

Oregon Geographic Information Council (OGIC) Report
to the
Joint Legislative Committee on Information Management & Technology

To: Honorable Senator Riley, Co-Chair
Honorable Representative Nathanson, Co-Chair

From: Jeff Frkonja, OGIC Chair, Portland Metro Research Director
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Executive Summary

Recent Oregon law (ORS276A.500-515) authorizes the Oregon Geographic Information Council (OGIC) to serve as “...the statewide governing body for sharing and managing geospatial Framework data.”

Framework data are location data used by a wide range of public bodies to accomplish their missions. In this report, OGIC proposes to enhance Framework data sharing and management, and mitigate the obstacles to Oregon public bodies’ collective ability to create and maintain complete, statewide Framework data, by putting in place a **data sharing program** that is sustainably funded at the state level. This report:

- Introduces preliminary recommendations to enhance geospatial Framework data management and sharing among public bodies, including obstacles, needs, funding solutions and expenditure plans;
- Provides preliminary recommendations for eliminating geospatial Framework data fees between public bodies by funding statewide Framework data; and,
- Summarizes information regarding the plan and budget for collecting, using, managing, sharing and maintaining geospatial Framework data and maintaining a geospatial data library (GEOHub) within the office of the State Chief Information Officer for the benefit of all Oregonians.

A Need for Action

Agencies and decision makers want to meet citizen service needs. However, currently, there is a significant discrepancy between what public bodies are collectively able to provide and what is needed for the successful and effective operation of a comprehensive, statewide Framework data program. OGIC research reveals that Oregon public bodies face several obstacles that impede their ability to collectively create and maintain complete, statewide Framework data. Obstacles include, but are not limited to:

- **Missing data or “gaps”**. Oregon lacks the comprehensive, complete geospatial Framework required to meet government’s obligations for services provisioning;
- **Insufficient organizational capacity**. Many public bodies lack data infrastructure, staff, training, and technology capacity to maintain and share Framework data;
- **Fees public bodies charge each other**. Data development, standardization, and efficient use are hindered by overly complex data sharing practices when public bodies charge each other to sustain their data programs.

CONSISTENT SERVICES

Statewide development of geospatial Framework data will support consistent provision of government services everywhere

Preliminary Program and Funding Recommendations

This recommendation’s primary goal is to enable, and adequately fund, coordinated programs across *all* public bodies to develop and maintain comprehensive, standardized, statewide geospatial Framework data. To achieve this goal, the Council estimates (1) that approximately \$268 million¹ over a 10-year period is necessary to fully fund Framework data program development costs; and (2) that to maintain the data assets over time and provide continual management and access to the data, operating costs are approximately \$13 million annually¹ during the 10-year construction period and in subsequent years.

¹ See Attachment A for source of estimates and confidence levels throughout the report

To meet the goal, the Council set out the following recommendations:

1. **Creating additional organizational capacity** for multi-jurisdictional Framework data programs
2. **Identifying possible funding mechanisms**
 - a. Existing fees--OGIC recommends that the Legislature direct a portion of existing state agency-administered fees to develop and maintain Framework data; and
 - b. Continue and expand assessments on state agencies to fund the state Geospatial Enterprise Office (GEO) and development/maintenance of a central data portal (GEOHub)
3. **Developing and formalizing governance and accountability mechanisms**

The Council is also weighing other funding mechanisms for the construction period and the subsequent operating costs. One possible recommendation is the use of debt financing to accelerate the construction phase of the Framework data program. The Council is currently evaluating public/private partnerships as a potential longer-term solution for sustained funding.

Recommended Legislative Actions for the 2019-2021 Biennium

OGIC recommends that in the 2019 session the Legislature:

1. **Approve state agency assessment increase** (more details below) by \$2 million in 2019-21 (\$1 million one-time costs and \$1 million ongoing) to add capacity to the state Geospatial Enterprise Office sufficient to support Framework data program development and implementation.
2. **Authorize tapping existing state fees** to generate \$6 million in the 2019-21 biennium and \$13 million of continuing annual revenue for the Framework data program (more details on the fee mechanism appear below);
3. **Authorize issuing General Obligation bonds** funded by part of the fee revenue (*not* General Fund) to generate \$16 million of startup money to be used in 2019 and 2020 to fund Framework data program planning and capacity-building;

This report responds to the Legislative direction in ORS 276A.500-515 that tasks OGIC to report and make recommendations regarding the geospatial needs of the state to the Legislature, the Governor and the State Chief Information Officer by March 1 of every odd-numbered year, and details the findings and recommendations of the Council.

1. Introduction

Recent Oregon law (ORS276A.500-515) authorizes the Oregon Geographic Information Council (OGIC) to serve as “...the statewide governing body for sharing and managing geospatial Framework data.” Framework data are location data used by a wide range of public bodies to accomplish their missions. OGIC submits that the development and maintenance of geospatial Framework data in a consistent manner statewide will enable the provision of consistent government services to all Oregonians. The law tasks OGIC with, among other responsibilities, submitting each biennium “...a plan and a budget for collecting, using, managing, sharing, and maintaining geospatial Framework data...” and recommending strategies for eliminating the fees that public bodies charge to other public bodies for geospatial Framework data under ORS 190.050 (Fees for geographic data) or 192.324 (Copies or inspection of public records). In addition, the Council is tasked in the statute with enhancing geospatial Framework data sharing and management among public bodies.

OGIC proposes to enhance Framework data sharing and management, and mitigate the obstacles to Oregon public bodies’ collective ability to create and maintain complete, statewide Framework data, by putting in place a **data sharing program** that is sustainably funded at the state level. The obstacles revealed by Council research provide key places for intervention and funding so that Framework data

DATA SHARING PROGRAM

A well-managed data sharing program will realize benefits by eliminating duplication and optimizing data

extends to all corners of Oregon, is well-maintained and managed over time by public bodies, and is shared **at no cost** among all public bodies. The Council proposes the data sharing program be maintained and managed by the Geospatial Enterprise Office (GEO) within the Office of the State CIO, the agency best positioned to do this work. Once the program is functioning as described in this

recommendation, Oregon public bodies will—collectively—realize significant benefits by eliminating the cost of duplicated data development and optimizing data management across all public bodies.

This report responds to the Legislative direction in ORS 276A.500-515 that tasks OGIC to report and make recommendations regarding the geospatial needs of the state to the Legislature, Governor and State CIO by March 1 of every odd-numbered year. As such, this report:

- Introduces recommendations to enhance geospatial Framework data management and sharing among public bodies, including obstacles, needs, funding solutions, and expenditure plans;
- Provides recommendations for eliminating geospatial Framework data fees between public bodies by funding statewide Framework data; and,
- Summarizes information regarding the plan and budget for collecting, using, managing, sharing and maintaining geospatial Framework data and maintaining a geospatial data library within the office of the State Chief Information Officer for the benefit of all Oregonians.

2. A Need for Action

Agencies and decision makers want to meet citizen service needs. However, currently, there is a significant discrepancy between what public bodies are collectively able to provide and what is needed for the successful and effective operation of a comprehensive, statewide Framework data program. There are many examples of services provided by local and/or state agencies that are dependent on location

data. It is not always possible to get the same level of service in Burns as it is in Beaverton, or even in Eagle Point as it is in Medford, without complete, standardized geospatial data. For example:

Schools. Kids can't remain in the same schools when they are moved into or between foster homes if **tax lots, address points, school attendance areas, and locations and characteristics of foster homes** aren't readily available to state and local officials.

Permitting. Permits can't be evaluated and the permit process can't be streamlined when **land use, zoning, wildlife habitat, utilities, address points, tax lots, and floodplain boundaries** aren't readily available to state and local officials.

Economic development zone boundaries can't be appropriately located and used to have the greatest impact if **demographics, business locations, utilities, address points, tax lots, municipal boundaries, and UGBs** aren't readily available to state and local officials.

Fire stations and response time. Locating a new fire station to optimize response time can't be accomplished if **address points, demographics, municipal boundaries, roads, streams, tax lots, and utilities** aren't available to state and local officials.

Workforce development efforts are less effective when **housing, transit, roads, address points, child care, healthcare, job opportunities, business locations, and training choices** aren't readily available to state and local officials.

GEOSPATIAL FRAMEWORK DATA

Geospatial Framework data, also called "Framework data", refer to location data used by a wide range of public bodies to accomplish their missions.

Types of local-level Framework data: tax lots, roads, address points, roads, utilities, zoning, land use, election districts, UGBs, city limits, school districts, fire & police stations, among others.

Types of state agency-led Framework data: land use, roads, surface water, wells, elevation, hazards, address points, tax lots, fish & wildlife habitats, aerial imagery, survey control, preparedness, among others.

By developing and maintaining standardized geospatial Framework data statewide, and significantly improving geospatial data and information availability, agencies and decision makers can provide consistent government services to all Oregonians.

Obstacles

OGIC research reveals that Oregon public bodies face several obstacles that impede their ability to collectively create and maintain complete, statewide Framework data. Obstacles include, but are not limited to missing data or "gaps", insufficient organizational capacity, and public bodies charging each other fees.

Gaps in existing Framework data sets

Oregon lacks the comprehensive, complete geospatial Framework required to meet public bodies' obligations for services provisioning. Data gaps come in many forms, including: (a) areas where **some** needed data do not exist (incomplete statewide coverage) or are considered confidential; (b) data without appropriate or standardized descriptive information (e.g., zoning boundaries without codes, addresses with incorrectly spelled streets); (c) portions of data that are unstandardized or inconsistent relative to the rest of the dataset; and, (d) statewide data that are necessary but do not exist at all.

Data gaps are one of the primary obstacles to realizing public bodies’ collective ability to create and maintain complete, statewide Framework data, and for Oregon to realize the benefits of statewide Framework data in terms of consistent, statewide provision of government services. This multifaceted obstacle results from multiple mechanisms and shortcomings, including:

- lack of organizational capacity in many public bodies
- lack of coordinated governance and direction
- lack of available funding

Insufficient organizational capacity

Many public bodies lack data infrastructure, staff, training, and technological capacity to maintain and share data that meets statewide Framework standards and statewide priorities. Insufficient organizational capacity interferes with public bodies’ collective ability to create and maintain complete, statewide Framework data across all levels of government. This cascading impact becomes apparent as one considers the development of Framework data and its lifecycle.

Local level public bodies (e.g., cities, counties, special districts) are the *authoritative*, or ordinance-directed, sources for at least 80 of the 250 Framework data sets. Table 1 below contains a small sample of the local level data that is part of the Oregon Framework.

Table 1: Sample of Local Level Framework Data.	
Data Element	Local Level Custodian
Tax lots	County Assessors
Address points	City/County Planners
Zoning	City/County Planners
Land Use	City/County Planners
Roads	City/County Public Works
Utilities	City/County Public Works & Special districts
City limits	City Clerks
UGBs	County Planners
Election districts	County Clerks
School districts	Special Districts
Police/Fire stations	City/County Public Safety/PSAPs

Many state agencies also need capacity to share departmental specific data that can meet statewide Framework standards but often do not have the capacity to do so.

In order to have consistent local level data for the entire state, the data must be aggregated at a regional or state level. At the regional level, only a handful of aggregating public bodies exist and they only operate over limited geographies, not the entire state. At the state level, the many individual Framework data elements created at the other levels of government are aggregated by multiple public bodies, but no single public body is responsible for compiling all Framework data elements into a comprehensive statewide format. While it is not required that a single public body have the latter responsibility, a single public body may be able to improve the outcomes by facilitating and coordinating the activities of the public bodies participating in the Framework data program to a greater extent than is currently possible.

Public bodies charge each other fees

Data development, standardization, and efficient use are hindered by overly complex data sharing practices when public bodies charge each other to sustain their data programs. Council research into how public bodies pay fees for Framework data, and how they use those fees, revealed a nuanced picture. While some public organizations already freely share data that is costly to produce, a few depend on fee revenue to partly fund data creation, aggregation, and standardization. In addition, while GEO would prefer to use regional and other public bodies as data aggregators and standardizers to minimize transaction costs, not all parts of the state have an organization providing such services. OGIC thus proposes to devote state revenues to mitigate multiple challenges:

- replace charges that ORS 276A.506 will eliminate between public bodies and that currently sustain a portion of all existing regional aggregators’ ongoing operations;
- create data standardization tools for the state and various aggregators; and,
- provide funding for new aggregation and standardization capacity for public bodies that do not yet have such services but are willing to play the aggregator role.

3. Organizational Capacity Vision

The development, aggregation, and standardization of Framework data is by nature a cooperative enterprise spread across many Oregon public bodies: cities, counties, regions, and special districts. Collectively, this cooperative enterprise now spends an estimated \$31 million per year¹ to develop and maintain Framework data sets. The Council proposes to leverage the strengths provided by this distributed responsibility by enhancing existing bodies’ capacities and creating new capacities at the points in the enterprise where it will be most effective (Figure 1).

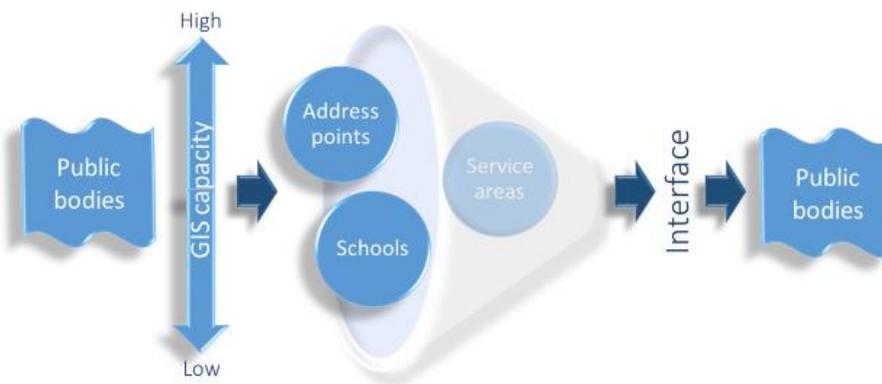


Figure 1: Vision for distributed workflow and process.

This takes the form of:

- Empowering those “closest to the data source” (e.g. cities, counties, districts, various state agencies) to develop the primary data;
- Enabling selected regional, county, or academic organizations to aggregate and standardize the data for both the state and their own purposes; and,
- Establishing effective governance, coordination, data management, and accountability mechanisms in the state Geospatial Enterprise Office (GEO) and the Council.

City, County, and Special District Capacity-Building

Local governments are the custodians of many of the Framework data sets. In a few instances, a state agency administers a program that helps to standardize a particular data set. In one or two instances, a state agency aggregates the local data to create a state-wide Framework data set. But in the majority of cases, the Framework data developed and maintained at the local level is not standardized or aggregated to form a state-wide data set. As noted below, there are a few places around the state where regional standardization and aggregation of local level data takes place. But there are gaps in that process, as well.

The vision of the Council is to build the capacity, where it doesn't currently exist or where it needs to be augmented, in all local governments to develop and maintain standardized Framework data. As noted earlier, this will enable the consistent provision of government services across the state. The current gap in Framework data development corresponds to a gap in local government organizational capacity to develop and maintain Framework data in formats consistent with state standards. .

Local governments need startup and ongoing funding support from the state. The Council estimates the startup costs to build necessary capacity in local governments to be approximately \$4 million. It is estimated that Framework data maintenance will require about \$3.4 million annually¹ in additional funding at the local government level, above current expenditures. It will not be feasible to build capacity for Framework data development and maintenance in every local government across the state; some are simply too small. In those cases, regional bodies will manage the process, as described below. The existence of a regional body for data aggregation does not necessarily mean that every local government in that region will use the regional body.

RURAL LOCAL GOVERNMENTS

Many local governments, particularly in rural areas, lack the experienced staff, technology, or funding to create and maintain the data in formats consistent with state standards

Regional Aggregator Capacity-Building & Data Charge Backfill

The role regional bodies can play in the overall business model is to aggregate and standardize Framework data. This vision is inspired by existing regions in the state (Metro, Lane Council of Governments and several counties) that are already doing this task. The attractions of regional data aggregation efforts are several: they meet business needs at the regional level (e.g. for transportation planning under state and federal requirements), they provide data for academic research and educational opportunities for universities and community colleges, and they make the state's task of gathering standardized data much easier. It is important to note that the aggregator role can be taken on in practice by a variety of public bodies, for example actual regional governments, counties, and academic institutions.

Like the other capacity-building efforts in this proposal, the aggregators need both startup and ongoing funding support from the state as summarized in the table below. The total necessary state support is based on estimates that vary the state proportion depending upon the existing capabilities of public bodies to support regional aggregation. In some cases, like the Portland Metro and Lane County areas, state investments will be only 10% to 25% of the total program costs. In other areas with no existing data aggregation programs, OGIC will work closely with public bodies to determine an appropriate state share of startup and ongoing costs. The state investment will leverage a variety of local expenditures, catalyze

new organizational capacity in parts of the state now without a regional aggregation program, and enable existing programs to create tools that can standardize data to the state format.

The regional aggregators will serve many of the small jurisdictions within their regional boundaries. But there will also be many small jurisdictions that can and should have help building the capacity to create, maintain and manage Framework data themselves, as noted earlier. The Council will work with the public bodies, through the governance and accountability mechanisms described later in this report, to determine the best approach for each public body.

State share of total regional aggregation and standardization startup costs	\$2,944,100
State share of ongoing annual aggregation, standardization, and fee replacement costs	\$1,572,200

Council research found that regional public bodies’ practice of charging other public bodies for data has been declining over time. Only a few regions still charge other public bodies for data (although many public bodies still charge the private sector). The ongoing funding above is sufficient to cover a state share of actual program costs and to backfill the funds lost when the Legislature decides it is time to explicitly prohibit public bodies from charging each other for data.

State Agency Capacity-Building

The Council proposes 2019-2021 biennium funding exclusively for the Geospatial Enterprise Office. This funding provides the initial resources needed to (a) enable public bodies to securely share the most critical, authoritative statewide data sets that are essential to the accomplishment of virtually all the primary government missions; (b) substantially increase the usefulness of Framework data for the government business it is built to support; (c) greatly enhance access to Framework data for Oregon government to meet the outcome-based performance management needs of the public safety, natural resources, education, health, transportation and economic development communities; and (d) enable data access in underserved rural areas of the state for local government, tribal, and special district partners.

There are a number of state agencies that currently participate or lead in the development of Framework data sets (Table 3). Those agencies will benefit specifically as additional public body partners are able to participate more fully in the Framework process.

State Agency	Framework Data Sets
Dept. of Revenue	Tax lots
OR Dept. of Transportation/OR Dept. of Forestry	Roads, city limits, survey control
Dept. of Land Conservation & Development	Land use, zoning, UGBs, coastline
OR Water Resources Dept.	Surface water, wells
Dept. of Human Services/OR Health Authority	School Districts
Dept. of Geology & Mineral Industries	Elevation, hazards
OR Parks & Recreation Dept./OR Dept. of Forestry	Aerial Imagery
Office of the State CIO, Geospatial Enterprise Office	Address points
OR State University – Institute for Natural Resources	Vegetation, wetlands
OR Dept. of Fish & Wildlife	Fish/wildlife habitats
Dept. of Environmental Quality/OR Emergency Mgmt	Preparedness

4. Recommended Funding Mechanisms

The obstacles described above create an overall shortfall between the funding that a comprehensive, statewide Framework data program needs and what public bodies collectively are now able to provide. In this section, we describe the mechanisms for funding the Framework data program that the Council researched to support the final recommendation.

Recommendations

The Council makes the following funding recommendations.

Recommendation 1 – Existing fees. The Council recommends tapping a portion of existing fees to develop and sustainably maintain Framework data. There are about 2,500 fees administered by state agencies in Oregon. Those fees generate about \$2.5 billion each biennium. The Council identified three potential alternatives related to these fees, and **proposes the first alternative below as the most feasible:**

Alternative A: Tap a small number of mission-aligned fees that require Framework data to be properly administered and generate significant revenue. This approach would:

- avoid impacting fees that target economic development or vulnerable populations
- only affect fees administered by a half dozen state agencies
- generate \$6 million in the 2019-21 biennium (\$3 million per year)
- increase the number of affected fees over time to generate \$13 million per year, the amount needed to maintain Framework data statewide

Alternative B: Tap 3.5% of revenue for mission-aligned fees that require geospatial Framework data to be properly administered. These fees generate about \$750 million each biennium. This approach would:

- generate about \$13 million per year
- replace a portion of the revenue being expended now by many of these fee administrators to acquire Framework data from a variety of data providers
- support development, aggregation, and maintenance of Framework data from a single secure source
- provide access to resulting data for all fee administrators and reduce their data acquisition costs

Alternative C: Tap all fees to ensure consistent, standardized Framework data is available statewide. The funding shortfall would be covered if 1% of all such fees were tapped for geospatial Framework data development, aggregation, and sustained maintenance.

There are several different methods that could be used to tap a small portion of existing fees. See Attachment A for details on the fee options the Council has identified.

Recommendation 2 – GEO assessments on state agencies. GEO's operations related to storing geospatial Framework data and providing access through the Spatial Data Library are currently funded via an assessment methodology on all state agencies' budgets. This assessment methodology should continue to be used, but increased by \$2 million in 2019-21 (half one-time costs and half ongoing) to fund mandated activities related to secure provision of Framework data to all public bodies through a central data hub. These activities are:

- a. Establish a redesigned enterprise geospatial technical architecture, including new and upgraded hardware and software, larger bandwidth, and security protocols and technology to accommodate

the statutory requirement to provide secure access to upload and download Framework data for all public bodies.

- b. Support the expanded and formalized coordination activities and organizational infrastructure of the Council to reflect the growing and important role being played by location-based information in governmental agencies.
- c. Develop enterprise-level services, such as address location needed by many government business processes, including energy facility siting, hazard mitigation, transportation planning, and more.
- d. Expand the GEO staff to accommodate the development and management of the upgraded technical architecture and professional management of base data.

Recommendation 3 – Debt Financing. The Council recommends that debt financing be used to the greatest extent possible over a 10-year period beginning July 2019. The bonds would be repaid with a portion of the revenue generated from fees, as described above. Once the debt is repaid, the fee revenue would be continued in perpetuity to sustainably fund maintenance of Framework data by the hundreds of data providers, mostly at the local government level. This will ensure that the initial significant investment in Framework data is maintained and will not have to be repeated. There has been a preliminary determination by the DAS Chief Financial Office that most of the Framework data development work can be capitalized, in addition to the enterprise GIS software license for all public bodies, the hardware necessary to build capacity in local governments and to develop the data sharing hub at the state level, contract labor to develop the capitalizable data assets, and limited duration staff necessary during the initial start-up period. The areas where debt financing cannot be used include the ongoing data maintenance at all levels and the permanent staff at GEO to operate the data sharing hub. Alternatively, it is possible to use General Fund or other fund mechanisms to accelerate the data development. The Council is not recommending the use of other funding mechanisms at this time, instead favoring the use of debt financing.

Recommendation 4 – Public/Private Partnership. Public/Private Partnerships (P3s) have been evaluated by the Council. There is some potential over time to augment or replace a portion of the proposed fee revenue. The basic conceptual model, currently implemented in Canada (Alberta, Ontario New Brunswick and British Columbia) and in a few other countries, involves a private consortium of companies aggregating Framework data from all public bodies and using that aggregated data to create web-based products and services aimed at a variety of industries (e.g., energy, real estate, timber, logistics, health care, insurance). Companies in those vertical markets subscribe to the products and services and the subscription revenue is shared with all public bodies to help fund a portion of the cost for continued provision of updated Framework data. The statutory structure to enable P3s exists in Oregon and is used now by ODOT for bridge development, as an example. More research is needed to firm up this recommendation, but the Council believes it could play a role in the overall Framework funding model. The Council recommends that the Legislature direct further research, evaluation and review of the P3 concept, with the intention to implement this concept, depending on the outcome of the evaluation, at a later time.

Table 4. Funding alternatives with preferred alternatives indicated.

Funding Mechanism	Budgetary need				
	Framework data development	Framework data maintenance	Framework data sharing	GEO staff/admin (startup)	GEO staff/admin (ongoing O&M)
Existing Fees	<i>preferred</i>	<i>preferred</i>	<i>preferred</i>		
DAS GEO assessments					<i>preferred</i>
New GEO funding				<i>preferred</i>	<i>preferred</i>
Debt Financing	<i>preferred</i>		<i>preferred</i>	<i>preferred</i>	<i>software only</i>
Public-Private Partnership	<i>pending further research</i>				

Required Funding and Funding Source

The Council estimates that approximately \$268 million¹ over a ten-year period is necessary to cover Framework data program construction costs, including data development, limited-duration (LD) personnel, hardware, software, and contracting services (Table 5 below). Operating costs for personnel and operational expenses to maintain the data over time and provide continual management and access to the data would require about \$13 million annually¹ during the construction period and beyond.

Detailed Cost Structure

Start-Up, One-Time Tasks (over ten-year period)

- A. **Technical infrastructure design and implementation.** The system to enable secure Framework data sharing between all public bodies will include system design, planning, testing and implementation between August 2019 and January 2020, with implementation on January 2, 2020. This work will include effort by GEO staff and contractors, as well as assistance by some local and regional government staff.
- B. **Data sharing program evaluation projects.** Two evaluation projects will be planned and conducted to provide information that will help OGIC more precisely estimate data development and program costs for future biennia. One project will be planned along the coast, to complete higher-priority Framework data and data sharing within a selected area to support tsunami planning and resilience. Another project will be planned in an area of central or eastern Oregon to complete higher-priority Framework data creation and sharing to support wildfire response planning and operations. Both projects will focus on returning immediate value to disaster resilience programs. This delivers value on two fronts: direct utility to resilience programs and a thorough, meaningful test of the Framework data program’s business model and data-sharing capabilities.
- C. **Data development, statewide.** Data development will occur in several phases. The first phase, in FY2021-23, will develop the highest priority data. The second phase, in FY2023-25, will include high priority data statewide. The third phase, in FY2025-27, will develop medium priority data. The fourth phase, in FY 2027-29, will complete the lower priority data statewide. This work includes program

management, planning, data validation and quality control. It also includes regional data standardization and aggregation. Regional governments and some county governments will perform data standardization and aggregation tasks for many local governments, including some small local governments where capacity building is not feasible.

- D. Program development and implementation.** This includes capacity building in local and regional governments, as well as software procurement and provisioning. Capacity building will include web application development and training, and implementation of accountability mechanisms, performance measures and governance structures. The software to support this program will follow the state GIS software standard (OAR 125-600-7550) and is currently available to state agencies through an enterprise license agreement. That agreement will be extended to include all public bodies. Various components will be provisioned and implemented as appropriate to local and regional governments to participate in data development, maintenance, standardization, aggregation and sharing.
- E. Program management and administration.** This category includes overall program planning, individual project planning for data development, evaluation of all aspects of the program to inform future funding requests, and procurement of contract services for system design, data development, training, and technology provisioning. Some of this work will be done and/or supported by limited duration staff. Based on OGIC’s current recommendation, debt service will be used to accelerate the program development, particularly Framework data development. As a result, there will be costs associated with repaying the debt. The cost of debt service will be based on how much is borrowed, the type of bonds that are used, etc. At this time, this cost is unknown.

Table 5. Construction costs will cover 10 years to afford adequate time for data development across the state	
Construction Activities	Activity cost (millions)
A. Technical Infrastructure design and implementation	
System design, planning, testing and implementation	1
B. Data sharing program pilot projects	
Project planning	0.1
Project execution	
Evaluation methodology development	0.05
Geospatial data development	2.75
Project evaluation	0.1
C. Data development, statewide	
Data standardization and aggregation (regional)	1.6
Phase 1: Highest priority statewide data development	
Phase 2: High and medium priority statewide data development	250
Phase 3: Medium priority statewide data development	
Phase 4: Lower/remaining statewide data development	
D. Program development & implementation	
Capacity building - local & regional	5.9
Software procurement and provisioning	4.5
E. Program management & administration	
Program planning & establishment of work flows for program evaluation, data dev. project management, procurement, and contracting	2
Debt service management & administration	TBD
Total cost (millions)	\$ 268

Note: \$18 million – 2019-21; \$250 million – 2021-29

Ongoing Operational Tasks (annual)

- A. **Software Licensing.** The software provisioned for data sharing and data management will need to be maintained and supported on an ongoing basis to support the Framework data investment.
- B. **Data maintenance.** Public bodies will continue to incur costs over and above existing funding availability to maintain the Framework data in which the state is investing as a strategic asset.
- C. **Data sharing.** The technology to enable secure Framework data sharing among and between all public bodies will require ongoing maintenance and support. In addition, the regional bodies will incur costs to standardize and aggregate Framework data on an ongoing basis.
- D. **GEO new and existing permanent staff.** The ongoing needs of this program greatly exceed current capacity, necessitating an increase in GEO’s staffing levels. The additional funding identified earlier includes three new staff and an increase in classification for one existing staff.
- E. **Other (future program enhancements).**
- F. **Debt service.** This may not be necessary after the initial construction period. If it is, the cost for repayment of bonds will be determined at a later time.

Ongoing activities	Annual cost (millions)
A. Software licensing	2.5
B. Data maintenance	7.5
C. Data sharing (portal maintenance)	2
D. GEO new and existing staff	0.9
E. Other (future program enhancements)	0.2
F. Debt service	TBD
Total cost (millions)	\$ 13.1

5. Governance, Accountability, & Performance Measures

Any significant use of public revenue requires accountability and oversight. ORS276A.500 authorizes the Council as the main overseer of Framework data revenues and expenditures. The Council will ensure accountability and effective use of the proposed state revenues through a number of mechanisms:

- Council programs will use Oregon’s already-established “Stage Gate” oversight in the State CIO’s office to ensure effective decision-making and expenditure control;
- Council and GEO will distribute Framework funds to public bodies under the auspices of grant programs, contracts, and Intergovernmental or Interagency Agreements;
- A combination of conditional funding and Council oversight will be used to ensure that Framework data is developed and maintained statewide to support consistent services.
- Council will develop performance measures for its activities, including activities it funds;
- Council will report regularly to the Legislature per ORS276A.500.

Furthermore, the Council will formalize appropriate advisory committees under statutory authority to help govern the use of state revenues for the purpose of Framework development, maintenance, and

management. The Council is working to secure Stage Gate 1 endorsement for the Framework program and will continue using that oversight process for planning and project management going forward.

6. Recommended Legislative Activity for the 2019-2021 Biennium

A multi-year effort to build the foundational Framework data, supporting systems, and supporting organizational capacity must be well planned. As such, the first step of the effort will focus on planning and capacity building with the engagement of OGIC, state staff, and the public body stakeholders in the effort. OGIC recommends that the Legislature fund the Framework data program in multiple steps beginning in the 2019 session. OGIC and state staff will use some of the first-step funding during calendar years 2019 and 2020 to complete a more-detailed work plan and budget for the remaining eight years of the construction phase and make additional recommendations/requests to the Legislature in 2021. Figure 3 illustrates the timeline and costs for Framework data development during the 10-year startup period.

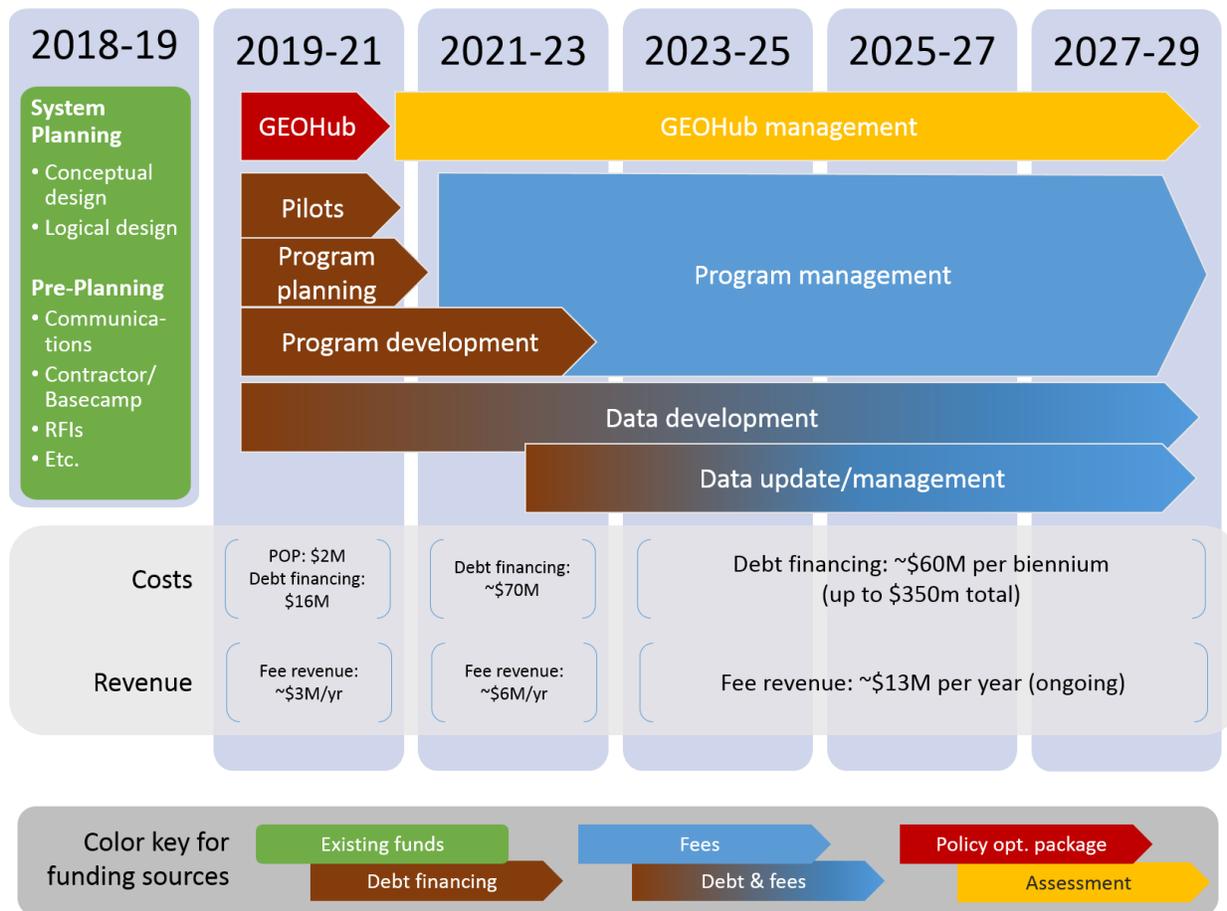


Figure 3: Framework Data Construction Sequencing

OGIC preliminarily recommends that in the 2019 session the Legislature:

1. **Authorize tapping existing state fees** to generate \$3 million of continuing annual revenue for the Framework data program (to be increased over time to generate \$13 million per year);
2. **Authorize issuing \$16 million in General Obligation bonds** funded by part of the fee revenue (*not* General Fund) to fund Framework data program planning and capacity-building.
3. **Approve increased state agency assessments** that will add capacity to the state Geospatial Enterprise Office to support the Framework data program development and implementation.

Attachment A: Research and Methodology

The Council examined three options for existing fees, as noted in the following table. The last option is the Council’s recommended approach.

Fee Option	Legislative Effort Required	Stakeholder Outreach Required	Potential Issues
Tap All Fees	Large – may require 3/5 vote of Legislature	Large – need to persuade all fee authorities of value	Is a 3/5 vote feasible?
Tap Mission-Aligned Fees – require Framework data	Large – requires changes to many laws and rules (1 per fee?)	Medium – need to persuade only some fee administrators	Is data needed? Is amount reasonable?
Tap a Few Mission-Aligned Fees – revenue high, controversy low	Minimal – fewer fees to change	Smaller – even fewer fee administrators to convince	Perception of fairness to those not tapped.

Data Research

Considerable effort was expended by the OGIC Resource Work Group (RWG) and the OGIC Framework Implementation Team (FIT) to compile the information and cost estimates that were necessary to complete this report. The RWG reached out to the regional governments, county governments, city governments, and other public bodies around the state seeking information on costs related to Framework data development. That cost information was extrapolated to develop a comprehensive cost estimate for the amount of money being expended on Framework data development and maintenance from existing funding sources.

The FIT developed an estimate of the status of each Framework data element and the estimated cost for statewide completion of each Framework element, along with an estimate of the ongoing maintenance costs for each element. The combination of the work by the RWG and the FIT, summarized in the table below, provides a relatively clear picture of the amount being expended now and the amount needed going forward, thus providing an understanding of the funding gap.*

		2005 Baseline	September 7, 2018
DATA DEVELOPMENT	Total development cost		\$376,235,500
	Cost remaining	\$163,297,965	\$254,271,750
	Cost covered by stewards/custodians		\$7,620,000
	Cost to be covered by new funds		\$246,651,750
	Low Estimate		\$160,323,638
	Hi Estimate		\$332,979,863
DATA MAINTENANCE	Total annual maintenance cost		\$17,895,300
	Annual maintenance cost covered by steward/custodians		\$8,395,000
	Maintenance (annual) cost to be covered by new funds		\$9,500,300
	Low Estimate		\$9,009,390
	Hi Estimate		\$18,711,810

*May be modified to include additional costs for specific data elements for which estimates have not been completed.