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Tina Kotek, Governor

OREGON DEPARTMENT OF EDUCATION
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Dr. Charlene Williams
Director of the Department of Education

TO: Co-Chair Sollman, Co-Chair Ruiz, & Members of the Joint Subcommittee On Ways and Means On Education
DATE: Mar 28, 2025

FROM: Kai Turner, Assistant Superintendent Office of Finance & Information Technology
RE: Question posed of the Oregon Department of Education's Presentation on March 25th

Co-Chair Sollman, Co-Chair Ruiz, and Members of the Joint Subcommittee On Ways and Means Subcommittee On Education,

Thank you so much for the opportunity to provide information about SB 5515/5516 during Day 10 of our Presentation to the Joint Subcommittee On Ways and Means on Education. We are more than happy to continue providing information to you on our work and look forward to our continued partnership on behalf of all Oregon students. Please do not hesitate to reach out to me if you need further clarification.

With gratitude,
Kai Turner

Questions & Answers

Question: What does the "blank" represent on the procurement dashboard (slide 496) represent?

Response:
"Blank" serves as the default type while a project is under evaluation to determine the appropriate classification. Once the correct type is identified, the Procurement Specialist updates the field accordingly.

Question: What are some of the best practices you've followed to be confident you are capable of SSF modernization?

Response:
At the end of the memo is a more detailed response of ODE IT's Development best practices along with a table identifying all ODE-developed applications. (Appendix 1)

Question: Provide Info-Tech recommendation document/report.

Response:
At the end of the memo is Info-Tech's report which indicates their recommendation to pursue "Alt 1," which is Built and Managed In-House. (Appendix 2)

Question: How long could the ODE float if the revenue (SSA/Federal) didn't come in?

Response:
For federal revenue, ODE has a $70m linking GF allotment to cover for delays (e.g. budget impasse and/or federal government shutdown). SSA funds come in monthly from the Dept. of Revenue and there is a $200m reserve that can cover delays as ODE waits for the revenue to come in. If ODE felt the revenue wasn't going to be received, ODE would highlight the concerns immediately to DAS CFO, LFO and Governor's office to discuss next steps on finding alternative funding.

Question: How does the Education Stability Account function? Can it play a role in saving the agency's budget if revenue doesn't come in (CAT/Federal)?

Response:
ORS 348.696 outlines the Education Stability Fund:
348.696 Education Stability Fund; investment; earnings; transfer of excess earnings. (1) Pursuant to Article XV, section 4 (4)(d), of the Oregon Constitution, the Education Stability Fund is established separate and distinct from the General Fund. Moneys in the Education Stability Fund shall be invested as provided in ORS 293.701 to 293.790. Except as provided in subsection (2) of this section, all declared earnings on moneys in the fund, including declared earnings on moneys in the Oregon Growth Account, shall be transferred and are appropriated continuously as follows:

(a) 75 percent to the Oregon Education Fund established by ORS 348.716; and
(b) 25 percent to the Higher Education Coordinating Commission for the Oregon Opportunity

Grant program under ORS 348.260.
The 75% going to the Oregon Education Fund is outlined in ORS 348.716:
348.716 Oregon Education Fund; use; payment of education lottery bonds. The Oregon Education Fund is established in the State Treasury, separate and distinct from the General Fund. Moneys in the Oregon Education Fund are continuously appropriated to the Oregon Department of Administrative Services for public education and education lottery bond debt service. Seventy-five percent of the declared earnings of the Education Stability Fund as described in ORS 348.696 shall be transferred monthly to the Oregon Education Fund as directed by the Director of the Oregon Department of Administrative Services. Investment earnings on amounts in the Oregon Education Fund shall be credited to the Oregon Education Fund. The Legislative Assembly may, but shall be under no legal obligation to, allocate and appropriate amounts in the Oregon Education Fund to pay education lottery

bonds. The Director of the Oregon Department of Administrative Services may specify when during any fiscal year amounts shall be transferred from the Oregon Education Fund to be used for public education or education lottery bonds. [1999 c.44 §8; 2001 c.536 §10; 2002 s.s.3 c.6 §§8,8a; 2009 c.805 §6]

When there is an excess of dollars in the Ed Stability fund, this is then typically applied to the OSCIM bond program as lottery funds. The use of these funds is prescribed in statute and would need to be adjusted to help the agency offset SSA or FF revenue losses.

Question: Research indicates fewer men are going to college, has there been a discussion on how to influence men to attend college?

Response:

The Ford Family Foundation is studying this topic in Oregon, and their findings show that College enrollment, persistence, and completion rates are lower for male than for female students in Oregon, especially in rural areas, and are declining. Their reports include recommendations for closing the gap.

These research-based factors can support closing the college-access gap for Oregon boys, and are part of ODE's policy work and embedded in ODE programs:

1) *Oregon students who participate in accelerated college credit in high school, including career and technical education programs, during high school are 30% more likely to graduate from high school, 25% more likely to enroll in college and 22% more likely to persist in college than those who do not, and this is consistent across demographic groups. Increasing access to these opportunities is an important strategy to encourage boys' college attendance.*
2) *Boys are more likely to seek postsecondary education when they understand the benefits. Schools should emphasize the long-term financial benefits associated with earning a postsecondary degree or credential, and help students consider these factors when choosing courses, participating in career-related learning experiences, and during personal financial education courses and college and career planning courses.*
3) *Students need to be informed about the choices available to them after high school. Expanded outreach to boys, their families, and their communities, beginning in middle school, supports boys' college and career planning and increases college-going rates. Students benefit from exposure to college via dual credit programs, college visits, and college presence at the high school.*
4) *Boys and their families need support understanding college systems, like admissions, advising, and registration. One way to provide that support is through a Direct Admissions system for Oregon. HECC is leading the work for Direct Admissions, with ODE collaboration. With Direct Admissions, Oregon high school boys will be directly informed of their eligibility for admission to some or all Oregon public institutions. The direct admissions process will be simpler for students than the usual college admissions process.*

Oregon's data show that, among high school graduates, both the percentage and number of men going to college is lower than the rate for women. However, this disparity has remained fairly constant over the last 10 years. College-going for both genders has been lower since the pandemic began.

HECC is making efforts to increase college-going rates for all students through the Direct Admissions program that it is working to implement.

Question: How could the KPM focus on graduation rates better capture the trades and other options some would consider "successful?"

Response:
The K-12 graduation rate currently reflects the percentage of students earning a regular or modified diploma, and the completer rate expands that to include extended diplomas and GEDs. However, to better capture a more inclusive definition of "success," especially for students pursuing the trades or other non-college pathways, ODE may consider developing an additional Key Performance Measure (KPM) that tracks postsecondary outcomes beyond traditional degrees. This might include industry-recognized certifications, completion of registered apprenticeships, and CTE program completions. Including these indicators would offer a more holistic picture of student success and recognize the value of multiple postsecondary pathways.

Appendix 1

The Oregon Department of Education (ODE) is confident in its capability to modernize the State School Fund (SSF) project, underpinned by robust IT development practices and a highly skilled project team.

Key IT Development Best Practices

- Structured System Development Lifecycle:
    - ODE employs a System Development Lifecycle, adapting methodologies to ensure both comprehensive requirement fulfillment (traditional waterfall) and agile adaptability for responsive customer feedback. This is seen in successful public deployments such as the Oregon Online Report Card and Career and Technical Education (CTE) Programs of Study.
- Rigorous Security Standards:
    - Adherence to state security protocols and proactive vulnerability monitoring, including the OWASP Top 10, ensures secure application development.
    - Regular Cybersecurity and Infrastructure Security Agency (CISA) scans of the web environment result in minimal identified vulnerabilities, with rapid remediation.
- Modern Technology Infrastructure:
    - ODE IT is a Microsoft IT shop that updates our standards on a regular basis.
    - Application development knowledge include SQL 2019 (planned SQL 2022 upgrade coming in fall of 2025), .NET 4.8 framework, Model-Viewer-Control (MVC) for web applications, standard language is C#, and our source code control is managed with Azure DevOps 2022
- Proven Application Stability and Reliability:
    - IT staff maintain 120 production databases, 39 secured web applications, 12 internal web applications, 11 internet web applications, 9 web services, 9 console applications, 31 Windows applications, 31 data validations, and 63 data collections.
        - More than 50 were developed and are supported by ODE IT staff. For information about what each of the ODE-developed applications do and who they serve, please see the table below.
    - EIS facilitates regular Cybersecurity and Infrastructure Security Agency (CISA) scans of our web environment, including websites and web applications for vulnerabilities. Very few are found, and any needed fixes are in place typically within one working day.
    - ODE has a proven track record of smooth system integration. The State Consolidated Data Collection System supports 63 data collections and is used by more than 1500 internal and external users.
- Data integrity:
    - The majority of data inputs for the SSF come from the Consolidated Data Collection System, which are managed in-house and are well understood by agency staff.
        - Without the data, the system will not be able to calculate the funding formula correctly. The SSF is dependent upon timely collection and use of accurate data.

Project Team: Unparalleled Expertise for State School Fund Modernization

The Oregon Department of Education has assembled a project team that embodies the highest level of expertise and dedication, uniquely qualifying them to lead the State School Fund Modernization Project. This team combines decades of institutional knowledge, technical proficiency, and proven project management acumen.

- Michael Wiltfong, School Finance and School Facilities Administrator: With 18 years of dedicated service within the ODE, specifically focused on the State School Fund, Michael possesses unparalleled historical and operational knowledge of the system. His tenure is marked by uninterrupted payments and successful annual audits, demonstrating his exceptional stewardship.
- Vanessa Clark, State School Fund Program Manager: Building on over a decade of public service at ODE, including contract management and software application support, Vanessa brings 20 years of accounting, budgeting, and grants management experience. Her collaboration with Michael ensures a seamless transition and deep understanding of the project's financial intricacies.
- Sandee Hawkins, Director of Application Development: Her extensive public service career, beginning in 1995, coupled with her direct management of developers and QA staff, guarantees adherence to the highest development standards. Since 2015, Sandee has directed ODE's application development teams, overseeing project managers and business analysts.
- Randy James, Director of Enterprise Services: Randy's 30+ years of technology and operations experience, spanning both private and public sectors, make him an invaluable asset. His expertise in aligning operational outcomes with organizational goals ensures efficiency and cost-effectiveness throughout the project.
- Brian Jones, Business Analyst: With over 25 years in IT, including roles at Nike and the Washington State Department of Transportation, Brian brings a wealth of experience in data modeling, business analysis, and project management. His diverse background and deep understanding of software development processes will be critical to the project's success.
- Anne Therese, Senior Project Manager: Anne Therese's extensive experience in state educational agency projects, coupled with her PMP certification and expertise in PMBOK standards, ensures meticulous project execution. Her proven facilitation and elicitation skills, along with her focus on innovation and negotiation, will drive the project forward.

This team represents the most qualified individuals to undertake the State School Fund Modernization Project. There is literally no person or team that is as familiar with the SSF and the intricacies needed to make it work. Their combined expertise, long-term commitment to public service, and proven track record of success guarantee a project that is both efficient and effective.

Applications Built and Maintained by ODE			Category	Criticality	User Base	
Application Asset Number	Application Name	Application Description	Business Process (Select)*	Business Criticality (Select)*	User Type (Select)*	Estimated User Count (Select)*
ODE 063	Abbreviated Day Program Application	The application tracks students enrolled in abbreviated school day programs, including duration, reason, parental consent documents, etc. for students enrolled in special education or Section 504 programs. This is in response to SB819 guidance requiring ODE to track abbreviated day instances. Required by SB819	Data Collection / Analysis /	Important	External (Customer)	200 to 449
ODE-003	Accountability Warehouse Extract	Tool used by districts/institutions to extract accountability data	Data Collection / Analysis /	Minor	External / Internal (Hybrid)	500 to 1499
ODE 062	Achievement Data Insight	Web application that is used by Oregon school districts and ESD's to review state and federal reporting data after calculation, and validations are completed	Collaboration / Public Enga	Business Essential	External (Customer)	500 to 1499
ODE-030	Assessment Maintenance Application (AMA)	Application used by assessment staff to load vendor test information into the collections.	Data Collection / Analysis /	Business Essential	Internal (Agency Only)	1 to 49
ODE-013	Bus Driver Portal	Pupil Transportation Bus Driver Application Portal	Workforce Management	Business Essential	External / Internal (Hybrid)	200 to 449
ODE-028	CACFP Reimbursement Calculator	CACFP Reimbursement Calculator	Financial Management	Business Essential	Internal (Agency Only)	1 to 49
ODE-020	Central Login	Application used by districts to access the ODE secure systems. Single Sign-On for all secured data systems and web applications.	Information Security	Mission Critical	Public	> 1500
ODE-005	Child Nutrition Direct Certification Match	Child Nutrition Programs gather three data sets from DHS/OHA and one from ODE: SNAP (Supplemental Nutrition Assistance Program) participants, students in the Foster system, Medicaid recipients, and SSID (Statewide Student Identifier), respectively. The SNAP/Foster and ODE data sets are matched weekly to certify students who are eligible to receive free meals, that information is then passed onto districts through the application service. Medicaid data is matched in the same way, but just once a year to verify household income of students who have been certified through income applications	Data Collection / Analysis /	Business Essential	External / Internal (Hybrid)	500 to 1499
ODE-006	Child Nutrition Programs Web Application	Application used the CNP to administer Child Nutrition programs	Grants Management	Mission Critical	External / Internal (Hybrid)	> 1500
ODE-004	CIP Budget Narrative	Describes how Federal funds will supplement District funds and programs and captures how ESEA and Perkins funds will be spent to support the attainment of the Districts' improvement goals.	Financial Management	Business Essential	Internal (Agency Only)	500 to 1499
ODE-031	Cloud Information Transfer Service Admin Application (CITSAdmin)	Application used by ODE to verify the CITS service and setup metadata for the CITS service. Vendors and school districts use the web services to provision student secure ID's, Unique staff ID's and Instructional Unit ID's.	Data Extract / Load / Trans	Important	External (Customer)	1 to 49
ODE-032	Cohort Entry Year Override Application (CEOA)	Application used by Accountability Unit to maintain and enter student cohort year overrides.	Data Extract / Load / Trans	Business Essential	Internal (Agency Only)	1 to 49
ODE-033	Collection Audit and Review Editing System (CARES)	Application used by Data Owner to invoke the Web Collections and run administrative reports.	Data Collection / Analysis /	Business Essential	Internal (Agency Only)	1 to 49
ODE-034	Contract Management System (CMS)	Allows procurement unit to track agency contract expenditures, end dates, and payment milestones. Contractor contacts are used in other ODEX applications and web front-ends to verify credentials when granting access.	Contracts / Procurement	Business Essential	Internal (Agency Only)	1 to 49
ODE-017	CTE Information System	CTE Information system that collect CTE Program of Study data. System integrates high school programs of study, community college programs, CTE teacher and licensure and Oregon Skill Sets.	Data Collection / Analysis /	Business Essential	External / Internal (Hybrid)	500 to 1499
ODE-035	Dispute Resolution System (DRS)	Special Education legal tracking system and federal reporting module.	Data Collection / Analysis /	Business Essential	Internal (Agency Only)	1 to 49
ODE-037	Education Data Exchange Network (EDEN)	Application used by data owners to validate reports being sent to the federal government for IDEA, CSPR, T3BR, and other grant-related programs.	Data Collection / Analysis /	Business Essential	Internal (Agency Only)	1 to 49
ODE-036	Electronic Grant Management System (EGMS)	Tracks grant spending allowing schools (and the Agency) to monitor, administer, report, and process grants and sub-grants.	Grants Management	Mission Critical	Internal (Agency Only)	200 to 449
ODE-007	Electronic Grant Management System (Web)	Financial Access and Payment of all K-12 Grant In Aid programs. This is the system through which subrecipients receive subgrant notifications from ODE and submit claims for subgrant funding.	Grants Management	Mission Critical	External / Internal (Hybrid)	200 to 449
ODE-038	Federal Cash Ordering System (COS)	Accounting staff use this system to verify and process/release cash order requests. COS data is uploaded to TRAMS and then uploaded to DAS financial systems.	Financial Management	Business Essential	Internal (Agency Only)	1 to 49
ODE-021	Free Reduced Lunch	Free Reduce Lunch Application use by customers to application for Free school food for students	Social Services	Business Essential	Public	Public (Unlimited)
ODE-015	Indirect Cost Rate Certification	Application tracks the status of the LEA's annual indirect rates. Integrated with an Extranet web application that allows districts/schools to submit adjustment data for approval by ODE fiscal staff.	Financial Management	Business Essential	Internal (Agency Only)	500 to 1499
ODE-039	Indirect Rate Cost System (IRCS)	Application tracks the status of the LEA's annual indirect rates. Integrated with an Extranet web application that allows districts/schools to submit adjustment data for approval by ODE fiscal staff.	Financial Management	Business Essential	Internal (Agency Only)	1 to 49
ODE-025	Info Application - Schedule of Due Dates, Public Report, Secure Report, Data Collection Dtls	Info Application - Schedule of Due Dates, Public Report, Secure Report, Data Collection Dtls.	Technical Support	Minor	Public	Public (Unlimited)
ODE-040	Institution Accountability Reports (IAR)	Outcomes and Reporting. Application used by data owners to maintain accountability factors for inclusion in accountability reports (i.e. Report Card/AYP). Some factors include Title I Targeted Assistance School and Title I School Wide Program.	Data Collection / Analysis /	Business Essential	Internal (Agency Only)	1 to 49
ODE-023	Institution Lookup	Web site used by public to lookup institution related information	Technical Support	Minor	Public	Public (Unlimited)
ODE-041	Institution Management System (IMS)	Interfaces with EGMS system for entering contact information external to the central Institution Database, also contains a read-only front end for viewing selected elements of the Institution Database.	Data Collection / Analysis /	Mission Critical	Internal (Agency Only)	50 to 199
ODE-042	Limited English Proficiency Start Date Override System (LEPO)	Application developed to allow entry of overrides of student's Limited English Proficiency program start dates.	Data Extract / Load / Trans	Important	Internal (Agency Only)	1 to 49
ODE-029	ODE Collections Catalog	The searchable ODE Collections Catalog is a publically-accessible tool that will enable users in the field to find information about ODE's data collections, such as which ones contain data relevant to their research interests, or which ones they are required to submit data to.	Reference / Knowledge Bas	Minor	Public	Public (Unlimited)
ODE-061	Oregon Online Report Card	Web-based reporting containing detailed information on each Oregon schools and districts. This online report card will replace the current report card system in the future.	Collaboration / Public Enga	Minor	Public	Public (Unlimited)
ODE-044	Override Tracking Tool	The purpose of the application is to store information about changes made to accountability reports outside of the normal IT process, in order for auditors, researchers, and future ODE staff to access and review associated documentation.	Data Collection / Analysis /	Important	Internal (Agency Only)	1 to 49

ODE-045	Private Alternative Schools (PAS)	Tracks Private, Private Alternative, and Special Education Schools' registration and attendance numbers.	Data Collection / Analysis /	Business Essential	Internal (Agency Only)	1 to 49
ODE-024	Public Report Card	Public Report Card distribution application	Data Collection / Analysis /	Minor	Public	Public (Unlimited)
ODE-046	Pupil Transportation Management (PT)	Tracks fingerprint approval processes, buses, drivers, school district assets, accidents, and district fingerprint billing. Also exports annual asset/depreciation (and other data) for the State School Fund.	Workforce Management	Mission Critical	External / Internal (Hybrid)	500 to 1499
ODE-048	School Directory Reporting System (SD)	Purpose of the front end application is to gather the sections of the school directory the user wants to print and submit the request to an application running on the server (created by Web team) that will generate the School Directory PDF and email it to the customer.	Data Collection / Analysis /	Minor	Internal (Agency Only)	1 to 49
ODE-010	Secure Assessment Reports 2.0	Secure Assessment Report Application	Data Collection / Analysis /	Business Essential	External / Internal (Hybrid)	> 1500
ODE-026	Secure File Transfers	Application used to secure transfer files. Used by District and customers to secure send files to ODE employees. Used by districts and contractors to send data to others. Users must have Central Login accounts to access.	Data Extract / Load / Trans	Business Essential	External / Internal (Hybrid)	> 1500
ODE-001	Sexual Misconduct Verification System	Verification system to allow education providers to make hiring and service provider decisions while taking into account the safety of the students that they serve. Senate Bill 155 established requirements for ODE to conduct investigations related to reports of suspected sexual conduct that may have been committed by a school employee, contractor, agent or volunteer who is not licensed by the Teacher Standards and Practices Commission.	Workforce Management	Important	External / Internal (Hybrid)	500 to 1499
ODE-047	Sexual Misconduct Verification System Administration (SMVSAdmin)	Administration Application for managing the ODE work within the web application.	System Administration	Mission Critical	Internal (Agency Only)	1 to 49
ODE-049	SFMS Audit Administrative System (A133)	Application used by Budget Unit for reporting on payments for A-133 audit. There is an Internet component to this application also for the public/auditors to generate reports.	Financial Management	Business Essential	Internal (Agency Only)	1 to 49
ODE-011	Special Ed Post School Outcomes 2.0	Special Ed Post School Outcomes Application	Data Collection / Analysis /	Business Essential	Internal (Agency Only)	500 to 1499
ODE-027	Special Education Report Card	Application developed to do Special Education Report Card maintenance and production.	Data Collection / Analysis /	Minor	Public	Public (Unlimited)
ODE-019	Staff Search	ODE public staff lookup application	Workforce Management	User Productivity	Public	Public (Unlimited)
ODE-058	State Consolidated Data Collection System	Data collection system for all PK-12 data	Data Collection / Analysis /	Business Essential	External / Internal (Hybrid)	> 1500
ODE-050	State School Fund Tax Load Utility (SSFTU)	Application used to load Revenue and IEP Waiver information into the School Funding database. Reads Excel files and loads database into the Revenue and ADMAdj tables.	Data Extract / Load / Trans	Mission Critical	Internal (Agency Only)	1 to 49
ODE 066	Systems Inventory Management (SIM)	An application designed for ODE IT staff to update our systems inventory. This includes applications, databases, libraries, Servers, Data Collections, Processes and Tool Sets.	Inventory / Asset Managen	Important	Internal (Agency Only)	1 to 49
ODE-051	Teacher Standards and Practices Commission Override Application (TSPC)	Teacher Standards and Practices Commission (TSPC) Override Module used by EII to override the highly qualified (HQ) status of individual teachers and administrators.	Workforce Management	Business Essential	Internal (Agency Only)	1 to 49
ODE-052	TIRM Management Services	Used by Human Resources to maintain RDC codes (Office/Work unit table), Verify Hire and Verify Termination employees.	Employment	Business Essential	Internal (Agency Only)	1 to 49
ODE-053	Tracker Administrative Module (TAM)	Application used by ODE Help Desk in managing reference tables for the Information Services ticket and time tracker system.	System Administration	Minor	Internal (Agency Only)	1 to 49
ODE-054	Transaction Management System (TraMS)	Uploads financial data from ODE applications to DAS financial systems (i.e. State School Fund, Common School Fund, and Federal Cash Order System).	Data Extract / Load / Trans	Mission Critical	External / Internal (Hybrid)	50 to 199
ODE-018	Web Security	ODE Extract Central Login application	Information Security	Mission Critical	External / Internal (Hybrid)	200 to 449
ODE-002	Youth Development Division Data Manager	Youth Development Division Data Manager - The Youth Development Council was created to support Oregon's education system by developing state policy and administering funding to community and school-based youth development programs, services, and initiatives for youth ages 6-24 in a manner that supports educational success, and career and workforce development, juvenile crime prevention, and is integrated, measurable and accountable. (see ticket 75716)	Data Collection / Analysis /	Important	Internal (Agency Only)	50 to 199

Appendix 2

Final Report (v3.0)

Prepared for: ODE

Best Value Analysis Process for ITRAS Benchmarking Subscription Services:

State School Fund Modernization Assessment

Prepared by:

INFO~TECH
CONSULTING SERVICES

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Executive Summary

The Oregon Department of Education (ODE) serves 197 school districts and 19 education service districts (ESDs) and distributes over $13 Billion through the State School Fund system (SSF). The SSF system is a Mission Critical application within ODE's technology landscape. The SSF system is a complex data system that has been utilized in its current form and technology since the early 2000's. And although this system is highly accurate and completes the work necessary to distribute funding according to payment deadlines, the solution has been evaluated for modernization since 2017.

ITRG completed an Application Assessment (Business and Technology Health) and determined that the health ratings were generally low and not aligned to modern Mission Critical system capabilities and application architecture principles that necessitate modernization. The intent of the future application is that it will likely have a similar 20-year lifespan.

ITRG completed an evaluation of three different Alternatives (In-house and Outsourced models) spanning both the Build project and the on-going Support/Management of the application across a set of scoring criteria. The Alternative that ***ITRG recommends is an In-house Development project for the new SSF Application that will also be Supported and Managed by ODE.***

The primary scoring considerations that differentiated the In-House Alternative selection were:

- Risk and Complexity (20%): In-house was considered the lowest risk based on current institutional knowledge and accelerated learning curves, improved flexibility based on an internal integrated team to build and long-term application support, limiting and potential future contractual liability associated with an external service provider, the potential loss of productive work in 2023/2024 based on the effort to prepare and complete an external RFP (could take 12-18 months to complete) and on-going vendor management performance management efforts
- Change Impact (15%): Lowest ODE organizational effort to manage an internal team versus managing an external vendor (which may imply a reduced level of flexibility and responsiveness needed for the SSF application)
- Investment (20%): The total TCO is considered slightly favorable vs. other alternatives over the application's lifespan. The estimated total TCO ranges for all alternatives is approximately +/- 25%.

In addition to the Alternative scoring, ITRG completed an external review (incorporating ODE captured market knowledge) where ITRG knows of another state who is currently using an In-House model to complete their state school funds modernization project.

Major portions of the SSF application still require additional effort to complete Future State requirements definition *(considered 25% complete with the primary focus to date on documenting the current state model)* that would provide an input into Future State technical/architectural decisions based on multiple proof-of-concepts. Ultimately the new SSF application will likely incorporate a set of best-of-breed modular technologies that will be evaluated and decided on as part of the Development lifecycle.

The roadmap defined for the In-House alternative has an approximate 2.5 year time horizon that starts with Funding Approval, Sourcing/Backfilling a new development team and augmenting the support team, and completing Development/Testing and Retiring the current SSF system.

Alternatives Evaluation

Consideration	Alternative 1: Built and Managed In-house	Alternative 2: Built by Outsourcer & Managed In-house	Alternative 3: Built & Managed by Outsourcer
Build	+ Build team can accelerate support team's learning curve	+ Access to a larger talent pool who can utilize the latest technologies	+ Ability to amortize the total investment over longer-duration contract terms + Access to a larger talent pool who can utilize the latest technologies
	- May require salary exception approvals	- Potential for substantial time lag (12-18 months) to contractually engage with a vendor - Requires significant ODE effort to develop RFP and complete knowledge transfer with vendor (incl. potential contractual risk) - Potential execution and organizational risks	- Potential for substantial time lag (12-18 months) to contractually engage with a vendor - Requires significant ODE effort to develop RFP and complete knowledge transfer with vendor (incl. potential contractual risk) - High cost and potential execution and organizational risks - Highest costs compared to the other alternatives
Support/Manage	+ Lowest ongoing costs + Highest degree of flexibility to manage future enhancements, support/manage efforts and service levels	- Knowledge capture process from vendor will require a steep ODE learning curve within the organization	- Some Support/Manage flexibility may be lost with a vendor - ODE investment of time/effort Knowledge capture process will require a steep learning curve from the outsourcer

The Investment portion of alternative scoring model (20%) considers ODE's overall Investment (one-time and on-going) that was roughly estimated for each Alternative to provide the following 20-year estimated TCO ranges:

Total Cost of Ownership- (20 Year TCO)

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Category	Alt 1 – IN/IN	Alt 2 – OUT/IN	Alt 3 – OUT/OUT	Assumptions/Rationale
Build	$3 - $7 million (range based on scope and speed)	$2.3 - $3.6 million	$2.3 - $3.6 million	Initial Cost incurred for building the SSF application
Ongoing Support	$6 to $11 million (@2% raise at an avg. $150k annual fully loaded costs for 3-4 FTEs)	$6 to $11 million (@2% raise at an avg. $150k annual fully loaded costs for 3-4 FTEs)	$14 to $18 million (Assuming 5%+ of initial build cost/year – conservative estimate)	Includes enhancements, support and maintenance over 20 years including annual inflation at 2 -5% (Also includes estimated expenses for ODE Staff salaries, Vendor management, Training & Documentation)
Infrastructure	$1.5 million (Avg. cost @ $80k / yr.)	$1.5 million (Avg. cost @ $80k / yr.)	Included in Ongoing Support costs (cost recovery)	Includes hardware and software costs & system upgrades over duration
Transition	N/A	$200,000	Included in Knowledge Transfer & Ongoing Support costs	Transitioning to the new system from the outsourced vendor to in-house management
Knowledge Transfer / Learning Curve	Included in Ongoing Support costs	$100,000 (One-time ODE cost)	$300,000 (Requires on-going ODE costs)	Capturing knowledge from the outsourced vendor and transferring it to the in-house team
TCO	**$10 - $18 million**	**$11 - $17 million**	**$17 - $22 million**	

Note: These are approximate and high-level cost estimates based on a variety of estimating methods and practices. Specific assumptions will be validated over time and improved (e.g., changes in economic conditions, vendor estimates provided to ODE, future legislature requests, and technology adoption over time).

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The estimated ranges for each Alternative is around +/- 25%. It is important to factor this level of estimating precision across all alternatives and consider the overall Investment as only one of a broader set of scoring criteria.

COTS Summary

To assess the COTS alternatives, ITRG completed a review of applications in closest alignment to SSF's current-state and known future-state functional requirements.

The primary research to identify COTS alternatives did not yield a product result with comprehensive functionality to directly support the SSF business process without considerable modifications. To complete the assessment, we reviewed available COTS solutions, in the following software categories:

Category	Rank	Pros	Cons
Scenario Planning	1	• Workflow-enabled with business rules management and high-degree of customization • Provides "what-if" scenario planning/modeling • Supports versioning and audit capabilities. • Dynamic Data Source integration and loading, supporting source input from databases, excel/csv, with adapters built for common ERP, CRM and HRIS systems	• Requires modification to business processes and/or software to align to ODE's needs for SSF • Does not natively support integration into financial payment systems
Grants Management	2	• Workflow-enabled with business rules management and high degree of customization • Supports audit capabilities for financial systems • Supports financial system integration	• Mainly driven by grantee-initiated application process • Requires modification to business processes and/or software to align to ODE's needs for SSF

An alternative to a pure COTS solution is to develop an integrated solution where best-of-breed components (e.g. Business Rules engine, workflow engine, etc.) are leveraged behind the scenes and a custom application is built to facilitate the integration of capabilities provided by the components to accommodate the SSF business processes.

An additional 90-120 day recommendation is to investigate the Microsoft technology stack to assess feasibility of leveraging tools (e.g. Power BI, Power Query, etc.) which may fulfill a considerable set of functional and Mission Critical application requirements. There may also be cost benefits based on ODE's current Office 365 licensing agreement.

External Build Benchmarking Summary

ITRG completed some primary research by utilizing a seasoned group of expert software developers (SME's) to help establish a rough order of magnitude for an externally developed new SSF application:

- Limited scope provided primarily focused on functionality categories (Counts and Units of Measure) and high-level future state requirements
- Completed a SME review discussion to add additional color/context
- SME estimate included full SDLC lifecycle (including post-deployment hyper care).

Estimating Expert	Estimated Cost Range	Degree of Certainty	External Team Size (dependent on project phase)	Estimated Duration
#1	$3,300,000	+/- 30% ($2.3M to $4.3M)	5-9 FTE	~ 1 to 1.25 years
#2	$1,400,000	+25% to 40% ($1.8M to $2M)	4-8 FTE	~ 9 to 12 months
#3	$3,500,000	+/- 25% ($2.7M to $4.4M)	7-9 FTE	~ 1 to 1.25 years
Average	**$2,700,000**	**$2.3M to $3.6M**	**4 to 9 FTE's**	**9 months to 1.25 years**

The industry expert estimates were based a set of smaller custom-development providers (10-50 person development company) would price this type of project. It is very possible that depending on the type of external vendors chosen (e.g. a larger development company) these estimates could be higher.

A second benchmark is a current ITRG client who is approximately 50% complete with a state school funds system project:

Consideration	Details
Technologies	• Leveraging Microsoft development stack (.Net) and Azure platform • Integration of productized business rules engine component

Staffing	• 9-14 FTE
	  ○ Project Manager (1 FTE)
	  ○ Architect (1 FTE)
	  ○ Business Analysts (3-4 FTE)
	  ○ Developers (2-4 FTE)*
	  ○ QA Analysts (2-4 FTE)
	  ○ Business UAT (1 FTE)
	** There is an existing pool of development resources to pull from*

Budget	• Development: $6M (potential range is estimated at $3-$7M to apply within ODE's scope and context) • On-going support: $100K annual estimate
Challenges	• High demand for UAT resources, who are business users of the School Funding processes. The demand for UAT resourcing bleeds into blackout periods, where resources are required to facilitate time-sensitive processes within the existing system/processes that competes with UAT testing priorities/availability. A mitigation for ODE is to increase coordinator institutional knowledge and capacity ahead of the project • High turnover experienced in QA and BA roles

It should be noted that this state may have less/more sophisticated state school funding requirements compared to ODE. The project's scope, approach, solutioning, and timeline will also be different for ODE. This estimate was not intended to be a direct comparison against ODE's SSF scope/investment. Both benchmarking estimates can be used as an ODE input into the project's funding request.

Alternatives Scoring Summary

		Raw Scoring			Scored Alternatives		
Criteria	**Criteria Weight**	**Alt 1 (IN/IN)**	**Alt 2 (OUT/IN)**	**Alt 3 (OUT/OUT)**	**Alt 1 (IN/IN)**	**Alt 2 (OUT/IN)**	**Alt 3 (OUT/OUT)**
Alignment with Business Strategy & Needs	**30%**	5	5	5	1.5	1.5	1.5
Risk and Complexity	**15%**	5	3	1	0.75	0.45	0.15
Industry Alignment & Future Proof	**20%**	4	5	5	0.8	1	1
Change Impact	**15%**	5	3	1	0.75	0.45	0.15
Investment	**20%**	5	3	1	1	0.6	0.2
Total					**4.8**	**4**	**3**

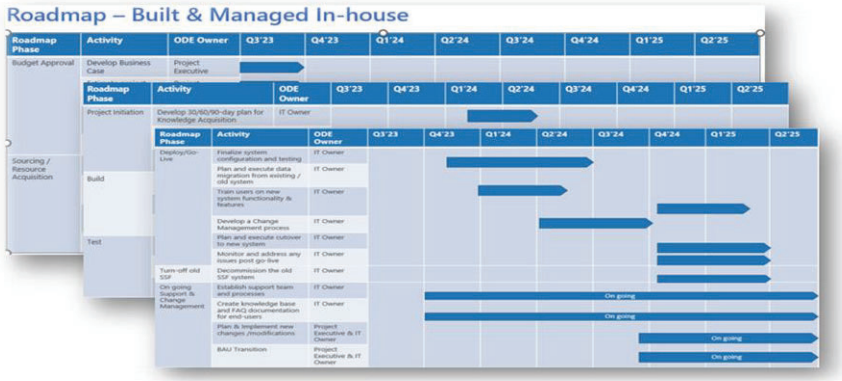
Recommendation Roadmap for Recommended Alternative

- Timeline:

Approvals: 3-6 months (Q3 to Q4 2023)

Sourcing: 3 - 6 months (Q1 to Q2 2024)

Build & Transition: 18 months (Q3 2024 to Q4 2025) +/- 25%



Note: - A Detailed Roadmap will be shared as a separate deliverable

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ODE

Best Value Analysis Process for ITRAS Benchmarking Subscription Services:
State School Fund Modernization Assessment

Current State Assessment

April 26, 2023

Table of Contents

Executive Summary

Executive Summary

* NOTE:
  - The SSF Application would be considered a Mission Critical Application (essential to business operations) with High Business Value
  - ITRG's SSF's Application Assessment Business Value definition is specifically on the application's visibility and criticality from an end user business functional perspective

Application Operational Take-Aways

- The SSF application fulfills a broad variety of core processing and offline analytics and modeling
- The SSF application requires a high level of experience and discretion to establish and maintain the Preliminary, Estimate, and Actual SSF models (managing multiple years, conservative estimating, specific-SD level knowledge, and reserve "release" timing, etc.)
- Financial estimate inputs provided from the SD's (data owners) have to be manually reviewed and approved to ensure accuracy. SD financial estimate owners have a varied level of experience/financial knowledge which makes the quality of their submissions less than ideal (currently at a "quality ceiling" even with additional training, etc.)
- Proposed and enacted Legislative changes requires offline expert-level financial impact modelling and rapid turn-around timeframes. Many legislative changes that impact SSF are absorbed in the current operational structure vs. receiving incremental funding for testing and deployment

Application Assessment Framework Summary*

Business Health:

- The dependency on the SSF coordinator to ensure operation of the applications functionality is high-risk to overall business continuity
- The application lacks a general separation of concerns and implementation of automated auditing and compliance functions, which increases the manual effort required to support systematic audits and error investigation
- The scope of manual efforts required to perform SSF data validation and calculations are prone to user error, introducing risk to SSF accuracy and overall business continuity

Technical Health

- Lack of record-level transaction logging, audit history, and overall traceability can result in difficulty in tracking changes made to the system and identifying potential security risks. This could lead to compliance / audit issues
- Improved documentation on error handling processes and bug fixes are necessary to ensure better support for the system, making maintenance and issue resolution more efficient
- The lack of documentation and training materials for the IT team leads to knowledge largely built on experience from resolving urgent issues

Application Assessment Framework

Application Assessment Framework

Ph 1- Current State Assessment

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Application Assessment Framework ratings against specific indicators across two primary perspectives

- **Business Health (BH)** – The ability to support the business
- **Technical Health (TH)** – The ease of providing operational support for the application and the quality of the underlying architecture/technology

Description	Indicator
Business Health	
Assess the application's ability to support the business and the perceived role of the application in supporting the future business	• Business Value • Business Process Support • Risk Management • Data and Information Quality/ Timeliness • Business Robustness
Technical Health	
Operational - The ability to provide operational support for the application	• Change & Release Management • Supportability (Incident & Problem Management) • Skills Availability & Support Costs • Reliance on Subject Matter Experts
Architecture - The underlying technology and architecture	• Enterprise Architecture • Technical Debt and Maintenance • Extendibility & Security • Capabilities & Technical dependencies • Complexity

Application Assessment – Business Health Summary

Ph 1- Current State Assessment

Indicator	Description	SSF Rating
Business Value *	Business value indicates the visibility and criticality of the application from a customer and executive management perspective. Further, if the application supports customer users, then shortcomings in business function, ease of use or response time can lower customer satisfaction and — over time — diminish customer loyalty	2 (Fair)
Business Process Support	Business process support indicates how well the application supports the required business processes and functional requirements from a user perspective. It reflects the application's productivity (of employee or customer users), vitality (high-value, complex business processes are well supported), and correctness (error rates are low and the application generates the desired result without overrides and manual intervention)	2 (Fair)
Risk Management	Risk management is an indicator of an application's risk level, factoring three main risk categories: 1) Operational Risk; 2) Financial Risk; and 3) Compliance Risk	1 (Poor)
Data and Information Quality/Timeliness	Data and information quality/timeliness indicators consider three aspects of data and information: 1) integrity of data management and transformation; 2) quality and utility of data presentation (including user interfaces, data access mechanisms — such as searches — and reporting); and 3) whether data and information is available to employees or customers when they need it	1.5 (Poor/Fair)
Robustness	Robustness is a trending indicator of how well an application is performing from an end-user and customer perspective. Technically, robustness is the degree to which an application can function correctly in the presence of invalid inputs (and stressful conditions, such as high-transaction volume or congested activity). Decreasing robustness can indicate scalability issues and underlying problems with business process design, poorly configured application parameters or database quality	1 (Poor)

* NOTE:

- The SSF Application would be considered a Mission Critical Application (essential to business operations) with High Business Value
- ITRG's SSF's Application Assessment Business Value definition is specifically on the application's visibility and criticality from an end user business functional perspective

Application Assessment – Technical Health Summary

Ph 1- Current State Assessment

Indicator	Category	Description	SSF Rating
Capabilities & Technical dependencies	Architecture	The application executes efficiently, and the quality of execution is within accepted standards. Specific indicators are optimal execution time, average error rate, average time and cost of stoppage, efficient use of network resources, middleware and operational infrastructure	2 (Fair)
Complexity	Architecture	Complexity measures difficulty in managing or supporting an application. Overly complex applications limit the user's ability to fully exploit the functionality, to change or enhance the application or to diagnose and resolve issues	2 (Fair)
Enterprise Architecture	Architecture	Data and information quality/timeliness indicators consider three aspects of data and information: 1) integrity of data management and transformation; 2) quality and utility of data presentation (including user interfaces, data access mechanisms — such as searches — and reporting); and 3) whether data and information is available to employees or customers when they need it	1 (Poor)
Technical Debt & Maintenance	Architecture	Technical Debt and Maintenance is a trending indicator of how the accumulation of inefficient code or system design decisions can result in costly maintenance and development issues in the future. It can negatively impact the performance, reliability, and scalability of a system, as well as increase the cost and effort required to maintain and update it.	1 (Poor)
Extendibility & Security	Architecture	The design, construction, integration and implementation of the application ease changes including: • Addition of business functionality, Growth in number of users or volume of data, Addition, deletion or modification of interfaces and integration to/from other applications, Adaptation to infrastructure changes, Collaborative interaction with external applications or services, Evolution to new development languages/methods	1 (Poor)
Change & Release Management	Operational	The maintenance change factor is an indicator of the frequency and the magnitude of change the application undergoes on an annual basis. Note that a high change frequency may indicate shortcomings in the functionality or stability of the application, as well as weak change control methods	1 (Poor)
Supportability (Incident & Problem Management)	Operational	Supportability indicators include application characteristics that enable or prevent rapid response to problems or requests. The indicators include Time to enhance the application, the scalability of the application, the sensitivity of the application, the effort required to integrate this application with another process or system, the difficulty and reliability of testing the application processes and software	1 (Poor)
Skills Availability & Support Costs	Operational	Availability and cost of support skills indicators include the availability of people with required skills, training requirements, average salary of required skills and ability to recruit	1 (Poor)
Reliance on Subject Matter Experts	Operational	The subject matter expert (SME) reliance indicator measures how dependent an application is on a single person (or very small group) for maintenance and enhancement of the application. Both business and technical SMEs are evaluated in this rating	1 (Poor)

Application Assessment – Business Health

Ph 1- Current State Assessment

Indicator	Observations	Assessment	SSF Rating
Business Value	• The SSF application is considered critical to the financial operations of the ODE and its school districts as calculation output affects the fund distribution • The tooling implemented to support data analysis and funding calculations does not align with industry best-practices for supporting mission critical data-driven applications	• Lack of alignment with industry best-practices can result in increased risk to compliance, fund distribution accuracy and overall business continuity, which can compromise the value provided by the application	2 (Fair)
Business Process Support	• Current SSF implementation is a collection of end-user developed and managed MS Office documents (Access, Excel) • The SSF application functions are not managed or supported by IT • Current SSF implementation works to support the SSF processes, however the implementation is not considered to be sustainable • SSF Process fulfillment supported by 1.5 FTE	• Lack of automation results in high levels of manual effort required to import and validate data, which increases risk to timing and accuracy fund distribution • The scope of manual efforts required to perform SSF imports and calculations are prone to user error, introducing risk to SSF accuracy and overall business continuity	2 (Fair)
Risk Management	• The SSF application lacks alignment with IT change management controls and relies on business users to manage file redundancy for audit and traceability • Current implementation contains high-risk dependency on SSF coordinator's institutional knowledge to sustain operation	• The application contains sparse segregation of duties and implementation of automated auditing and compliance functions, which increases the manual effort required to support systematic audits error investigation • The dependency on the SSF coordinator to ensure operation of the applications functionality is high-risk to overall business continuity • The manual nature of maintaining the application is prone to user error, increasing risk of potential data-loss, risk to data-integrity, and potential errors in fund distribution	1 (Poor)
Data and Information Quality/Timeliness	• The SSF application relies on data from external sources to perform funding distribution calculations • School districts are considered data owners of their respective district data	• Data integration processes into SSF are manually executed and verified by applications end-users, resulting in increased data preparation time and risk to data integrity • External data source information is not always on available on time which affects execution windows, resulting in additional manual reconciliation	1.5 (Poor/Fair)
Robustness	• Functionality in the current implementation of the SSF application is managed by business end-users • The implementation of the SSF application is not aligned strategically aligned to IT investments	• End-User management of the application makes scaling functionality and user base a challenge as a result of limited systems development expertise within the end-user group. This can lead to solutions that are misaligned with overall IT strategy • Legislature changes do not always provide the lead time required to complete changes within the current implementation and support structure	1 (Poor)

Application Technical Health Assessment - Architecture

Ph 1- Current State Assessment

Indicator	Observations	Assessment	SSF Rating
Enterprise Architecture	• The SSF application is an end-user managed collection of Office documents, consisting of an Access Database and Excel • The IT team does not manage the functionality of the SSF application • The current implementation lacks record-level transaction logging, audit history, and overall traceability • There is no Disaster Recovery & Backup strategy or Business Continuity Plan (BCP) in place for the SSF application • There is no clear architectural roadmap for new development or enhancements for the SSF application	• Lack of record-level transaction logging, audit history, and overall traceability can result in difficulty in tracking changes made to the system and identifying potential security risks. This could lead to compliance / audit issues • Absence of a Disaster Recovery & Backup strategy, Business Continuity Plan (BCP) can leave the system vulnerable to data loss and business disruption in the event of a disaster • Lack of a clear architectural roadmap and standards for SSF application, future enhancements could result into inefficiencies, harder to maintain and update, as the application and its data continues to grow bigger	1 (Poor)
Technical Debt & Maintenance	• Vendor supports the underlying technologies of MS SQL Server, MS Excel, and MS Access • However, the SSF application is managed by the application owner for the past 17 years, with the support of another ODE staff member (1.5 FTEs) • The same team handles all aspects of the system, including calculations, updates, and maintenance • There is no established knowledge base of all historical issues and resolutions	• Lack of established SLAs for resolution during emergencies or urgent issues, despite the system's criticality to the business, could lead to delays and impact operations • Without adequate testing tools and environments, this application is at a higher risk of undetected issues that could impact performance and stability • Improved documentation on error handling processes and bug fixes are necessary to ensure better support for the system, making maintenance and issue resolution more efficient	1 (Poor)

Application Technical Health Assessment - Architecture

Ph 1- Current State Assessment

Indicator	Observations	Assessment	SSF Rating
Extendibility & Security	• Inadequate documentation and integration testing • Lack of formalized security architecture • No clear process in place for deleting historical data and performing data archival	• Risk of errors and data inaccuracies can cause business disruptions and decreased productivity • Migrating and archiving data are critical for analyzing historical trends and reporting purposes	1 (Poor)
Capabilities & Technical dependencies	• The SSF application meets the organization's current needs • Application relies on MS Excel & MS Access for calculations, payments, and distributions • Business users use MS Access and MS Excel as a front-end for viewing computed data and generating high level payment reports	• Using standalone desktop applications to manage a critical application that handles $13 billion in funding distributions and payments can pose significant risks in terms of complexity and security and may not align with long term goals	2 (Fair)
Complexity	• Data from various sources is extracted and saved into MS SQL Server • The data is then imported into MS Excel for payment and funding distribution calculations	• The multiple checkpoints in the process make it difficult to manage updates and track changes, which can result in delays and decreased productivity • Complexity increases costs and reduces efficiency	2 (Fair)

Application Technical Health Assessment – Operational

Ph 1- Current State Assessment

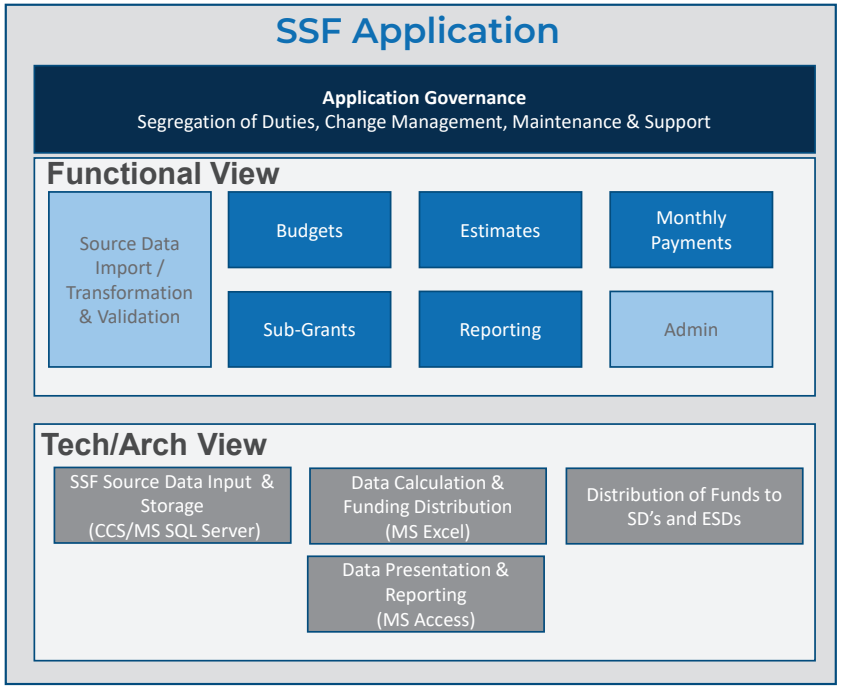
Indicator	Observations	Assessment	SSF Rating
Change & Release Management	• The original developers who built the application are no longer with the organization • The changes made to the application were done without following a structural change management process • There is no established knowledge management process or documentation of the application's functionality	• The absence of original developers increases the complexity of the application, making it challenging for current staff to manage updates, track changes, and provide efficient service • Establishing a knowledge transfer plan and documenting key aspects of the application's functionality are necessary to maintain and update the application effectively • The lack of change management practices could lead to undocumented changes that cause issues and disrupt the system	1 (Poor)
Supportability (Incident & Problem Management)	• The SSF application is managed by business function application owners • IT team provides support based on experience, but support scope excludes Excel and MS Access calculations without any defined SLAs for resolution • IT team has no control over application management • Responsibility for managing MS Access and Excel, including data backups and versioning, is in-house • The application has no source control system	• IT team support scope is limited to areas outside of Excel and MS Access calculations • The lack of documentation and training materials for the IT team leads to knowledge largely built on experience from resolving urgent issues • The absence of SLAs may result in inconsistencies in the level of support provided • The absence of a source control system and manual duplication of historical file versions limit visibility into change history, increasing the risk of errors or inconsistencies	1 (Poor)

Application Technical Health Assessment – Operational

Ph 1- Current State Assessment

Indicator	Observations	Assessment	SSF Rating
Skills Availability & Support Costs	• The SSF application is nearly 20 years old, making it challenging to manage enhancements • The original developers are no longer with the organization, making it difficult to understand the system's complexity and modernize it • Hiring developers with the necessary experience is expensive due to pay scale matching • IT team support for the SSF system does not incur additional costs	• The age of the SSF application makes it difficult to manage enhancements, potentially leading to increased maintenance costs • Understanding issues with the SSF application takes longer due to its complexity, leading to indirect costs due to the extra time spent before finding solutions • The IT team's support of the SSF system without additional costs is beneficial, but longer resolution times for issues due to the system's complexity could impact productivity	1(Poor)
Reliance on Subject Matter Experts	• The SSF application is operationally executed by only 1.5 FTEs, with occasional assistance from the in-house IT team • SSF application heavily relies on the knowledge and expertise of a few individuals	• When only one person is responsible for maintaining and updating the application, and there are no backups or resources available to take over if needed, it can result in a single point of failure. This can be a significant risk to the application's maintenance and issue resolution • There is a lack of formalized knowledge capture and documentation processes, which increases the risk of losing critical institutional knowledge	1 (Poor)

Application Assessment Summary - Future State Considerations



DRAFT- Future State Application Guiding Principles

1. **Create a more Robust Application:** Improve how the application is architected to ensure improved data management (data reviews and acceptance/segregation of duties, archiving, auditability, and a wide variety of scenario modeling) and ability for online processing/analysis (vs. relying on Excel) where possible.
2. **Improve Transparency:** Develop means and methods to improve internal controls and workflows/approvals and increase end-to-end process transaction level change transparency/auditability (sources to reports) to reduce time spent researching/documenting/trouble-shooting the application
3. **Automate based on ROI:** Decouple key application functions to only invest in automation that will improve efficiency and increase model accuracy. Structural challenges (e.g. SD financial forecast reconciliations will remain problematic).
4. **Broaden Institutional Knowledge of application processing**: Develop holistic view of how the organization supports all business needs and establish more resource capacity and redundancy to support application operations.

DRAFT- Future State Application Considerations

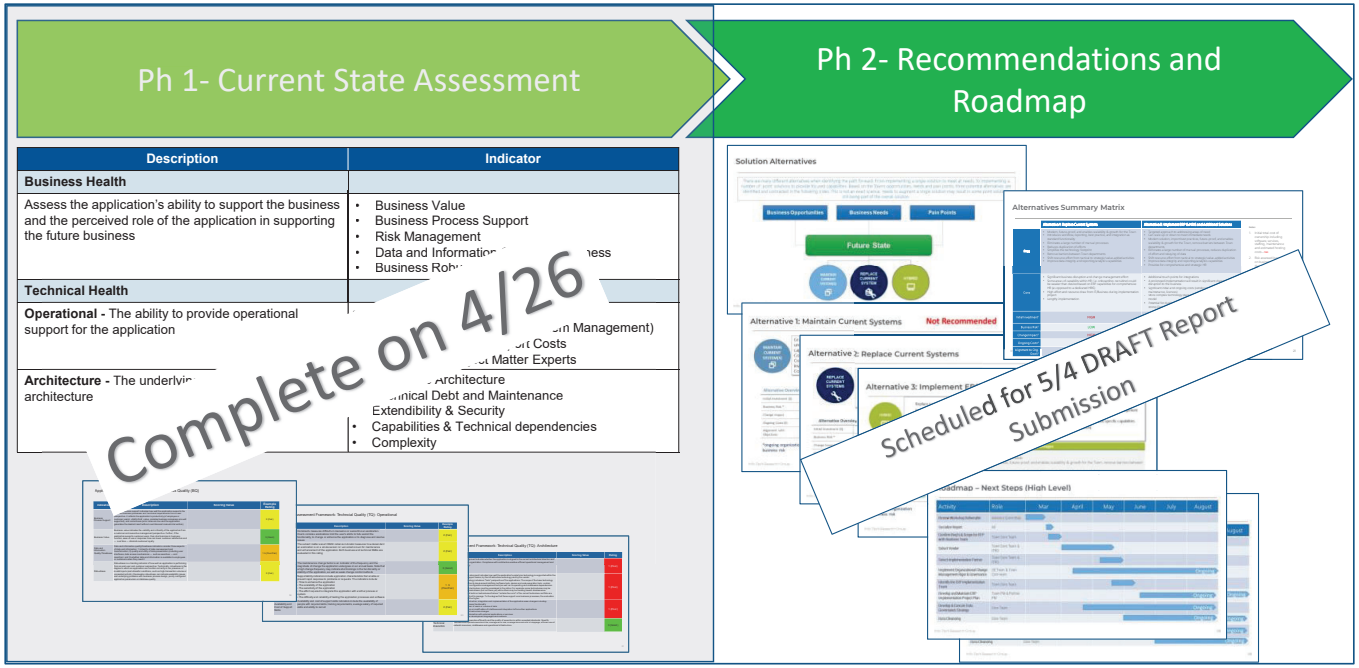
Functional/Business:

1. Transition to Enterprise Managed Application with audit and traceability capabilities to manage Operational & Compliance risk
2. Implement business rule and dependency management to centralize processing logic and reduce risk of institutional knowledge loss
3. Align application to IT Change Management processes to enhance visibility and traceability into functional changes and improve auditability

Tech/Arch:

1. Update technical solution to comply with modern architectural, development and security standards to improve IT and business strategy alignment, scalability and overall supportability
2. Automate data imports and transformation into SSF to reduce resource time and risk associated with manual import. Automation may not solve data quality issues resulting from district data input
3. Implement record-level transactional auditing and data archival processes to manage redundancy and reduce dependency on manual effort

Next Steps



- Continue vendor landscape review (functionally similar COTS applications, etc.)
- Prepare for 5/1 Future State Alternatives and Alternatives Scoring Session (alternative scoping and alignment on alternative score weighting)
- Review Draft Report on 5/4 with team

Appendix

Alternative 2: Replace Current Systems

REPLACE CURRENT SYSTEMS

Example

Replace * ns with an ERP that features strong Financial Management, Inventory and Procurement Mana & payroll capabilities and extensibility into workforce & talent management. Consider Asset Ma on if ERP does not provide the necessary Asset Maintenance capabilities as a future component.

new and improved processes to align with system changes and new capabilities. (transformation)

Alternative Overview

Initial Investment ($)	HIGH
Business Risk *	LOW
Change Impact	HIGH
Ongoing Costs ($)	MED
Alignment with Objectives	VERY HIGH

*ongoing organization business risk

Advantages

- Modern, future-proof, and enables scalability & growth for the Town
- Introduces workflow, reporting, best practice, and integration as standard functionality
- Eliminates a large number of manual processes
- Reduces duplication of efforts
- Simplifies the technology footprint
- Remove barriers between Town departments
- Shift resource effort from tactical to strategic/value-added activities
- Improve data integrity and reporting/analytics capabilities

Disadvantages

- Significant business disruption and change management effort
- Some areas of capability within HR (i.e. onboarding, recruiting) could be weaker than desired based on ERP capabilities for comprehensive HR (as opposed to a dedicated HRIS)
- High effort and resource draw from IT/Business during implementation project.
- Lengthy implementation

Alternatives Assessment Framework

Example

Ph 2- Recommendations and Roadmap

Weightage (%) of Prioritization Criteria

Alignment with Business needs

40%

Meet your business needs, with an acceptable functional fit by each platform. Alignment with Advisory Committee's Guiding principles including Peel's Advancing Digital Service Delivery Strategy

Risk & Complexity

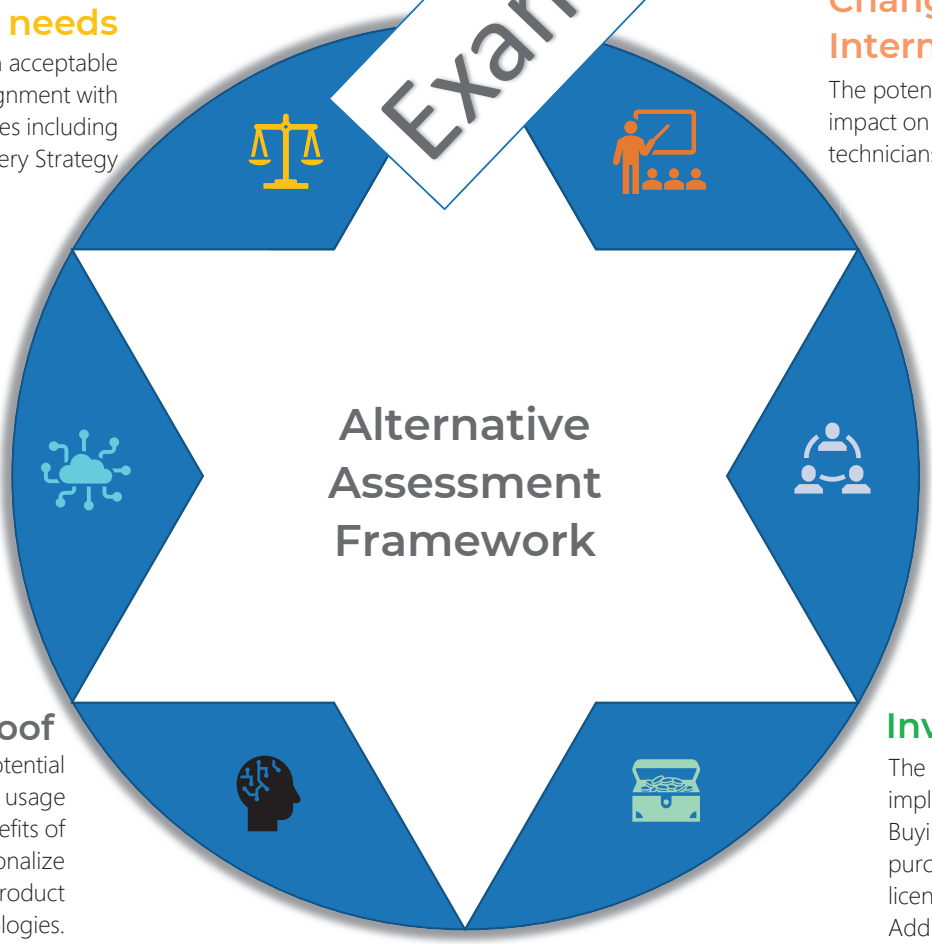
25%

Integrations complexity in the target application map of each alternative i.e., number of integrations, number of data points, integration technologies, out of box connectors. Also, degree of technical risk and technical debt (business and technical support) added to the Corporate IT and Ops Support teams to ensure the technical fit of the platform.

Industry Alignment & Future Proof

15%

What is the degree to which the potential alternative is aligned with the public sector usage of these platforms. What are the benefits of expanding the platform in order to rationalize other asset management capabilities? Product Roadmap of modern technologies.



Change Impact - Internal

10%

The potential alternative's level of change impact on internal staff such as field technicians, Ops Support, etc.

Change Impact – External

5%

The potential alternative's level of change impact on external parties such as residents, contractors, etc.

Investment

5%

The level of investment would be required to implement the suggested alternate solution. Buying additional modules if not already purchased; impact on purchasing more licenses for staff in ESRI versus Maximo; Additional Integrations licensing requirements.

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Best Value Analysis Process for ITRAS Benchmarking Subscription Services:
State School Fund Modernization Assessment

Final Report

May 4, 2023

Alternatives Evaluation & Scoring

Alternatives Assessment Framework- Scoring Criteria and Weighting

Alignment with Business Strategy & Needs

30%

Future State SSF application meets business needs to best support the achievement of ODE's and the State's long-term goals and purpose (Governor's Strategic Plan & IRM). Provide effective functional and operational fit.

Risk & Complexity

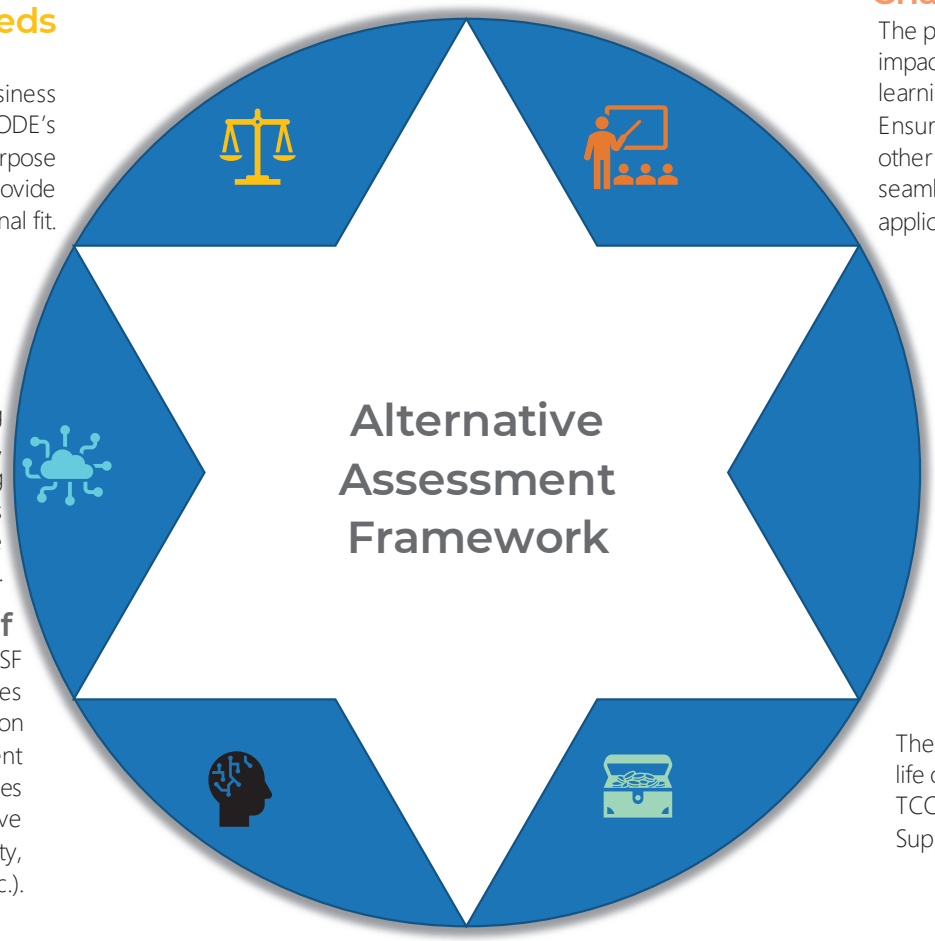
15%

Spans a variety of Risks to include forecasting accuracy, functional/operational risk, execution risk, contractual risk, and on-going support/management risk and proper controls to manage complexity across the organization.

Industry Alignment & Future Proof

20%

Improved alignment between future SSF Guiding Principles and ODE's IT services /systems management requirements (Mission Critical System). Future State SSF alignment with key technology and architecture principles that enable future changes in a cost effective manner (maintainability, testability, extensibility, upgradability, adaptability, etc.).



Change Impact

The potential alternative's level of change impact on internal teams (including the learning curve to full productivity). Ensure minimal impact to SD's, ESD's an other SSF application stakeholders with a seamless transition to the new SSF application

15%

Investment

The level of investment required over the life of the new SSF Application from a TCO perspective (Build and Support/Manage).

20%

Alternatives Evaluation

Weightage	Criteria	Alt 1 (IN/IN)	Alt 2 (OUT/IN)	Alt 3 (OUT/OUT)	Measures
30%	Alignment with Business Strategy & Needs	• 5 • Brand new application to be built-to-suit • The new SSF application build will be strategically aligned	• 5 • Brand new application to be built-to-suit • Business involvement through development process	• 5 • Brand new application to be built-to-suit	• Scale – 1 to 5 • High: depicts that it meets most of the needs, • Medium: means that it is meeting some business needs, and • Low: means that it is meeting very few business needs.
20%	Industry Alignment & Future Proof	• 4 • Potentially lower future proofing based on the ability to hire / acquire talented technology skills	• 5 • Potential to higher future proofing due to access to global talent pool & technical expertise	• 5 • Potential to higher future proofing due to access to global talent pool & technical expertise	• Scale – 1 to 5 • 5 equates to highest industry alignment and future Proofing • All scores lower are decremented based on the same criteria

Alternatives Evaluation

Weightage	Criteria	Alt 1 (IN/IN)	Alt 2 (OUT/IN)	Alt 3 (OUT/OUT)	Measures
15%	Risk and Complexity	• 5 • Lowest risk • Single integrated business, development & support team • No potential commercial liability/ contractual risks • Lower complexity based on no organizational effort to accelerate 3rd party learning curve • No hand offs between outsourced provider & ODE • Additional new resources can learn the application and increase overall ODE institutional knowledge over time	• 3 • Incorporating a vendor to build the application adds complexity and risk for in-house support and management after transition	• 1 • Including a vendor supporting and managing the application increases the complexity and risk based on service level performance	• Scale – 1 to 5 • Spans a variety of Risks to include forecasting accuracy, functional/ operational risk, execution risk, contractual risk, and on-going support/management risk and proper controls to manage complexity across the organization
20%	Investment	• 5 • This is the cheapest long-term TCO based on Support/ Manage costs • New SSF application has the potential to leverage existing resource capacity that reduces incremental support & manage costs (above current state)	• 3 • Cheaper than Alt 3 • Extra effort to transition internal support/manage for any changes in future • ODE owns all future enhancements which requires ODE development capability	• 1 • Most expensive especially with 20 year Support/Manage activities (Potential for higher Dev costs, enhancements take longer/cost, etc.)	• Scale – 1 to 5 • Scored Highest to Lowest based on total TCO (Build and Support/Manage)

Alternatives Evaluation

Weightage	Criteria	Alt 1 (IN/IN)	Alt 2 (OUT/IN)	Alt 3 (OUT/OUT)	Measures
15%	Change Impact	• 5 • All Alternates are essentially equal with no planned External Change Impact • Lowest change impact to support and manage the system, resolve issues and ensure timely payments • Build development capacity inside of ODE	• 3 • Significant learning curve to educate vendor on SSF • Still requires ODE to develop build capability to Support/Manage the system over lifespan • Equal to Alternative 1 with regards to change impact to support and manage the system, resolve issues and ensure timely payments	• 1 • Significant learning curve to educate vendor on SSF for Build Support/Manage: • Issue identification is challenging • Push & pull-on accountability(ping pong effect on Issue Identification) • Dependency on vendor for urgent / immediate changes	• Scale – 1 to 5 • High • Med • Low

Alternatives Analysis – Scoring Summary

		Raw Scoring			Scored Alternatives		
Criteria	**Criteria Weight**	**Alt 1 (IN/IN)**	**Alt 2 (OUT/IN)**	**Alt 3 (OUT/OUT)**	**Alt 1 (IN/IN)**	**Alt 2 (OUT/IN)**	**Alt 3 (OUT/OUT)**
Alignment with Business Strategy & Needs	30%	5	5	5	1.5	1.5	1.5
Risk and Complexity	15%	5	3	1	0.75	0.45	0.15
Industry Alignment & Future Proof	20%	4	5	5	0.8	1	1
Change Impact	15%	5	3	1	0.75	0.45	0.15
Investment	20%	5	3	1	1	0.6	0.2
Total					**4.8**	**4**	**3**

Roadmap

Primary Research/Benchmarking Estimating

INFO~TECH RESEARCH GROUP

Ph 2- Recommendations and Roadmap

ITRG solicited input from a seasoned group of expert software developers to help establish a rough order of magnitude for an externally developed new SSF application:

- Limited scope provide focused on Functionality (counts and Units of Measure) and future state high-level requirements
- Completed a review discussion to add additional color/context
- Estimate included Full SDLC lifecycle including their recommended range for post-deployment hypercare
- SME's completed estimate

Estimating Expert	Estimated Cost Range	Degree of Certainty	Team Size (dependent on project phase)	Estimated Duration
#1	$3,300,000	+/- 30% ($2.3M to $4.3M)	5-9 FTE's	~ 1 to 1.25 years
#2	$1,400,000	+25% to 40% ($1.8M to $2M)	4-8 FTE's	~ 9 to 12 months
#3	$3,500,000	+/- 25% ($2.7M to $4.4M)	7-9 FTE's	~ 1 to 1.25 years
Average	**$2,700,000**	**$2.3M to $3.6M**	**4 to 9 FTE's**	**9 months to 1.25 years**

Rationale for Recommended Alternative

- The in-house alternative was selected due to its lower risk, lower change impact, and favorable total cost of ownership (TCO) when compared to other alternatives.

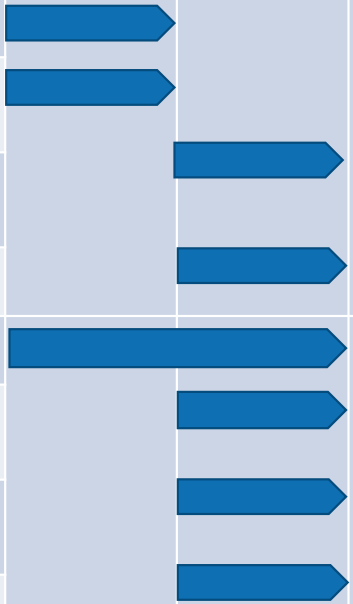
- An external review and examination of other state examples also support the in-house model.

- Future state requirements and technology decisions will be made during the development lifecycle, with a focus on incorporating best-of-breed modular technologies.

- The roadmap for the in-house alternative includes a 2.5-year time horizon that starts with funding approval and involves sourcing a new development team, completing development, and testing, and retiring the current system.

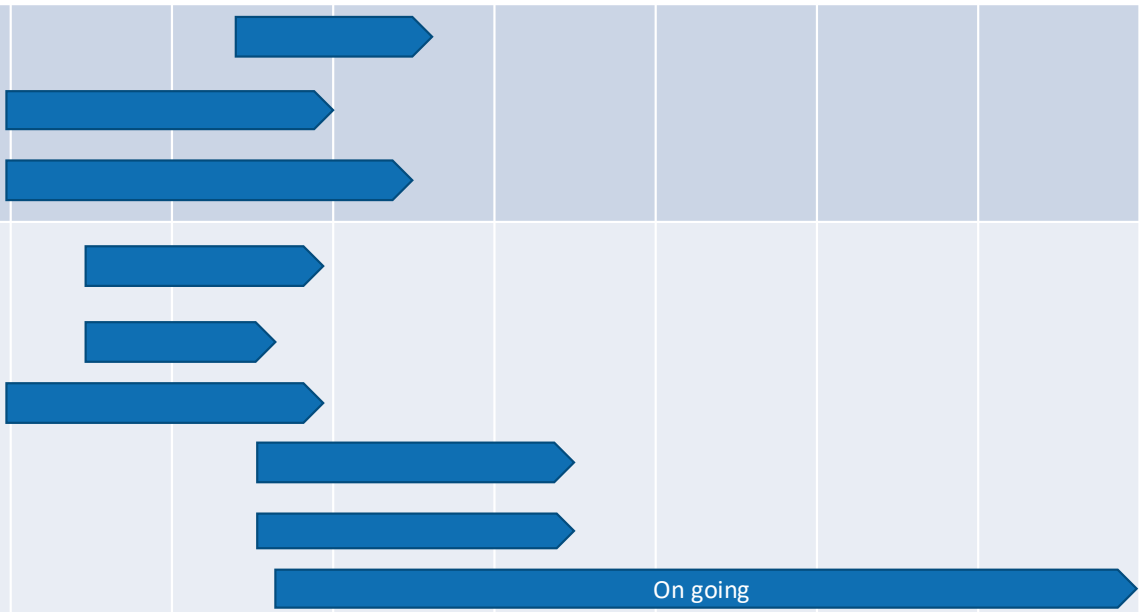
Roadmap – Built & Managed In-house

Roadmap Phase	Activity	ODE Owner	Q3'23	Q4'23	Q1'24	Q2'24	Q3'24	Q4'24	Q1'25	Q2'25
Budget Approval	Develop Business Case	Project Executive								
	Estimate project costs	Project Executive								
	Develop Budget Proposal	Project Executive								
	Complete Approvals	Project Executive								
Sourcing / Resource Acquisition	Requirements to 75%	Current Staff								
	Define key experience and skills for each role	IT Owner								
	Develop initial Job Description and Post Role	IT Owner								
	Interview, Offer, and Onboarding	IT Owner								



Roadmap – Built & Managed In-house

Roadmap Phase	Activity	ODE Owner	Q3'23	Q4'23	Q1'24	Q2'24	Q3'24	Q4'24	Q1'25	Q2'25
Project Initiation	Develop 30/60/90-day plan for Knowledge Acquisition	IT Owner								
	Requirements- Complete additional requirements	IT Owner								
	Solution Design- Complete top 5 Proof-of-concepts	IT Owner								
Build	Define project scope and requirements	IT Owner								
	Select and configure technology stack	IT Owner								
	Assemble resources and assign roles	IT Owner								
Test	Develop and test new system features & functionality	IT Owner								
	Conduct UAT, Identify and address any bugs /issues	IT Owner								
	Create user documentation / knowledge base	IT Owner								



Roadmap – Built & Managed In-house

Roadmap Phase	Activity	ODE Owner	Q3'23	Q4'23	Q1'24	Q2'24	Q3'24	Q4'24	Q1'25	Q2'25
Deploy/Go-Live	Finalize system configuration and testing	IT Owner								
	Plan and execute data migration from existing / old system	IT Owner								
	Train users on new system functionality & features	IT Owner								
	Develop a Change Management process	IT Owner								
	Plan and execute cutover to new system	IT Owner								
	Monitor and address any issues post go-live	IT Owner								
Turn-off old SSF	Decommission the old SSF system	IT Owner								
On going Support & Change Management	Establish support team and processes	IT Owner								
	Create knowledge base and FAQ documentation	IT Owner								
	Plan & Implement new changes /modifications	Project Executive & IT Owner								
	BAU Transition	Project Executive & IT Owner