



SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2024.** Please include this submission form with the electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).

PROGRAM INFORMATION

County: _____

Program Title: _____

Program Category: _____

CONTACT INFORMATION

Name: _____

Title: _____

Department: _____

Telephone: _____ Website: _____

Email: _____

SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: _____

Title: _____

Signature: _____

Chesterfield County (VA) End-to-End Land Development Process Improvement May 2023 – February 2024 2024 NACo Achievement Award Submission Chesterfield County Information Systems Technology (IST) Department

Abstract:

The Chesterfield County (VA) End-to-End Land Development Process Improvement document details the county's efforts from May 2023 to February 2024 to improve the land development approval process. The county faced challenges with long approval times for building permits, outdated workflows, and system inefficiencies. The Information Systems Technology (IST) department, in partnership with IT Cadre, completed a comprehensive value stream analysis and improvement initiative involving over 65 county experts from across a dozen or so county departments, resulting in 28 improvement recommendations. Key actions included expanding the Planning Case Manager role for better communication and efficiency, implementing a Land Development Pipeline Report for identifying bottlenecks, and conducting a staffing assessment to align resources effectively. These initiatives led to significant reductions in GIS backlog, average staff days for case processing, and plat recordation times, as well as a decrease in daily case rework volume. The county continues to pursue further improvements, including waste elimination and the integration of intelligent automation and generative AI to streamline processes, unlock insights, and enhance decision-making.

The Problem or Need for the Program:

The amount of time Chesterfield County citizens and developers must wait to get final approval and begin submitting building permits is too long. It does not meet the expectations of the customers nor is the elapsed time to navigate the end-to-end workflow consistent with regional peers' performance for like land development related services. The process is supported by multiple systems in GIS (ATLAS PALMS), Building Inspection and Planning (ELM) and Real Estate (CAMA) and associated integrations, some of which are managed by third party vendors. Recent investment in modernized platforms (ATLAS, CAMA and ELM) have introduced enhanced capabilities within each individual solution. However, the underlying, end-to-end workflow had not been effectively modified and optimized resulting in significant backlogs and case rework due to information omission, miscategorization or data entry error.

While Chesterfield County has made significant investment in upgrading land development and GIS platforms over the course of the last several years, process structures were not materially modified and optimized to take full advantage of new features and capabilities resulting in inefficient work flows, multiple customized integrations and manually administered scripts, and confusion amongst team members about responsibilities and accountabilities across the full extent of the land development value stream.

Description of the Program:

Near-term Actions Taken:

As a result of IST's analysis and IT Cadre's visualization techniques, county administration prioritized three main areas for the first round of value stream transformation support. The top three recommendations identified and addressed to date were the following:

- **Expand the Planning Case Manager Role** to improve visibility, efficiency, timely follow-up, and assure consistency and quality of communication with developers and constituents, as well as being the primary point of contact internally across county departments involved in the end-to-end land development value stream.
- **Implement a Land Development Pipeline Report** that establishes a robust reporting system to identify potential bottlenecks and facilitate resolutions. The intent is to generate on-going metrics to continually monitor and improve the end-to-end land development workflow process.

- **Assess Current Staffing** by performing a demand analysis and recommend resource alignment and staff augmentation to improve efficiency and responsiveness with particular focus on the critical path functions within Community Development, Real Estate Assessor’s Office, and Enterprise GIS.

Expand Planning Case Managers	Right-size the Teams	Develop Pipeline Report
<ul style="list-style-type: none"> • Desire to have end-to-end visibility of a project across all functions including GIS and Real Estate Assessor • Improve developer experience through increased responsiveness and project status awareness • Provide developer community with improved continuity through a single case manager point of contact 	<ul style="list-style-type: none"> • Adjust to the impact of cyclical demands while optimizing the efficiency of workflow across departments • Provide for better estimation of project execution timelines • Identify remediation strategies for validated process bottlenecks • More efficient pooling of county resources 	<ul style="list-style-type: none"> • Workload monitoring and measurement is insufficient and unsupported by current system-generated metrics. • Provide leadership with outcome based metrics to support decision making • Workload prioritization is undefined, and throughput is dependent upon staff experience, process synchronization, and external escalations to county leadership.

Chesterfield County and IT Cadre worked effectively throughout the three month improvement initiative to address these top three priority recommendations. The assessment and delivery stages applied Agile techniques involving several engagement sessions with county leadership, along with internal and external subject matter experts (SMEs); data analysis of system extracts from core operating platforms, primarily the enterprise land management (ELM), Real Estate Assessment (CAMA), and Geospatial Information System (ATLAS) platforms; Agile development design and development work; and multiple cross-functional walkthroughs of the land development process workflows to capture and document sources of waste and throughput delays. The resulting outcomes from these efforts:

- **Priority #1** - Development of an implementation strategy for expanding the Planning Case Manager role. This role enhancement addressed the expansion of responsibilities, enhanced interactions with other stakeholders, provided additional productivity tools that enabled streamlining of information flows, and recommended skills assessment and training in support of addressing robust expectations of constituents and stakeholders of the land development value stream. Ultimately, this expanded role has enabled expedited issue resolution, provided leadership greater visibility to project status and trending metrics, and improved responsiveness to developer queries.

The assessment action and approach taken to redefine the Planning Case Manager role is outlined below:

Expanded Planning Case Manager Position Description

Job Summary: The Planning Case Manager will serve as the primary point of contact for a specific group of Chesterfield County land development applicants. This responsibility will involve the monitoring of planning activities as well as recordation, GIS Updates, and Real Estate Assessor Updates up to the point where Building Inspections can issue building permits. The role requires outstanding communication and follow-up skills. The lead will need to work effectively with internal and external stakeholders and will be aware of project status and potential bottlenecks. This solution-oriented lead will assist developers/applicants in navigating the applicable processes and will facilitate escalations as required for issue resolution.

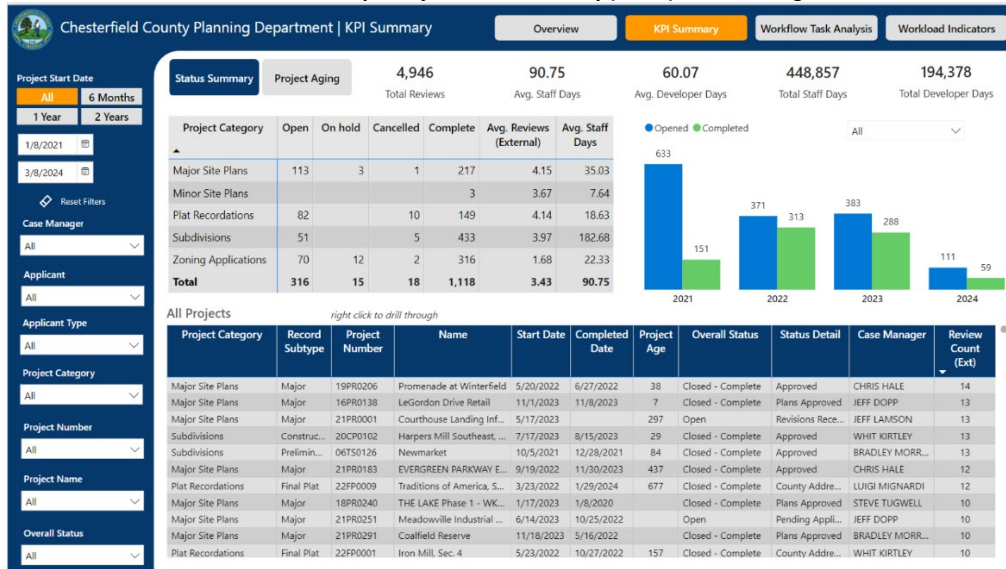
Responsibilities: The Planning Case Manager will coordinate with a subset of projects and the associated case managers and task owners. They will conduct periodic “stand-up” reviews with all responsible parties to ensure understanding of their project statuses and potential issues. They will make decisions on assignment and prioritization of work. They will closely monitor due dates, progress, and facilitate issue resolution (internal and external). They will act as the key liaison with external customers on all

development requests or concerns. They will leverage ELM reporting and data analytics to proactively monitor projects. Experiences will drive system and process improvements. They will act as an advisor and voice of reason to the developer's external roadblocks.

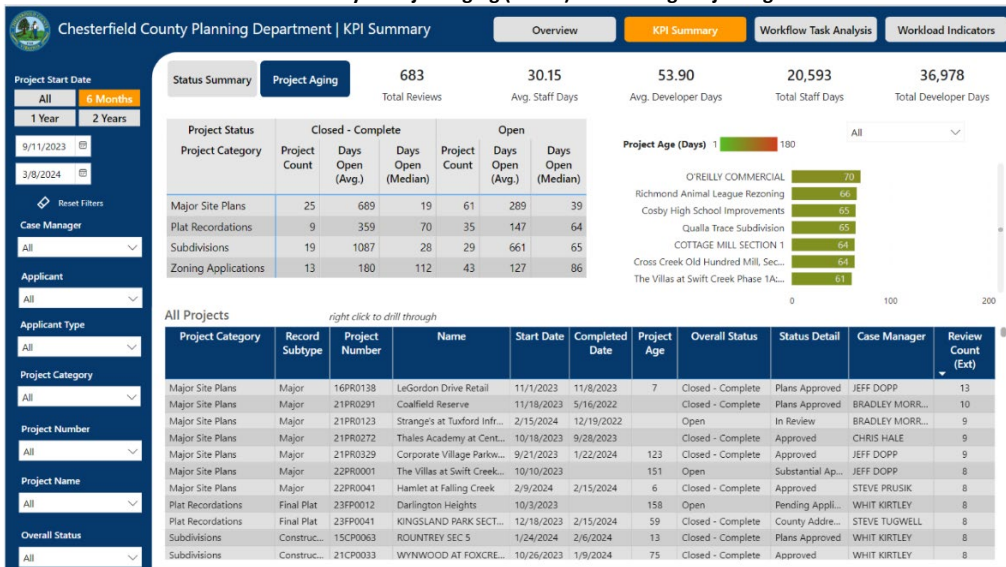
Desired Benefits: The following benefits will be recognized with the expansion of the Senior Case Manager Position:

1. Serve as a single point of contact that will update leadership on status and improve responsiveness to developer queries
 2. Achieve efficiencies gained through better end-to-end land development process visibility
 3. Reduction in information hand-offs and associated miscommunications across supporting county functions and departments
 4. Improve developer's experiences with Chesterfield County
- **Priority #2** - Creation of a land development pipeline dashboard to present planning workflow and backlog data based on five planning key performance indicators (KPI's). The dashboard was built by the county's IST Data & Analytics team applying agile development methods, intelligent automation, and leveraging Chesterfield County's Data Warehouse (StratIS) and Microsoft Power BI, supporting a vision for a value stream instrumented data repository with KPI's for all business groups, with particular benefit to leaders within the Community Development, GIS and Real Estate Assessor functions.

KPI Summary – Project Status Summary (Count) with Trending

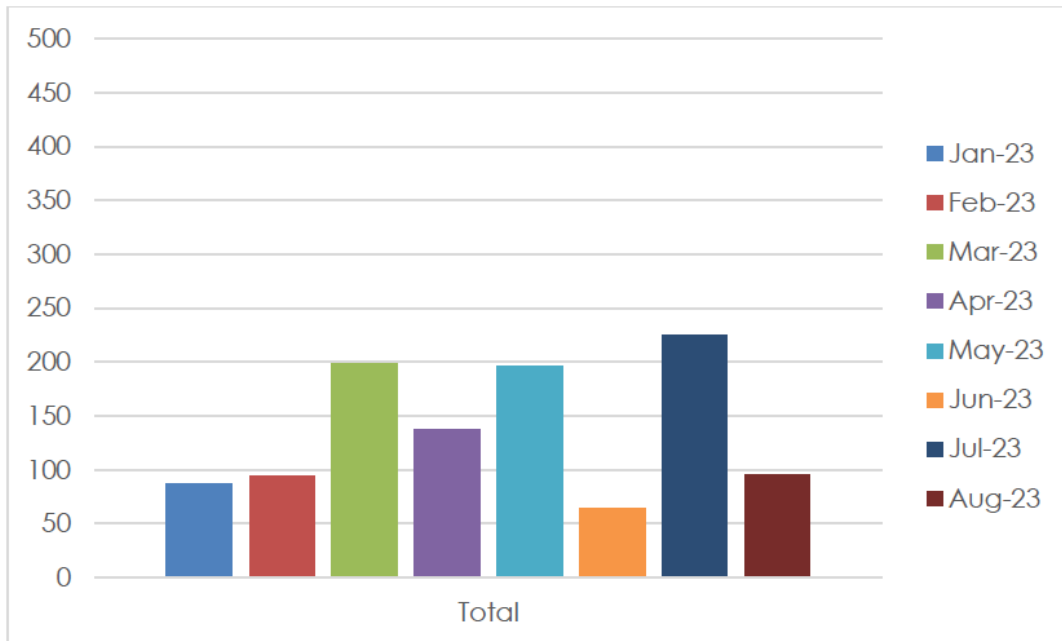
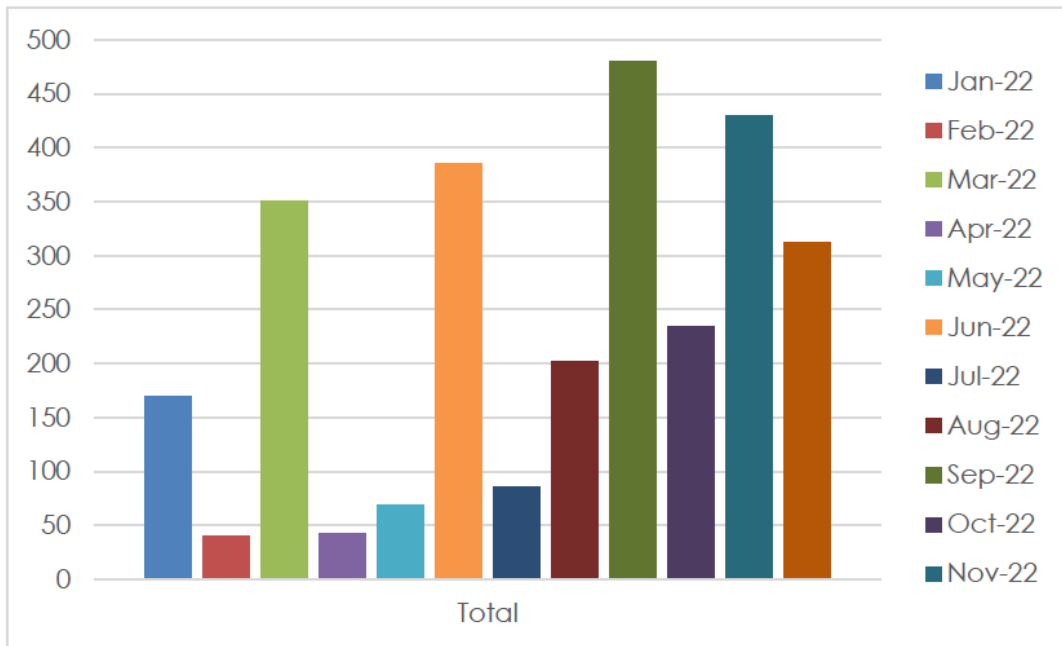


KPI Summary – Project Aging (Count) Descending Project Age

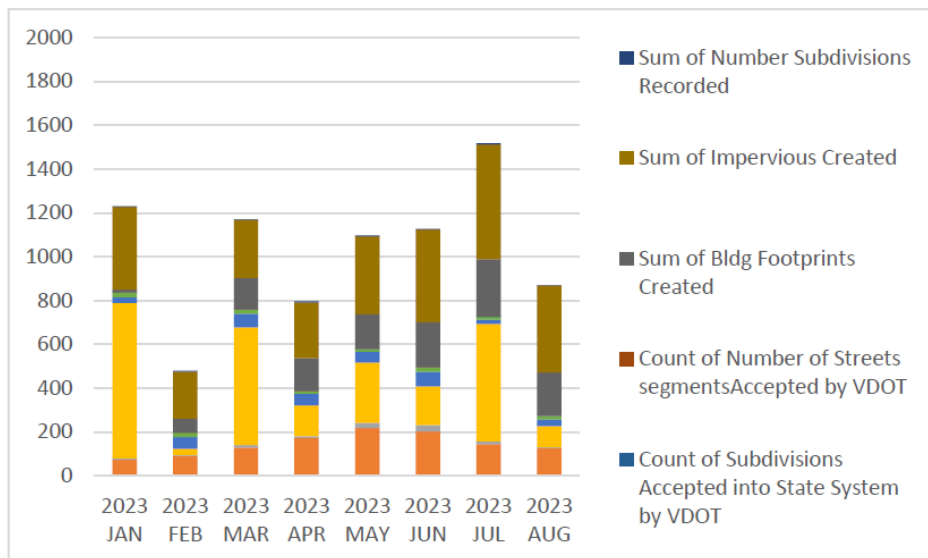
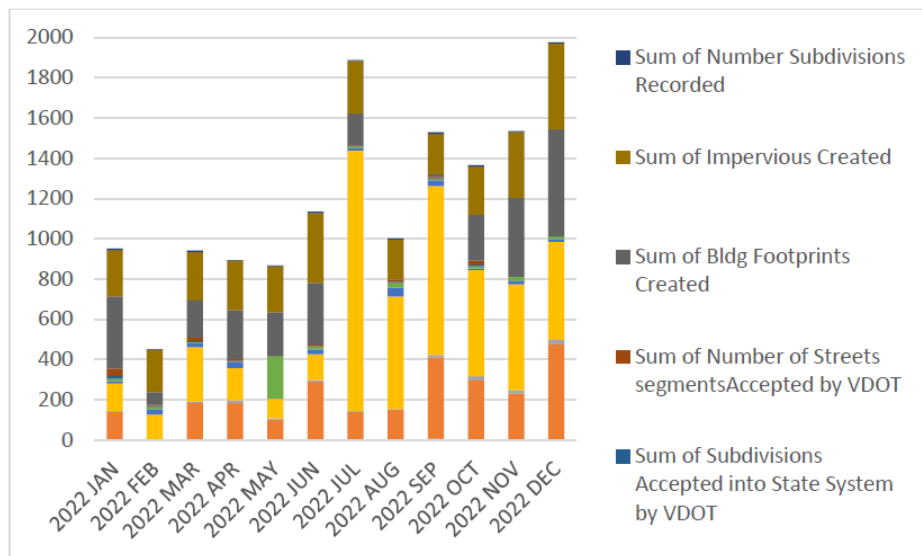


• **Priority #3** - Completion of an in depth demand analysis of the current state throughput of the Real Estate Assessor, GIS and Community Development Planning teams. This analysis resulted in the identification and actions taken to eliminate waste in the value stream, realign and improve placement of work, target staff augmentation to key areas of need based on persistent demand, and strategies for meeting both the business and technical platform administration needs of the enterprise support systems, ELM, CAMA and ATLAS GIS.

Monthly Real Estate Assessor Case Demand – 2022 and 2023



Monthly IST GIS Case Demand – 2022 and 2023



Based on the workflow demand analysis, the following actions are being undertaken:

- **Staff Augmentation:** Anecdotal evidence indicated that one additional GIS staff member would help to alleviate on-going demand and bottlenecks in the land development workflow.
- **Staff Realignment:** Moving the GIS Land Development business functions (parcel splits, addressing, GPIN and Tax ID assignments) and non-technical personnel to Community Development's Planning function to reduce number of case hand-offs and workflow bottlenecks.
- **Technical Support:** Along with supporting daily land development workflows, the IST-GIS team provides technical support for the ESRI-based enterprise GIS platform and a myriad of data integration scripts relied on to feed information to the ELM, CAMA and StratIS platforms. Given the level demand and diversity of skill sets, an additional platform administration resource was recommended to assure effective attention to Azure/ESRI platform technical support (patch maintenance, ETL management, etc.)
- **Root Cause Analysis:** An overabundance of high-priority manual intervention without adequate time for issue recordation and root cause analysis was identified throughout the land development value stream, producing several waste and repetitive, non-value adding step elimination opportunities in support of instantiating straight-through processing improvements.
- **Additional Efficiencies:** Impending enterprise GIS platform upgrade and transition to Microsoft Azure, to be completed in May 2024, is anticipated to help alleviate data movement performance and screen latency issues resulting in some additional efficiencies in workflow throughput.

Cost of the Program:

The financial cost for this process improvement initiative spanned from fiscal years 2023 into 2024 and totaled an aggregate outlay of \$250,000, which addressed the cost of engaging IT Cadre over two ninety-day sprint increments.

Results/Success:

Along with providing Chesterfield with the first fully detailed, end-to-end current state visualization and performance assessment of its complete land development process, a critical value stream for the county, the resulting actions taken to address the prioritized recommendations have already begun to produce improved results. The GIS backlog for subdivision case processing, plat recordations, and general case processing has been burned down by 73% resulting reduction in permitting wait times. Average Community Development staff days applied to subdivision case processing over the last six months have dropped to 58.83 days as compared to the two-year average of 83.19 days, a 29.2% reduction. Likewise, plat recordations have been reduced to an average of 11.23 days from historic average of 18.63 days, a 39.7% reduction. Furthermore, the daily volume of case rework has been significantly reduced, with any remaining instances being truly exceptional and not requiring special handling as a standard expectation.

As this is a continuous improvement effort, work continues in terms of pursuing further waste elimination efforts throughout the value stream, as well as toward instantiating additional intelligent automation, including potential application of generative AI capabilities, to enhance decision making, improve status and information delivery to key stakeholders, and further reduce the need for ongoing manual interventions as related to mundane, repeatable tasks.

As the county moves forward with the next set of prioritized recommendations, the transformation efforts continue. The actions taken thus far have produced measurable results and improved cross-department workflows while enhancing the county's standing with the developer community and constituents.

Worthiness of Award:

The Chesterfield County End-to-End Land Development Process Improvement initiative presents a compelling case due to its comprehensive continuous improvement approach to addressing and significantly reducing long-standing inefficiencies in the land development approval process. By engaging over 65 subject matter experts and partnering with IT Cadre, the county conducted a detailed analysis that led to 28 targeted recommendations, resulting in a transformative overhaul of the end-to-end process. The first wave of improvement efforts pursued not only streamlined the process but also enhanced the experience for land developers and citizens alike. The initiative's success in delivering measurable results and its ongoing commitment to continuous improvement through further application of intelligent automation and AI integration further underscore its merits for consideration.