each of the questions above precipitate from an initial set of calculations that landowners and developers make when deciding what to do with their land: is development feasible given the costs associated with complying with ESA obligations? ESA compliance costs are just one category of potential costs that landowners and developers weigh when planning for development and may or may not be influential in whether development proceeds.

The methodology used in this analysis integrates the set of cost factors developers face to identify the conditions under which development may proceed, and where additional cost burden may change what landowners and developers are able to do, given prevailing market conditions. Specifically, the analysis varies ESA compliance costs between two scenarios and holds all other costs constant. The two scenarios are:

- **Individual HCP Compliance (status quo)**: If a property developer decides to pursue development in unincorporated Thurston County on a parcel that contains habitat for listed species, they must demonstrate compliance with state and federal ESA before

Thurston County grants a development permit.[27] If ESA compliance requires authorization from USFWS to take listed species, the landowner must submit an ITP application to the USFWS and engage in a process with USFWS to develop an HCP. This process currently takes over a year or longer, even for simple development proposals. Landowners may hire professionals (including attorneys, biologists, and other consultants) to assist in navigating the process or attempt to navigate it themselves. The process is complex and time-intensive, both of which lead to additional costs, which may or may not be feasible to absorb given the nature of development. The outcome of the process is often uncertain. In part this is because the issuance of an ITP by the USFWS requires analysis under NEPA, as it is a federal action. The combination of an HCP and completion of the NEPA process typically takes well over one year, even for straightforward projects with turnkey mitigation solutions. If the permit is granted, the landowner takes on the legal and financial responsibility of complying with the HCP provisions and the liability for violations of the agreement over the life of the permit. Depending on the proposed mitigation mechanism, the landowner can transfer some responsibility to other entities (i.e., if the mitigation entails purchasing credits in a mitigation bank, or if land under a conservation easement is transferred to a different owner), but ultimately it is the responsibility of the permit holder to demonstrate ongoing compliance with the terms of the HCP and ITP.

- **County-led HCP Compliance:** With a county-wide HCP/ITP in place, if a developer decides to pursue development in unincorporated Thurston County on a parcel that contains habitat for a listed species, they will apply for a development permit from Thurston County and pay a fee that corresponds to the amount and type of habitat the development would disturb. The fee is outlined in the county's HCP and would cover implementation of the county's proposed conservation/mitigation program for the species covered by the permit. The county would take on all liability for ESA compliance under the terms of its HCP, and landowners would develop according to the terms of their permit with the county. Under its program, the county would purchase, restore, and manage habitat to the benefit of the listed species.

Because both ESA compliance obligations and market factors governing development are spatial in nature, the analysis is spatially explicit. It overlays TRPC development projections over the next 30 years with habitat areas for covered species to identify a set of parcels that the county-led HCP would have the potential to affect. Parcel-specific zoning data are used to identify how the parcel can be development and data from the Thurston County assessor are used estimate its potential real market value. These data serve as inputs to a model of development feasibility by type of development. The analysis considers six types of development in four major categories which correspond to the types of development that could be impacted in unincorporated Thurston County:

[27] Currently, Thurston County does not allow a landowner to subdivide a parcel to remove affected portions, nor will it grant a permit for development even if the landowner intends to avoid affected habitat areas. Thus, under Thurston County's current policy, an HCP would be required for all parcels with any habitat present.

- **Residential**
  - Single-family subdivision
  - Townhome subdivision
  - Apartment building
- **Commercial** (office/retail)
- **Industrial**
- **Residential Accessory Structures, or "Accessory Structures"** (e.g., pole barns, sheds, accessory dwelling units, etc.)

The model predicts which development types would be feasible under each set of conditions based on the cost inputs for each scenario. The result— an expected distribution of feasible and infeasible development within the study area— answers the first question above: how would a county-led HCP change property owners' costs associated with developing their land? It also produces inputs that support a second modeling exercise.

The second modeling exercise uses the predicted acres of each type of development and estimates the associated change in property value and property tax collections. Development generates construction activity that translates into sales taxes, which is also estimated. This helps to answer the second question above: how would the county-led HCP change tax revenue collections?

The estimated differences in the amount and distribution of development between the scenarios allow us to draw conclusions about how the county-led HCP might change the trajectory of development over time. While there are many uncertainties about how development might unfold in Thurston County in the future under both scenarios (particularly because overall market conditions are exceptionally unpredictable at this juncture) given national and global economic uncertainties, the analysis suggests areas where the county-led HCP may nudge probabilities of one outcome over another, all else held equal.

Because there are uncertainties inherent in this type of analysis which are compounded by the economic conditions present today, the analysis explores the sensitivity of the results to variations in key factors – most influential of which would be the price of mitigation (which is influenced by land value).

Data Collection

Several categories of data were required for the analysis: overall costs of development by development type, specific costs of developing an individual HCP, specific costs of using the county-led HCP, parcel data, and species/habitat data.

Spatial data about parcels came from the Thurston County Assessor. Thurston County staff provided spatial data developed for the county-led HCP on species and habitat. County staff

also provided data on the permit cost to developers of using the county-led HCP; these are documented in the draft HCP.[28] The county also provided data developed for the county-led HCP using information from the TRPC to identify which parcels would be likely to develop within habitat areas within the 30-year timeframe for the analysis. This set of parcels served as the spatial frame for this economic analysis and included about 7,800 parcels (of about 20,000 total parcels in unincorporated Thurston County).

Data to describe overall revenues from and costs of development come from industry and commodity reports as well as data sources such CoStar, Redfin, RS Means, and developer interviews in the region. They were integrated into a "pro forma" model for evaluating the specific development types and market conditions relevant to Thurston County.

Data to describe costs under the individual HCP scenario were developed using interviews of landowners and developers, described in more detail below. These costs were vetted with ICF staff, who are leading experts in HCP compliance strategies and cost development. Additional costs of mitigation options were developed by University of Idaho economists.

Landowner and Developer Interviews

To compare the individual HCP with the county-led HCP, we require a comprehensive breakdown of costs associated with each option. While Thurston County provided costs associated with the county-led HCP, we interviewed landowners who had participated in or led development of an individual HCP to understand the costs associated with that option.

Thurston County staff identified six interviewees to reach out to, all of whom had coordinated with the county in developing their own (individual) HCPs. In addition, one interviewee recommended ECONorthwest staff interview two more property owners with similar experiences. In total, ECONorthwest staff contacted eight people. All of those contacted ultimately agreed to share their experiences with the HCP and development process in Thurston County.

As shown in Exhibit 14, the types of property owners interviewed ranged across the major categories. There were three individual property owners, one real estate managing broker, one large scale residential developer, one engineer, and one land planner for a utility company. The category of developer corresponds to the categories ultimately used in our analysis.

[28] Thurston County CPED. 2019. *Thurston County Draft Habitat Conservation Plan.*

Exhibit 14. Completed Interviews
Source: ECONorthwest

Name	Title and Company	Category of Developer	Date of Interview
Steve McLain	Property Owner	Accessory Structure	11/9/20
Larry Weaver	Managing Broker, Dream Weavers Real Estate	Residential	11/10/20
Jan Tveten	Property Owner	Accessory Structure	11/11/20
Steve Chamberlain	Property Developer, SLC	Residential	11/13/20
Mark Steepy	Engineering PE, KPFF	Residential (consultant)	11/13/20
Jessica Jackson	Municipal Land Planner, Puget Sound Energy	Utility Company	11/16/20
Derek Vetter	Property Owner	Accessory Structure	11/16/20
Chad Steinbrecher	Accountant, Kaufman Development and Construction Inc	Commercial/ Industrial	12/14/20
Michael Cade	Executive Director, Thurston County Economic Development Council	Commercial/Industrial (Economic Development perspective)	1/8/21

The interviews focused on identifying issues and costs with current conditions and identifying current perceptions about how adopting a county-led HCP may change costs. For each developer type, we estimated the basic fixed and variable costs associated with an individual HCP. These costs were then incorporated into our pro forma analysis.

Cost Assumptions

The sections below document the assumptions used to account for the costs associated with each HCP scenario: the county-led HCP and the individual HCP (status quo).

County-Led HCP Cost Assumptions

Species Survey

The county would provide, free of charge, a spatial application available via a website that would allow potential developers to identify whether their parcel is within a covered species habitat area and would require compliance with the county-led HCP. This step would require a small amount of time to complete, but likely no more than is typically required to navigate the general county permit process. It is intended to be streamlined and easy to interpret for landowners and developers, with county staff assistance available if needed.

Mitigation Fee

The primary cost to developers associated with participating in the county-led HCP is the mitigation fee. Once a developer has identified that they are within a designated habitat area and how much acreage their development would disturb, they can calculate the required

mitigation fee. The fee per credit, which is priced per "functional acre," varies according to the covered species present (see Exhibit 15).

These mitigation fees are the cost per "functional acre." A functional acre is equivalent to one acre of high-quality habitat. It is defined as follows:

Functional Acres = Habitat Value x Habitat Area Impacted

The concept of a functional acre was defined to help standardize the calculation of mitigation credits and debits. Habitat quality across Thurston County is not uniform; for example, some soils are more preferred by gophers and are thus of a higher value . As a result, impacts to low-quality habitat require less mitigation than impacts to higher quality habitat. The use of the "functional acre" allows applicants to calculate mitigation debits and credits across the County with a common metric.

Exhibit 15: Estimated Cost Per Mitigation Credit for County-led HCP
Source: Thurston County CPED (2019)

Species/Service Area	YPG N	YPG E	YPG S	OPG	TPG	TCB	OVS	OSF
Mitigation Credits Needed	1357	1043	1346	632	178	16	25	618
Total Estimated Expense (All)	$31,003,121	$20,570,281	$23,199,518	$33,973,698	$2,774,118	$611,622	$669,835	$12,356,798
Conservation Futures Offset of Acquisition Costs	$3,564,159	$2,697,886	$3,483,056	$1,660,121	$482,503	$0	$150,698	$2,961,576
Estimated Cost/Credit	**$20,215**	**$17,137**	**$14,644**	**$51,111**	**$12,910**	**$38,054**	**$20,636**	**$15,203**

If a property developer impacts habitat for more than one species, they pay a fee for each species. However, if there is an area of overlap between a subspecies of the MPG and TCB or OVS, they pay a fee only for the subspecies of MPG.

Total Cost under the County-led HCP Scenario:

Species Survey *(TIME)* +

Mitigation Fee *(Function of Acreage Disturbed)*

Individual HCP Cost Assumptions

A developer or property owner pursuing an individual HCP with the USFWS embarks on a process that is largely a negotiation and rarely unfolds in neatly delineated, predictable steps. The provisions ultimately contained within an individual HCP depend on the nature and scale of the habitat present on a parcel and the expected disturbance.

Every individual HCP would have a uniquely specified mechanism and obligation for mitigating the disturbance and loss of habitat. Property owners typically have three options for mitigation:

- **On-site Conservation**: restoring and/or maintaining a separate portion of the same property and maintaining as habitat area.
- **Off-site Conservation**: creating a plan for restoring and/or maintaining habitat land on another piece of property, typically equal to or greater in size than the area of impact.
- **Mitigation Fee or Credit**: paying a fee to another property owner who will be responsible for conserving and maintaining habitat land equal to the area of impact.

Each of these options typically requires a legal assurance, such as a conservation easement, to ensure protection of the mitigation site in perpetuity. Costs can vary widely within and among each of these options, as they are highly site-specific and market dependent. These costs are described for each option below.

There are several steps a property owner or developer must navigate regardless of which conservation avenue is ultimately selected. These are summarized in Exhibit 16 below under the "All" row. Following these steps in common, we describe the range of potential costs for each conservation option, also summarized by row in Exhibit 16.

Exhibit 16. Private HCP Cost Components
Source: ECONorthwest

Mitigation Option	Cost Components
All	Species survey Prairie study Costs of drafting the HCP Application fee Cost of time and delay Risk of compliance failure
+ On-site Conservation	Land management costs (restoration / maintenance) Habitat monitoring and reporting Endowment Deed restriction and Conservation easement Annual County investigation Foregone revenue of land set-aside for gopher habitat
+ Off-site Conservation	Land management costs (restoration / maintenance) Habitat monitoring and reporting Endowment Deed restriction and Conservation easement Annual County investigation
+ Mitigation Fee	Mitigation fee set by a private entity

Species Survey (All)

Before embarking on any development, as part of their due diligence and to receive a development permit, landowners must assess whether ESA-listed species or their habitat are

present on their land. The County has a process for this, which is primarily focused on identifying whether the MPG is present or if the property has habitat suitable for future MPG occupation. The first step in this process is an inspection, which is triggered if the property meets one of certain conditions:

- Property has soil types that indicate habitat characteristics of covered species
- Property is within 300 feet of mapped soils
- Property is within 600 feet of known gopher locations

Properties get two inspections 30 days apart. Inspections can be done by county officials or an independent certified consultant. The cost ranges depending on the size of the property, but the typical minimum cost identified during key-informant interviews and vetted with professionals was approximately $3,000 over two years.

Prairie Study (All)

In addition to surveying the property for gopher habitat, a prairie study is needed to establish baseline and assess the potential for restoration of habitat. For instance, how much enhancement of the soils and vegetation is needed to be suitable for conserving as gopher habitat. The cost ranges depending on the size of the property, but the typical minimum cost identified during the interviews was approximately $3,000 over two years.

Costs of Drafting the HCP (All)

Under the private HCP landowners are responsible for creating and submitting an HCP to USFWS with little to no participation from the county. The required steps to complete an HCP apply to all projects, whether 1 acre or 1,000 acres. The size of the project does not necessarily mean the HCP process will be easier or harder; it is more dependent on the complexity of the habitats involved.

Thus, the costs of a private HCP can vary, but are not directly related to parcel size. Different types of developers may be able to approach the process with different resources, leading to different costs. For example, a commercial developer often will find it more efficient and cost-effective to hire a consultant to complete the HCP on their behalf. On the other hand, an individual building an accessory structure on a small portion of a parcel may not be able to afford or justify the cost of a consultant and will instead prepare their own HCP. In the former situation, the cost of HCP preparation is the consultant fee as well as the opportunity cost of any additional time the landowner takes. In the latter situation, the cost of HCP preparation is the opportunity cost of the time.

Based on interviews with property owners and consultants, the cost of having a consultant draft the HCP would typically range from $8,000 to $10,000 per plan but could be as high as $20,000 or more depending on the site conditions and scope of the HCP. If the applicant takes on the cost of NEPA compliance as well, it could be significantly higher.

The opportunity cost of an individual property developer's time for drafting the HCP themselves is difficult to quantify. In many cases, property developers might hire a consultant for part of the HCP draft development, and complete part of it themselves. Therefore, the overall time and effort associated could be considerable. For businesses, this time could be spent otherwise on profitable activities, and therefore has a real financial value.

Application Fee (All)

A minor cost, relative to the other components, is the application fee itself. A fee accompanies the submission of an HCP for approval by USFWS. We heard during interviews that the fee typically costs $50.

Cost of Time and Delay (All)

There are multiple costs related to the time for which it takes a development proposal to be approved. These costs vary depending on the type of property developer, but can include the following:

- **Construction cost escalation:** typically, the cost to build only increases, for both materials and labor. The longer a project is delayed from getting a guaranteed quote from a contractor, the larger the increase in the cost to build the development. Over the last few years, construction costs have increased by about five percent annually. Given that the interviewees indicated the HCP drafting and approval process can take 18 to 24 months or longer, construction costs might increase five to ten percent, which can impact development feasibility.
- **Carrying cost of capital:** depending on the type of property developer and the sources of funding for a development project, the longer it takes to start building can increase the costs of the development. The longer the review period, the more total interest that accrues on loans they used to purchase land or finance other development costs.
- **Opportunity cost:** depending on the type of property developer, there is a foregone cost of missing the opportunity to invest the money in the next best available option.

The carrying cost of capital and the opportunity cost can vary greatly by type of property developer and between individual development projects. However, the construction cost escalation can be quantified and estimated as a cost component.

Risk of Compliance Failure (All)

With each ITP issued, there is the risk of failing to comply with the permit requirements and being fined by the USFWS.

We assumed this cost to be unlikely for most developments in Thurston County. Given the complexity and challenge of creating functional habitat mitigation, it is reasonable to assume that expectations at least would be of greater risk under an individual HCP than the county-led HCP for a developer with no prior HCP experience. But the assurances under an HCP are

intended to severely limit the risk of additional unanticipated expenses once the HCP has been signed. Therefore, there are no added risk of compliance failure costs added to any scenarios.

Mitigation Options

In addition to the soft costs of drafting and negotiating an HCP, the actual habitat mitigation expenses may be the greatest share of cost burden under an individual HCP. Every individual HCP would have a uniquely specified mechanism and obligation for mitigating the disturbance and loss of habitat. These typically fall into one of three categories.

For options that involve purchasing land or mitigation credits, the costs represented here may underestimate actual costs in the future. As suitable sites for habitat mitigation grow scarcer over time, and property value increases corresponding to long-term regional trends, it can be expected that these habitat mitigation expenses will increase. And with implementation of a county-led HCP, it is likely that remaining suitable areas for subsequent individual HCPs would be noticeably reduced.

Conservation Strategy: On-Site Mitigation

Often a developer or landowner has sufficient flexibility and land to mitigate any disturbed acreage onsite, without purchasing additional land. In many cases—especially with individuals who are developing accessory structures—the only obligation for mitigation may be establishing a conservation easement on a portion of their property and maintaining habitat by addressing invasive weeds through a mowing program. If the disturbance is more significant, additional restoration, enhancement, maintenance, monitoring, and reporting may be required. Again, this is subject to negotiation with the USFWS and is highly variable depending on site conditions and the scope of disturbance. Exhibit 17 summarizes the categories of costs incurred under this strategy.

Exhibit 17. Estimated Costs Associated with On-Site Mitigation for an Individual HCP
Source: ECONorthwest, with data from key-informant interviews

Category	Description	Cost
Restoration and Enhancement	Investment in increasing the habitat quality for ESA-listed species. May or may not be required.	If required, may range from $4,000 to $19,000 per acre per year.
Maintenance	Annual requirement to maintain habitat in its specified condition.	$200 per acre per year - $700 per acre per year
Habitat Monitoring and Reporting	Annual activities to monitor habitat conditions and report findings to USFWS.	The cost of habitat monitoring and reporting via offsite conservation is similar to what the County is projecting annually.
Endowment	This covers costs required to maintain habitat in perpetuity. May not be universally required for all individual HCPs.	Depends on total maintenance and annual monitoring and reporting requirements.
Deed Restrictions / Conservation Easements	Establishing legal protection of the protected area in perpetuity.	$600 for drafting legal documents
Annual County Investigation Costs – Easement Compliance Visit	Required to ensure compliance with the agreement.	$600 annually
Forgone Value of Land set aside for ESA Compliance	If a landowner uses land they already own to mitigate for disturbance, they cannot develop it in perpetuity. This cost is the forgone value of development.	Varies, depending on the type of development that would have occurred but for the on-site mitigation plan.

Conservation Strategy: Off-Site Mitigation

If the opportunity cost of mitigating disturbed habitat on site is too great or not available, a landowner/developer may choose to purchase and/or secure land elsewhere and implement a mitigation program to offset the disturbance on the primary development site. Exhibit 18 summarizes the categories of costs incurred under this strategy.

Exhibit 18. Estimated Costs Associated with Off-Site Mitigation for an Individual HCP
Source: ECONorthwest, with data from key-informant interviews

Category	Description	Cost
Land Purchase	Purchasing land suitable for mitigation, either with or without additional restoration.	Average land value, expected to increase over time.
Restoration and Enhancement	Investment in increasing the habitat quality for ESA-listed species. May or may not be required.	If required, may range from $4,000 to $19,000 per acre per year.
Maintenance	Annual requirement to maintain habitat in its specified condition.	$700 per acre per year
Habitat Monitoring and Reporting	Annual activities to monitor habitat conditions and report findings to USFWS.	The cost of habitat monitoring and reporting via off-site conservation is similar to what the County is projecting annually.
Endowment	This covers costs required to maintain habitat in perpetuity. May not be universally required for all individual HCPs.	Depends on total maintenance and annual monitoring and reporting requirements.
Deed Restrictions / Conservation Easements	Establishing legal protection of the protected area in perpetuity.	$600
Annual County Investigation Costs – Easement Compliance Visit	Required to ensure compliance with the agreement.	$600 annually

Conservation Strategy: Mitigation Fee

If a landowner or developer decides they do not want to be responsible for their own mitigation plan, neither on-site nor off-site, they may purchase land that has been restored expressly for the ESA species their development would affect. Though the market for conserved land is limited at present, at least one private entity sells conserved gopher habitat for use as mitigation to third parties. While not an official "mitigation bank," this arrangement functions in a similar way, where an individual landowner does not have to engage in the process of purchasing land, restoring, monitoring, and reporting themselves. As a general representation of the cost for this option under current conditions, purchasing conserved land in Thurston County to offset disturbance to MPG areas costs $50,000 to $75,000 per acre.

Parcel Assessment and Pro Forma Analysis

This portion of the analysis models the property owners' and developers' decision-making process and cash flow equation. The findings from this analysis can help to guide the county on whether a property developer is more likely to build on land in Thurston County under the county-led HCP as compared to the current state of the world. The central question is: **Will the county-led HCP reduce the costs associated with ESA compliance, which can create more value for developers and therefore make development more likely?**

If not, a property developer may be unlikely to participate in the county-led HCP and—contrary to the county's fiscal goals—may choose not to develop in Thurston County at all and continue to realize value from the existing use if they already own the property. To complete this analysis, ECONorthwest took the following four steps:

The Appendix provides details on the pro forma methods and a complete summary of the technical analysis steps.

Step 1: Assess conditions of parcels within the county-led HCP permit area and create property development scenarios

To understand where development is likely to occur, ECONorthwest first evaluated the area of habitat on each parcel in the county-led HCP permit area. We then filtered this dataset by parcel identification number to evaluate only those parcels for which TRPC and IAE projected some future development potential. This filtering resulted in around 7,800 parcels for our subsequent analysis.

We used spatial data from the county to understand the site constraints that a property developer would experience under a county-led HCP and applied those constraints to both states of the world. We evaluated how much of the site was habitat for covered species as compared to how much of the site was not considered habitat, to understand if a property developer would need to impact habitat area.

We then created two scenarios of habitat impact under both states of the world (for a total of four land impact scenarios) – one where the property developer avoided the habitat area and one where the property developer impacted the habitat area as much as they needed for their development concept. Framing the analysis with these scenarios allowed us to analyze which option is most financially viable for a property developer.

Step 2: Identify typical building prototypes for commercial and residential uses

ECONorthwest identified a set of example commercial and residential buildings, or *prototypes,* that were informed by our interviews with property owners and the physical assumptions of which were based on comparable properties found throughout Thurston County. More specifically, we modeled six prototypes: industrial, commercial (office/retail), single-family subdivision, townhome subdivision, apartment building, and a residential accessory structure (or "accessory structure"). We then assigned these prototypes to parcels based on the allowed land uses and densities identified in the zoning code.

Step 3: Analyze financial feasibility of building prototypes

To understand the potential for development given the zone and constraints of the parcel, ECONorthwest employed an R-based financial pro forma model that used the RLV methodology (see Appendix). The model considered the buildable area of parcel (for each scenario), the prototype, and the respective financial market conditions (e.g., rents or sale prices, operating and construction costs, and financing requirements). We employed this RLV methodology for the majority of prototypes.

However, for accessory structures, we employed a different approach. For these types of developments, the factors that decide whether a development should occur are often different than with the other prototypes – they are typically less financially-motivated. Given this difference we instead first tested the total cost to build an accessory structure under all four scenarios (both states of the world and avoiding or fully impacting habitat area). In all cases the total cost of ESA compliance was less under the county-led scenarios than under the current state of the world.

Residual land value (RLV): An estimate of the underlying value of land based on (1) the property's income from rental or sales revenue, (2) the cost to build as well as any cost to operate the building, (3) the financing requirements needed to attract capital for the project, and (4) the cost of the land, which we assumed was equal to the real market value as determined by the county assessor. In other words, RLV is the residual budget that developers have remaining after all the other development constraints have been analyzed.

Step 4: Compare scenarios to understand fiscal impacts under the two states of the world

After analyzing the RLV of each parcel under each of the two scenarios (for the prototypes using this approach), ECONorthwest compared the value of avoiding the habitat area versus that of impacting it as much as is needed for the development concept of the respective prototype. Under the county-led HCP this was straightforward; if they impacted habitat area, they needed to pay a fee in-lieu based on the mitigation credit cost (calculated by the functional acres of that habitat). If they avoided the habitat area, they didn't need to pay a fee, but the development concept was smaller and there was potentially a cost of foregone revenue (depending on the specific habitat area of the site). We compared the two options for the parcel under the county-led HCP to see which created the most value for the property developer, and then summarized the conditions of the most valuable of the two options to estimate fiscal impacts.

We repeated this process for the two scenarios, but assuming the conditions of the current state of the world. Whether a property owner avoided habitat or developed and impacted it, they first needed to pay for a survey to determine if there was habitat area on their property. If there was indeed habitat area (we assumed the same habitat area as that of the county-led HCP), the property owner then needed to pay for a private HCP, whether or not they avoided the habitat entirely or impacted some of it with their development concept. In the case where they avoided the habitat, we assumed they still had to pay maintenance costs for the some of the habitat they avoided per the requirements of their HCP. Under the scenario where they didn't avoid the habitat entirely, we assumed they paid the current market price for mitigation off-site (either by

finding property elsewhere themselves or paying a fee to a private entity for them to reserve and maintain habitat). We then compared the two scenarios under the current state of the world for each parcel to see which created the most value for the property developer. We then summarized the conditions of the most valuable scenario to estimate fiscal impacts.

If a parcel resulted in a RLV greater than zero, under either of the two scenarios, we assumed it was financially feasible. However, we took the greater of the RLV results, between the two states of the world, to estimate which HCP option created greater feasibility for each parcel.

For accessory structures, we evaluated the historical permit trends for new construction records tagged as accessory dwelling units, accessory structures, guest houses, or swimming pools. We used the historic permit trends to estimate the impact of the ESA listing and the future projection of accessory structure development under both states of the world. There was a noticeable drop-off in permits for accessory structures post-ESA listing – approximately 50% on average for the ten years post ESA listing as compared to the ten years prior. It is unknown how much of this drop-off was due to the ESA listing itself or other market factors. For the current state of the world, we assumed future accessory structure development would proceed at the development rate of structures post-ESA listing. For the county-led HCP state of the world, we assumed that the rate of permits for accessory structures would increase, due to the results of our analysis that determined the cost for ESA compliance would likely be lower under the county-led HCP. However, given there is still an additional cost post-ESA listing, even under the county-led HCP, we chose to increase the permit rate for accessory structures under the county-led HCP by only 50 percent of the difference between pre- and post-ESA listing.

We then summarized the conditions of the all the parcels we assume are likely to develop over the county-led HCP permit period, but for both states of the world, and evaluated the respective fiscal impacts. We then compared the fiscal impacts to understand the incremental impact to the county from the county-led HCP, which we describe in the next section.

The results from this model describe a general analysis of prototypes in Thurston County and do not consider the many potential unique conditions that could be a factor in development feasibility (e.g., increased pre-development costs, low land basis from longtime landownership). For these reasons, a RLV analysis should be thought of as a strong indicator of the relative likelihood of feasibility, rather than an absolute measure of return to the investor or developer.

Economic Impact Modeling

The technical appendix provides a complete overview of the fiscal impact analysis methods and assumptions.

A main component of the economic analysis included estimating the economic and fiscal impacts of development under the county-led HCP as compared to the current state of the world. More specifically, we estimated the potential changes in property taxes and sales taxes due to changes in real estate development patterns from the introduction of the county-led HCP. To do this, we evaluated key outputs based on the

results of the parcel assessment and pro forma analysis – namely, the total area of development and the respective cost to build that development, by each use type.

The pro forma and accessory structure analysis resulted in the likely total amount of development over the course of the 30-year permit period. We assumed an equal amount of development per year, by prototype, and summarized the square feet, total cost of labor and materials, and the total cost of the development. We used these values as inputs to the economic analysis model that evaluated the site-generated tax revenues such as property taxes and sales taxes.

The economic analysis model differentiated tax revenues into three categories:

- **One-time Revenues.** These General Fund, Road Fund, and selective sales tax revenues are tied to the construction of housing and commercial products. Specifically, they include the retail sales tax on construction (material and services).
- **Recurring Revenues**. These General Fund, Road Fund, and selective sales tax revenues are derived from the occupation of residential and commercial structures by residents, businesses, and employees. Specific revenues include the property tax and retail sales tax (resulting from new sales tax sourcing rules).
- **Non-General Fund Capital Restricted Revenues.** These revenues are statutorily restricted to fund capital expenses. Specific revenues relevant to the county include the real estate excise tax or (REET)

We estimated tax revenues based on the changes in the components of the county's tax base resulting from development in the unincorporated area. Components of growth that influence revenues include the timing, scale, and quality of the project's development as well as the population and employment impacts of the development as it is completed. We summed those tax values using a net present value calculation that assumed a 3.5 percent discount rate to arrive at the total amount of taxes, over the permit period, that are the incremental result of the county-led HCP. We present these impacts in the next section.

4. Incremental Effects of Adopting a County-Led HCP

This analysis set out to answer three sets of questions, in assessing what the effects of adopting a county-led HCP would be:

- For current and future landowners in unincorporated Thurston County, how would a county-led HCP change the costs associated with developing their land? Similarly, for developers seeking to invest in new developments in unincorporated Thurston County, how would a county-led HCP change the costs of developing land?
- For the county and its taxpayers, how would a county-led HCP that potentially changes the development patterns in the County lead to changes in assessed value in the aggregate land base, and associated property tax collections, over the permit term?
- For local and state government entities and the citizens of Thurston County, how might a county-led HCP change the trajectory of the local economy over the permit term?

This section offers insights into each of these questions.

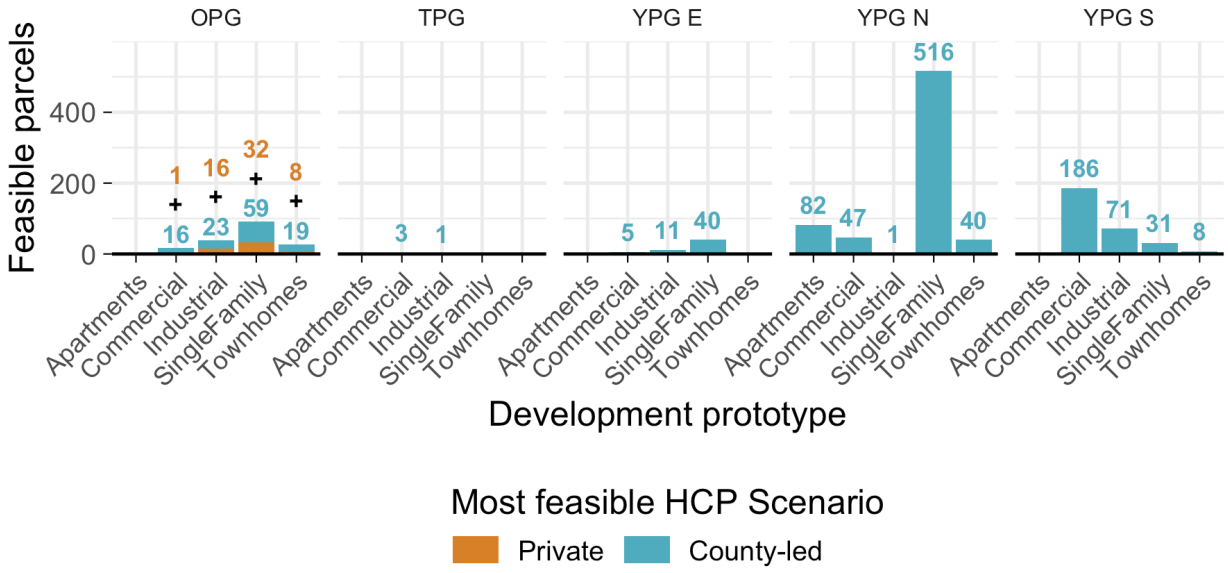
Question: For current and future landowners in unincorporated Thurston County, **how would a county-led HCP change the costs associated with developing their land?** Similarly, for developers seeking to invest in new developments in unincorporated Thurston County, **how would a county-led HCP change the costs of developing land?**

Answer: The county-led HCP reduces the overall costs of ESA compliance for most landowners and makes more parcels financially feasible to develop.

In almost all service areas, the county-led HCP reduced the costs of developing land and increases the financial feasibility of development resulting in more parcels that develop. Exhibit 19 shows the number of parcels that are feasible and whether those parcels are more feasible under the county-led HCP or an individual HCP. For all prototypes, in all MPG service areas, the pro forma results indicate the majority of parcels are more feasible under the county-led HCP.

The service area with the most parcels that were feasible is the YPG N followed next by the YPG S. In both these service areas, the county-led HCP resulted in greater feasibility than an individual HCP. The OPG service area also had multiple parcels that were feasible, however, some were more feasible under an individual HCP. The type of development that was feasible in these areas differed – in some areas, like YPG N, a lot of the expected development is single-family homes, whereas YPG S is expected to see more commercial and industrial development. This is likely due to spatial differences in the zoning and allowed uses for land best suited for development.

Exhibit 19. Financially Feasible Parcel Comparison
Source: ECONorthwest (2021)

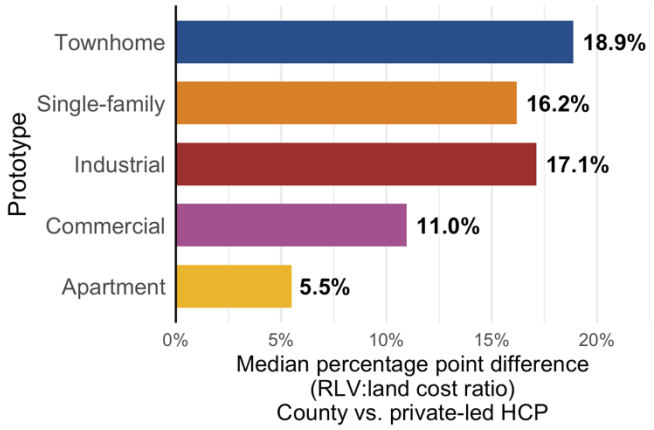


The general increase in feasibility, due to the county-led HCP, can be illustrated by the increased ability to pay for land.

To expand on the results that show the nominal number of parcels that are more financially feasible under the county-led HCP, we estimated just how much greater that financial feasibility is as compared to an individual HCP. We express this increase in feasibility in terms of residual value as compared to the real market value of the parcel. More specifically, we evaluated the difference between how much more a property developer could pay for land under the county-led HCP and how much more a property developer could pay for land under an individual HCP.

On average, across all parcels, the county-led HCP results in an increase in a property developer's ability to pay for land by about 14 percentage points. When we break this down by prototype, we see that townhomes experience the greatest increase in feasibility as they can pay about 19 percentage points more for land under the county-led HCP. Apartments result in the least amount of change in feasibility – five and a half percentage points – which is low enough that it could be within a margin of error, and we would more safely conclude that the apartment property developers experience neither an increase nor decrease in development feasibility. This is due, in part, to the fewer observations of parcels that are allowed, by zoning, to develop apartments in unincorporated Thurston County.

Exhibit 20. Change in Feasibility Comparison
Source: ECONorthwest (2021)

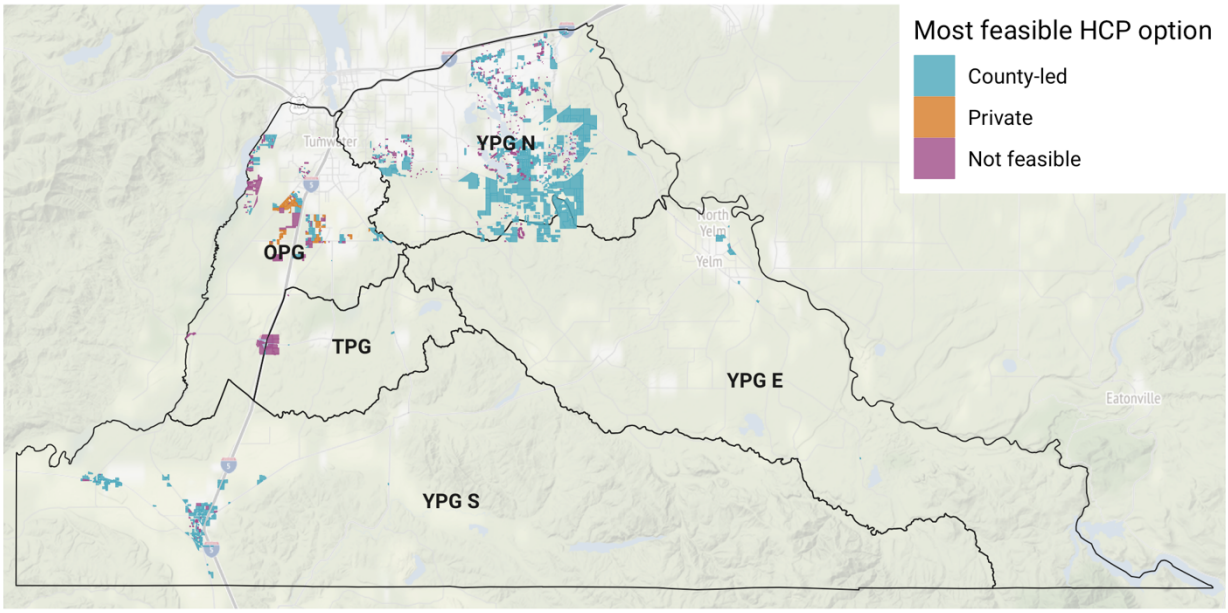


Though the county-led HCP is more financially feasible, the distribution of that feasibility differs by service area.

The one exception to the reduction in cost and increase in feasibility, from the county-led HCP, is in the OPG service area. In the OPG service area, some parcels are more feasible if they develop by pursuing an individual HCP. This is in large part because the anticipated OPG mitigation fee rate is the highest of the service areas – the higher fee rate per functional acre is likely to exceed that of paying for any of the mitigation options under a private HCP. Exhibit 19 shows the total number of parcels that are likely to develop, by prototype and by service area, if given the choice between participating in the county-led HCP or pursuing an individual HCP.

Exhibit 21 shows a map of the same parcels, and whether they were most financially feasible under the county-led HCP, an individual HCP, or not at all (parcels with a RLV less than zero under both states of the world). Like in Exhibit 19, this map highlights that the YPG N service area contains the greatest number of parcels that are more feasible under the county-led HCP, and that OPG contains many that are more feasible under a private HCP. The parcels identified as "not feasible" in Exhibit 21 show where most prototypes we analyzed (all prototypes except accessory structures) are not likely to occur, under either state of the world, given the assumptions used. This is a function primarily of market conditions, independent of the ESA compliance requirements.

Exhibit 21. Projected Development Parcels by Most Feasible HCP Option
Source: ECONorthwest (2021)

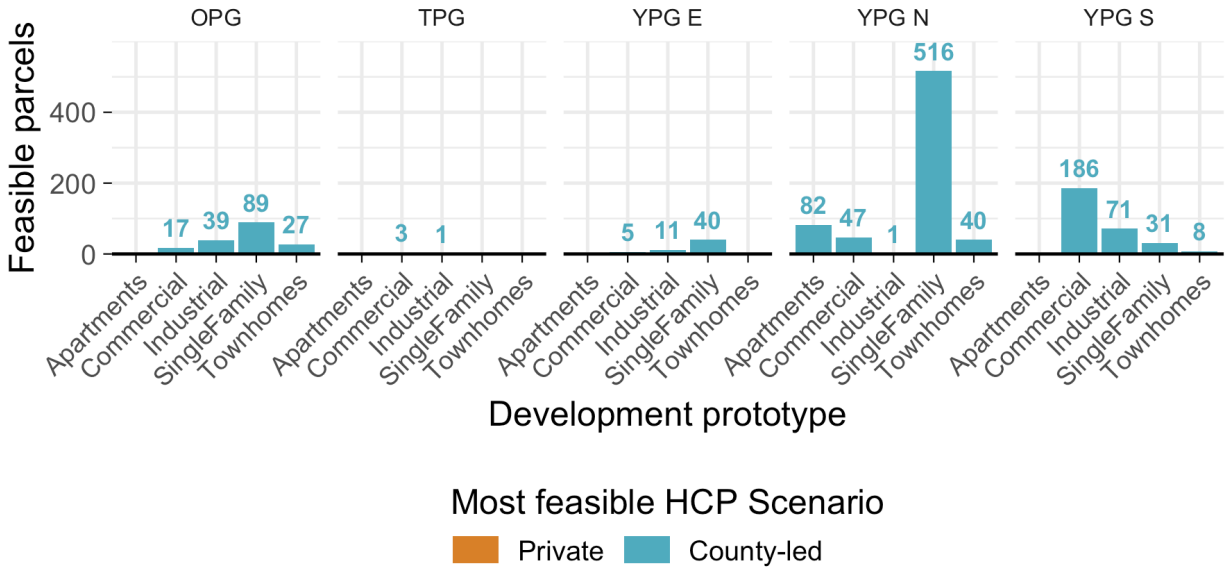


If the cost of off-site mitigation under an individual HCP increases relative to the cost of the county-led HCP, an individual HCP is no longer the most feasible option for any parcels throughout the permit area.

We conducted sensitivity testing of the off-site conservation assumptions to understand the impact of a likely increase in land costs, given that most off-site mitigation strategies would require either purchasing land or purchasing a credit from a mitigation bank. During our interviews, we heard a range of credit costs that were possible if an individual HCP resulted in paying a mitigation credit. For the purposes of the analysis, we chose the lower end of that range ($50,000 per acre) which would result in a conservative estimate of the incremental benefit of the county-led HCP. However, we also tested the higher end of that range ($75,000 per acre) to understand how an increase in costs under an individual HCP might change the results.

The results of this sensitivity test show that, under these assumptions, the county-led HCP results in greater development feasibility. More specifically, this means that if all parcels, when pursuing an individual HCP were required to pay for mitigation at the higher end of the range, or alternatively, if the cost of off-site mitigation under an individual HCP increases and the county-led mitigation fees stay constant, all parcels that are feasible would be more feasible under the county-led HCP.

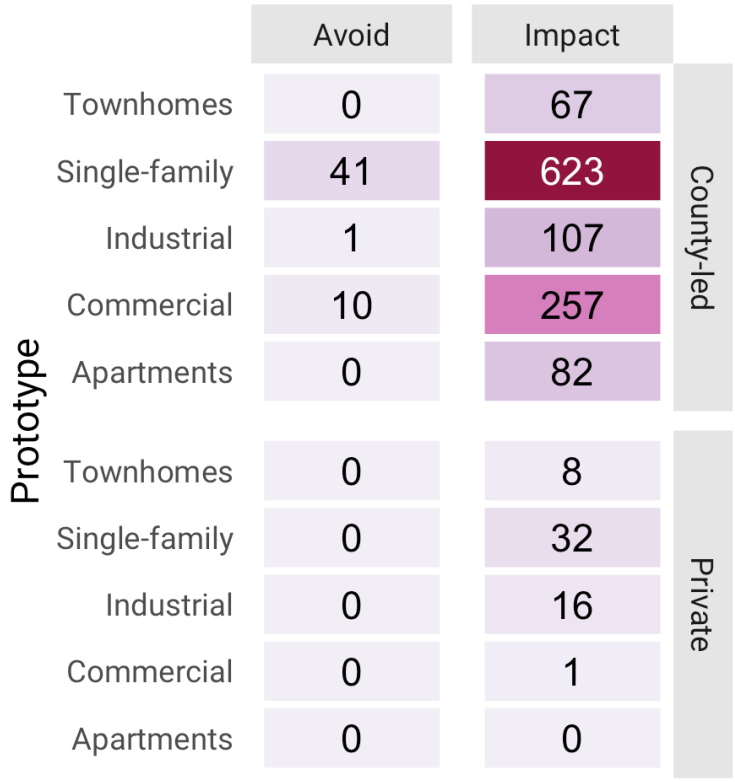
Exhibit 22. Financially Feasible Parcel Comparison (Higher Off-site Mitigation Costs)
Source: ECONorthwest (2021)



Property developers are more likely to mitigate for habitat area when developing, than to completely avoid habitat impacts, under both states of the world.

The cost of foregone revenue is higher in most cases, which means more property developers are likely to pay the mitigation credit and participate in the county-led HCP than completely avoid impact. Exhibit 23 shows that there are very few parcels identified as financially feasible, a total of 34 parcels, that would be better off avoiding any development of habitat area than participating in the county-led HCP. A much greater number of parcels—1,136—are better off impacting habitat area and paying mitigation fee to the County than avoiding land. The conditions under a private HCP are similar. The only parcels that are feasible are those that impact habitat area.

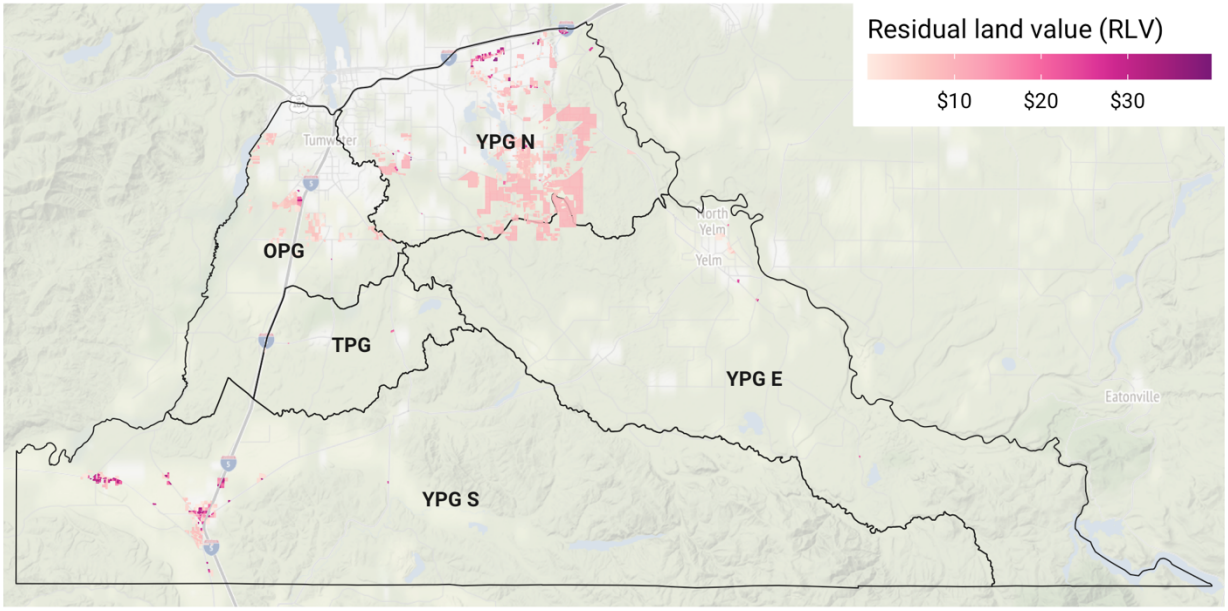
Exhibit 23. Avoiding versus Impacting Parcels Comparison
Source: ECONorthwest (2021)



Feasible development is concentrated in the YPG N, YPG S, and OPG service areas.

The YPG N, YPG S, and OPG service areas are more likely to see higher rates of participation in the county-led program as compared to the other service areas of TPG and YPG E. Exhibit 24 shows the parcels with RLVs greater than zero. We assumed that parcels with residual budget remaining, after all costs were considered, were the parcels likely to develop over the course of the county-led permit period. This map shows that the majority of those parcels are concentrated in the YPG N, YPG S, and OPG service areas.

Exhibit 24. Residual Land Value of Feasible Developments
Source: ECONorthwest (2021)



In most cases, accessory structures are more feasible under the county-led HCP which could result in an increase in permits as compared to the last ten years.

Our analysis indicated that the total cost of mitigation would be lower under the county-led HCP. Even for parcels that would entirely impact habitat area with an accessory structure, the costs of paying the county-led mitigation credits could be lower than the cost to pay consultants to draft an individual HCP and/or survey the site, excluding any mitigation costs such as on-site maintenance or off-site mitigation credits.

Given this reduction in cost, we assumed more parcels would seek permits for accessory structures when given the option of the county-led HCP. Historical permit trends showed there was an average of 320 new construction accessory structure permits submitted, per year, for the five years leading up to the ESA listing. For the ten years after the listing, the total permits submitted decreased to an average of 120 annually. Our assumption for the permit activity under an individual HCP option was therefore 120 new construction accessory structures per year. It is unknown how much the permit activity might increase under the county-led HCP but given that habitat mitigation and conservation is now required, we expect the permit activity to be less than what it was pre-ESA listing. As described in the Methodology and Assumptions, we assumed an increase of 50 percent of the difference, between pre- and post-ESA listing, in permit activity—220 new construction permits per year— to estimate the incremental effect of the county-led HCP.

Though our analysis indicates the county-led HCP would reduce costs for property developers desiring to build an accessory structure, it is important to note the subsequent impacts of this increase in feasibility. Most of the permits for accessory structures (98 percent) were for buildings identified as "accessory structures" which, based on permit notes, were non-habitable

(e.g., pole barns, sheds). Accessory dwelling units and guest houses accounted for approximately one percent of all new construction permits since 2001. Although these permits might result in a modest increase in fiscal impacts such as sales and property taxes, they were assumed to not be relevant for other impacts such as jobs and housing units.

Changes in costs for developers have the greatest potential to positively affect the feasibility for the most marginal projects, including affordable housing.

The incremental cost savings between the county-led HCP and status quo are likely to be most fully realized for those developments and businesses operating closest to the margin of financial viability. For example, during the typical individually led HCP process there is a time delay of two years or more to step through all of the regulatory requirements. The model accounts for the hard costs associated with the regulatory process, but the time itself has a cost. One way a time delay manifests—especially under current economic conditions—is in cost escalation of building materials. Based on historic escalation trends, the delay could mean a developer must raise the ultimate price to a renter or homeowner by 5 to 10 percent. These price and rent increases needed to cover the construction cost escalation typically can't be passed down to affordable housing developments (due to regulatory rent limits) or locally-owned business (due to already operating close to the margins, which means developments for these uses would be less likely to occur.

Therefore, the differences between scenarios will likely be most pronounced for activities, such as affordable housing development and locally owned businesses facing more overall challenges to long-term resiliency. In this way, the social outcomes of these cost savings might be more pronounced for the most vulnerable members of Thurston County, resulting in equity and diversity benefits as well as economic benefits.

Question: For the County and its taxpayers, **how would a county-led HCP lead to changes in assessed value in the aggregate land base, and associated property tax collections, over the permit term?**

Answer: Because it makes development on average more feasible and more likely to occur on sites with covered species habitat—all else equal—the county-led HCP would lead to developments being more financially feasible and some more likely implemented, and therefore higher total property and sales tax collections within the permit term.

The results of the economic impact modeling indicate that the county-led HCP results in a net increase relative to the status quo in property taxes totaling about $4.9 million (in 2021 dollars) which, when combined with the real estate excise tax, results in a total expected increase to the county of about $5.5 million (in 2021 dollars) additional over the permit term. Some of this increase in property taxes could be offset by reduced property taxes on lands dedicated to conservation under either scenario. This effect was not modeled but is not expected to fully offset these increases.

Exhibit 25. County Revenues from Property Taxes
Source: ECONorthwest (2021)

Revenue Source	Additional County-Led HCP Revenues
Property Taxes	
Road Levy	$2,150,000
Current Expense	$2,150,000
EMS	$550,000
Conservation Futures	$70,000
REET	$650,000
Total Incremental Revenues	$5,570,000

Similarly, the increased development activity results in more materials sold and labor employed for building the development relative to the status quo scenario. This greater level of construction activity results in more sales tax revenue. Over the course of the permit term, the greater level of sales tax revenue relative to the status quo scenario is expected to total $1,940,000 (in 2021 dollars).

Exhibit 26. County Revenues from Sales Taxes
Source: ECONorthwest (2021)

Revenue Source	Additional County-Led HCP Revenues
Sales Taxes	
Local Option	$1,490,000
Criminal Justice	$150,000
Detention Facilities	$150,000
Treatment	$150,000
Total Incremental Revenues	$1,940,000

With property taxes and sales taxes combined, our modeling estimates the County could see tax revenues incrementally greater by a total of approximately $7,510,000 over the course of the HCP permit period with the county-led HCP relative to the status quo scenario of continued reliance on individual HCPs.

Question: For local and state government entities and the citizens of Thurston County, **how might a county-led HCP change the trajectory of the local economy over the permit term?**

Answer: A county-led HCP would likely lead to higher feasibility and greater likelihood of development over the permit term (relative to the status quo). This outcome would bring additional employment opportunities and produce other incrementally greater effects on economic activity that improve quality of life in Thurston County.

Assuming efficient markets and market actors, lower development costs (than otherwise) allow for a wider range of economic activity (e.g., types of businesses establishing in the county) and greater level of economic activity among those businesses. This would be most notable among direct property development-related businesses such as construction, but it extends to both those businesses indirectly supporting property development, real estate, and construction as well those businesses making use of developed property for commercial and institutional activities.

More development would directly support greater levels of employment in construction and related industries.

Every additional million dollars of spending on construction-related activities supports employment directly in the construction sector, as well as employment in related and support businesses. As people employed in these construction businesses spend money, their spending in turn supports businesses and additional employment. This recirculation of money is the so-called "multiplier effect" in an economy. In Thurston County, every million dollars spent in residential construction supports about 12 jobs, directly and through secondary effects. Construction spending on multi-family projects supports a few more jobs and construction on non-residential structures supports fewer. Applying these relationships to the increased construction spending that would likely result from increasing the feasibility of development under the county-led HCP would support about 1,400 jobs over the permit term. About half of these are related to increased feasibility of single-family residential development.

More housing would lead to more households, and more household-related consumption.

As additional housing is developed under the county-led HCP, the number of households would be expected to increase in Thurston County. Over the permit term, the increased feasibility of single-family development could result in an additional 270 housing units available, compared to development under an individual HCP. As people move to Thurston County their income moves with them, and on average more household spending would occur in Thurston County. The median household income in 2019 for a household in Thurston County was about $78,000. For every million dollars of household income in Thurston County, household spending supports an additional $279,000 of income generation in Thurston County. This translates to about $6 million in induced labor income over the 30-year permit term from

new households. This additional income would also produce additional fiscal effects, which would be in addition to those calculated in the previous section.

More commercial and industrial development would support additional employment and income-generation opportunities.

Increasing the feasibility of commercial and industrial development would potentially lead to additional employment and income generation opportunities in the county. This analysis cannot predict how increasing the feasibility of development for commercial and industrial development would translate into economic development opportunities, in terms of the type of industry or business attracted, but the effect would likely be positive.

Conservation activities under the county-led plan could produce higher amenity benefits.

The amount of land set aside for species of concern increases under both the status quo and county-led HCP options if implemented. The amount and distribution of protected land would likely be different depending on scenarios. The county-led HCP has the potential to generate larger, more contiguous conservation spaces because it is a coordinated strategy. There is the potential for more amenity benefits to arise from large contiguous conserved areas. This outcome of the county-led HCP could help to preserve and promote the rural character of portions of Thurston County, which can appeal particularly for those seeking a more natural landscape as an alternative to the increasingly urbanized Puget Sound region.

5. Conclusions

Adopting a county-led HCP would, under even conservative cost assumptions, increase the feasibility of development projects for many developers compared to the status quo. This would—all else equal—lead to a modest increase in development in Thurston County over the permit term. This implications for county revenues, economic conditions, and quality of life for Thurston County residents as summarized in Exhibit 27.

Exhibit 27. Summary of Incremental Effects of Adopting a County-Led HCP

	Indicator	Data
Question 1: Changes in Feasibility of Development	Parcels with increased financial feasibility under county-led HCP, compared to status quo.	1,159 parcels Highest in the northeastern part of the permit area; lowest in the northwestern part of the permit area
	Average increase in financial feasibility, as defined by the residual land value.	14.4% (average for all types of development); ranges from 5.5% – 18.6% depending on development type.
	Increase in feasibility of accessory structures	More landowners would be able to realize improvements on their property, improving the value they enjoy from their property.
Question 2: Changes in Tax Revenues	Changes in Property Tax Collections	$5.57 million total over 30 years (About $186,000 per year on average)
	Changes in Sales Tax Collections	$1.94 million total over 30 years (About $65,000 per year on average)
Question 3: Changes in the Local Economy	Employment associated with increased construction spending under county-led HCP compared to status quo.	1,400 jobs over the permit term
	Additional housing units under county-led HCP compared to status quo.	270 over the permit term
	Additional induced income related to additional household income under county-led HCP compared to status quo.	$6 million over the permit term
	Additional commercial and industrial development likely, which would result in additional economic activity.	Increase (unquantified)
	Quality of life effects related to consolidated conservation spaces and protected open space.	Positive additional to quality of life for some people.

The key conclusions of this economic analysis of the effect on future economic activity in Thurston County of a county-led HCP include:

- Costs of property development would be lower with a county-led HCP than with the status quo. This would lead to a modest increase in development, all things equal, and would result in a corresponding increase in property and sales tax collections, and other changes that would enhance Thurston County's economy.
- Most development in Thurston County occurs within incorporated areas that the county-led HCP would not affect. This is largely due to the differences in land use policy for urban and rural areas under Washington's Growth Management Act, which directs most new growth into urban areas. This dampens the effect of incremental differences on growth patterns to be expected with the county-led HCP. Thus, the incremental effects of the county-led HCP applied in this analysis affect a fairly small share of overall development in Thurston County.
- While incremental increases in feasibility and future development under the county-led HCP might be modest as modeled, sensitivity testing suggests that these results are a low estimate of the effect of adopting the county-led HCP. The difference between the status quo and county-led HCP options could be greater than modeled and grow over time due to likely increasing scarcity of private mitigation opportunities and increasing costs under the status quo. Available data did not support development of specific forecasts for relative costs of viable land for continued mitigation over time, but given the fixed supply of land, competition will only increase, including competition with other land uses, or the added costs of converting land from one developed use to habitat. It is likely that there will be increasing demand for high-quality gopher land in the future. This means if the County can control its costs in mitigation and hold the fee as defined in the HCP, the relative benefits compared to the status quo will likely only get better over time. Furthermore, over time it is likely that the county will find other ways to create a more efficient conservation system by consolidating purchase power and resources on maintenance, capturing efficiencies of scale and leading to both better cost-effectiveness and potentially greater benefit to the species due to better performing habitat rather than the piecemeal under the status quo.
- These incremental cost saving benefits are likely to be most fully realized for those developments and businesses operating closest to the margin of financial viability. Therefore, the differences between scenarios will likely be most pronounced for activities facing more overall challenges to long-term resiliency such as affordable housing development and locally owned businesses. In this way, the social outcomes of these cost savings might be more pronounced for the most vulnerable members of Thurston County, resulting in equity and diversity benefits as well as economic benefits.

Technical Appendix: Detailed Methodology

This appendix provides details on the assumptions and methodology for the technical analysis. More specifically, this section provides details on the following:

- Parcel assessment steps
- Pro forma methodology
- Fiscal impact analysis assumptions

Parcel Assessment Steps

The primary purpose of this assessment was to determine the habitat area on each parcel in order to understand where development was likely to occur and if a property developer could avoid the habitat area or if they would need to impact some or all of the habitat in order to develop.

Step 1: Align our spatial analysis of the HCP permit area with that of TRPC. We filtered all of the parcels, using the parcel identification number, to only those within the permit area and for which TRPC and IAE projected some future development. This filtering resulted in around 7,800 parcels for our subsequent analysis.

Step 2: Identify habitat area on each parcel. We used spatial data, provided by the County, to understand the site constraints that a property developer would experience under a county-led HCP. More specifically, we considered these constraints to include the habitat area of each species as well as the OSF habitat screen. Given the existing wetland protections, we assumed no development would occur within the habitat screen for the OSF. In reality, some development could happen in these areas, but the requirements of compliance with other protections would create unique development conditions and costs that were outside of the scope of this analysis. We assumed these same site constraints would apply for both states of the world and that development under an individual HCP would encounter similar constraints and conditions. We evaluated how much of the site was various habitat as compared to non-habitat to understand if a property developer could avoid the habitat area or if they would need to impact some or all of the habitat in order to develop.

Step 3: Create property development scenarios. We then created two scenarios of habitat impact under both states of the world (for a total of four land impact scenarios) – one where the property developer avoided the habitat area and one where the property developer impacted the habitat area as much as they needed for their development concept. Framing the analysis with these scenarios allowed us to analyze which option is most financially viable for a property developer.

Step 4: Identify mitigation costs for parcel with developments that avoided the habitat area. If a developer can avoid the habitat area entirely, they are not required to pay for mitigation under the county-led HCP. Therefore, we assumed no mitigation costs under the county-led HCP.

However, under the current state of the world, our assumptions were more complicated. Not only would a property developer have to pay consultants for a site survey to identify any presence or habitat of endangered species, but they would also then need to pay for a prairie study to support the draft of an HCP, even if the strategy of the HCP was to avoid impacting the habitat. We also assumed most property developers would pay a consultant to draft the HCP. We also assumed there would be modest ongoing mitigation costs, even if the property developer avoided the habitat area – such as fencing off the area and having annual site inspections to ensure the habitat area avoided, per the HCP, remained.

Step 4b: Identify mitigation costs for parcels that impacted habitat area. Under the scenarios where property developers impacted habitat area, we first assumed they used as much of the non-habitat area of the site possible. For the county-led HCP, we used relevant spatial data, such as soil quality and proximity to observed species, to evaluate functional acres calculations. We calculated the functional acres for the entire site first, and then calculated mitigation fee based off the proportion of the impact relative to the entire parcel size. For the individual HCP, we took a similar approach except we calculated the fee based off of actual acres of impact instead of functional acres.

Pro Forma Methodology

To compare development feasibility and the impact of ESA compliance across different parcels and prototypes, ECONorthwest used a common method called a *residual land value analysis*. Residual land value (RLV) is an estimate of the underlying value of the land bases on (1) the property's income from rental or sales revenue, (2) the cost to build as well as any costs to operate the building, (3) the financing requirements needed to attract capital for the project, and (4) the cost of the land, which we assumed was equal to the real market value as determined by the county assessor. In other words, it is the residual budget that developers have remaining after all the other development constraints have been analyzed. An advantage of the RLV approach is that observed land prices can be compared with the model outputs to help calibrate the model and ensure it reflects reality. It is therefore a useful metric for assessing the impacts of changes to the regulatory requirements because these policies principally affect land value, especially in the short run.

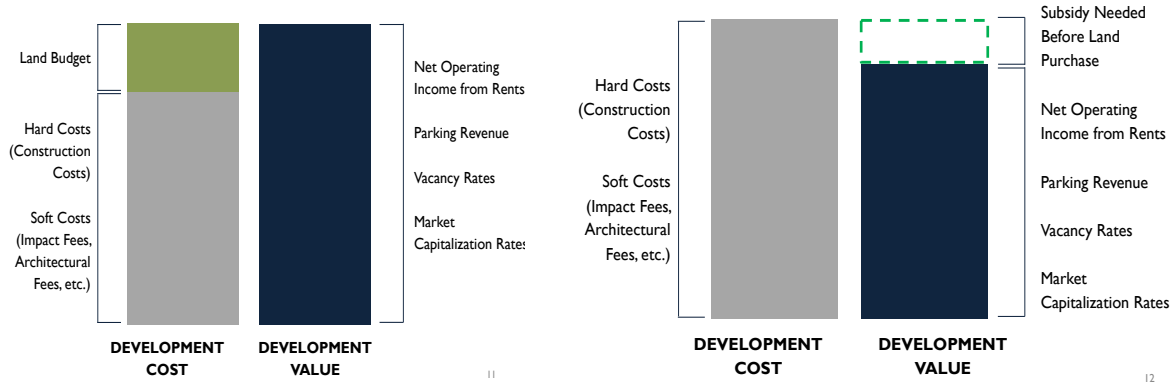
Exhibit A-1 summarizes the RLV method by illustrating two example developments (or *prototypes)*, one which is feasible and the other likely infeasible. In both scenarios, the right-hand column (shown in dark blue) illustrates the total value that comes from the project (derived from rental or sales revenue less any operating expenses, vacancy costs, or sales commissions). The left-hand column (shown primarily in grey) shows the total costs to build the project, both the hard construction costs and the soft costs such as the design and permit fees.

If the blue column is greater than the grey column, there is budget leftover to buy the land (shown in green). A positive land budget means that a proposed development project is likely to be feasible (contingent on the price for which the land is being offered). If the blue column is smaller than the grey column, then a subsidy is needed to get the project to be feasible (shown in a dashed outline). A land budget below $0 means that a proposed development project is not feasible, absent offsetting subsidies or incentives that can cover the difference.

Exhibit A-1. Land Budget Method for Pro Forma Modeling

(A) Likely Feasible– Developer has money to pay for land

(B) Likely Infeasible– Development requires subsidy, even before land purchase



Source: ECONorthwest.

We analyzed the majority of the prototypes using this RLV approach (i.e., industrial, commercial. single-family subdivision, townhome subdivision, apartment building). The results from this method describe a general analysis of prototypes in Thurston County and do not consider the many potential unique conditions that could be a factor in development feasibility (e.g., increased predevelopment costs, low land basis from longtime land ownership). For these reasons, a RLV analysis should be thought of as a strong indicator of the relative likelihood of feasibility, rather than an absolute measure of return to the investor or property developer.

For Thurston County, we used this methodology to compare the budget remaining for land for the two scenarios of habitat impact under both states of the world – one where the property developer avoided the habitat area and one where the property developer impacted the habitat area as much as they needed for their development concept.

To complete this analysis, we used financial inputs such as rent and sales prices, operating expenses and vacancy costs, and development costs, the values of which differed by each prototype. We collected the assumptions for these inputs from online data sources such as CoStar, Redfin, and RS Means, as well as recent developer interviews throughout the region completed for other various projects. After defining the available building areas, we used the pro forma to calculate the revenue from the leasable square feet and then removed any vacancy and operating costs (such as taxes, insurance, maintenance, management, select utilities) or sales commissions.

We also calculated the total development costs by applying the cost per square foot values to the gross square feet for each product type (e.g., commercial, residential) and the cost per stall for parking. We then summed those values to a total hard cost and calculated the soft cost, contingency, and developer fee to arrive at the total development cost.

We then calculated the land budget by subtracting the total development cost from the total value less a profit spread (in the case of ownership prototypes like townhomes) or we used a debt service coverage ratio (in the case of rental prototypes like apartments) to calculate the maximum loan amount a bank would be willing to underwrite and therefore how much a development would have remaining in the budget to pay for land. We took the land budget and subtracted the assessor's real market value estimate for the parcel to arrive at the true RLV for each parcel. Any parcel that had an RLV greater than zero we assumed was feasible under either of the two scenarios, but we took the greater of the RLV results, between the two states of the world, to estimate which HCP option created greater feasibility for each parcel. We also divided the total land budget by the site square feet to arrive at a RLV per square foot which allowed us to calculate proportional impacts and evaluate the impact to feasibility from the county-led HCP.

Fiscal Impact Analysis Assumptions

To estimate the economic and fiscal impacts of development under the county-led HCP as compared to the current state of the world we analyzed the potential changes in property taxes and sales taxes due to changes in real estate development patterns from the introduction of the county-led HCP. To do this, we evaluated key outputs based on the results of the parcel assessment and pro forma analysis – namely, the total area of development and the respective cost to build that development, by each use type.

The pro forma and accessory structure analysis resulted in the likely total amount of development over the course of the 30-year permit period. We assumed an equal amount of development per year, by prototype, and summarized the square feet, total cost of labor and materials, and the total cost of the development. We used these values as inputs to the economic analysis model that evaluated the site-generated tax revenues such as property taxes and sales taxes.

Overview of County Tax Structure

As a public enterprise, Thurston County is both a regional (county-wide) and local (unincorporated) service provider. It collects a mix of regional and local revenues to support those public service costs. For the purposes of this evaluation (and the nature of Washington's tax structure), it is important to understand the fiscal nature of each of these regional and local taxes order to properly assess the area's tax revenue impact.

Site Generated Tax Revenues

ECONorthwest estimated tax revenues based on the changes in the components of the County's tax base resulting from development in the unincorporated area. Components of growth that influence revenues include the timing, scale, and quality of the project's development as well as the population and employment impacts of the development as it is completed. The analysis looks at two different levels of growth depending on whether:

1. County-led HCP. In the County-led HCP scenario, mitigation payments facilitate more development over the 30-year planning period.
2. Private HCP. In the Private HCP scenario, individual development must find ways to mitigate their impacts leading to less development over the 30-year planning period.

The revenue analysis differentiates tax revenues into three categories:

- **One-time Revenues.** These General Fund, Road Fund, and selective sales tax revenues are tied to the construction of housing and commercial products. Specifically, they include the retail sales tax on construction (material and services).
- **Recurring Revenues**. These General Fund, Road Fund, and selective sales tax revenues are derived from the occupation of residential and commercial structures by residents, businesses, and employees. Specific revenues include the property tax and retail sales tax (resulting from new sales tax sourcing rules).
- **Non-General Fund Capital Restricted Revenues.** These revenues are statutorily restricted to fund capital expenses. Specific revenues relevant to the County include the real estate excise tax

Tax Policy and Rates

Taxes used to fund general operating expenses:

- **Current Expense Levy.** Development of the site would be taxed at the County's levy rate. Initiative 747, which limited the legal levy to 101%, results in an erosion of the property tax's purchasing power over time since the revenues do not keep pace with cost inflation of government services. The current expense levy rate is $1.116 for the 2021 tax year.
- **County Road Levy.** Development of the site would be taxed at the County's levy rate of $1.108 for 2021 taxes.
- **Sales and uses Taxes.**
    - **Local Option:** Of the 8.0% sales tax currently collected in the study area, a 1% "local" share of the tax accrues to local jurisdictions. In unincorporated areas the County receives 100% of the 1% share (in incorporated areas, the city receives 85% of the 1% local tax and the County receives 15%.). This tax is levied on businesses in the area, and also on construction activity and some transactions related to housing and business, such as certain online purchases and the delivery of personal and business goods.

- **Criminal Justice:** A 0.1% sales tax is levied by the County for criminal justice programs. Ten percent of revenue goes directly to the County and the remaining 90% is distributed to the County and cities within the county on a per capita basis. 100% of revenues collected in the unincorporated areas goes to the County.
- **Detention Facilities Sales Tax:** A 0.1% sales tax was approved by voters in 1995. The revenues are dedicated for the construction and operation of juvenile detention facilities and adult jails.
- **Mental Health Services Sales Tax**: A 0.1% sales tax imposed in Thurston County for the purpose of providing new or expanded chemical dependency or mental health treatment services and for the operation of new or expanded therapeutic court programs.

Taxes used to fund capital:

- **Real Estate Excise Tax (REET).** Real estate transactions are subject to a 0.25% tax on the value of the transaction. REET revenues are placed in the capital restricted funds, and are used by the County to finance capital projects. REET revenues are uncertain given volatility in the real estate market. Since REET is based on the total value of real estate transactions in a given year, the amount of REET revenues a County receives can vary substantially from year to year based on the normal fluctuations in the real estate market. During years when the real estate market is active, revenues are higher, and during softer real estate markets, revenues are lower. For the purposes of this analysis, it is assumed that all new completed projects would be sold and then 3.0% of all property value would turn over in any given year – this rate is pegged to recent County performance for this metric.